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million minds augmenting national aspiration and knowledge

Compendium - 2



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Secretary

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Preface

“The way to get good ideas is to get lots of ideas” perfectly defines the INSPIRE Award MANAK (Million Minds Augmenting National Aspiration & Knowledge), a scheme being implemented by the Government of India through Department of Science & Technology (DST), under its flagship program “Innovation in Science Pursuit for Inspired Research (INSPIRE)” which aims to attract young talent to explore science, evolve creativity and innovation among them and help them to pursue research career. The MANAK scheme lies at the very base of this programme, focussing on ideas from school children studying in classes 6 to 10, with a target to attract one million ideas every year. The scheme primarily aims to scout, reward, mentor and showcase these ideas and innovations having potential to address societal needs and national priorities.

I am hopeful that this National Level Exhibition and Project Competition (NLEPC), being organized under the INSPIRE Award MANAK scheme, will give a chance to participants to exhibit/showcase their innovations to general public, experts and other fellow young innovators from the country. The NLEPC will also give them a chance to meet creative children from other states, understand and appreciate their innovative projects. This year’s NLEPC is particularly important, as it is being organized at IIT Delhi, one of the premier technology institutions of the country and I believe that being at this institution itself will inspire and motivate all the participants.

I welcome all the INSPIRE awardees, their teachers and guardians in this year’s National Level Exhibition and Project Competition at IIT Delhi during Feb 14-15, 2019 and wish them success. This compendium showcases brief summary of the innovative and creative ideas/projects of all the national level participants. This was made possible by the hard work and creativity of the students, with support from their teachers and schools authorities and the mentoring support provided by the premier institutions of the country. I am confident that this compendium will prove immensely useful for various stakeholders. I hope that all the INSPIRE Awardees will continue to be creative and innovative in all pursuits of their life.

Best wishes to all young innovators,

Ashutosh Sharma



Dr. P S Goel
Chairperson

National Innovation Foundation-India

Foreword

Science, Technology and Innovations are key to development of the country. The best minds are attracted towards Engineering and Medicine and Science is considered as last option. Realising that basic sciences need special attention, Department of Science and Technology started a flagship scheme, the Innovation in Science Pursuit for Inspired Research (INSPIRE) to attract young minds towards science.

Further, it is important that we bring the spirit of innovation in our children at very young age when they are at school level. It is a kind of cultural change that we need to bring when every youngster thinks of doing something new of his/her own.

The INSPIRE MANAK (Million Minds Augmenting National Aspirations and Knowledge) Awards for the school children (Class 6-10) jointly executed by the Department of science and Technology, Govt of India and National Innovation Foundation-India has been created towards this goal. Same children when grow up will turn up as innovators and turn entrepreneurs through start-ups in millions. I am sure many students among INSPIRE Awardees will have brilliant ideas, which can be developed into products and then taken up as commercial ventures providing innovative solutions to the society. NIF will incubate the best innovative technologies and extend all support to young innovators. I the people will read the success stories of students' ideas based commercial entities soon.

My best wishes to all the INSPIRE Awardees with the hope that they will pursue a career in Science and Technology and bring many more laurels to the country.

P S Goel

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Kerala



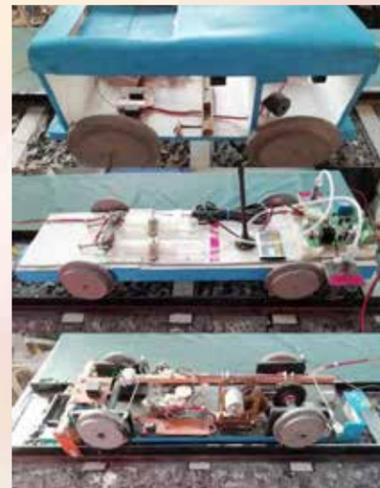
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Idea/Innovation : A Safety Ensured Rail Journey
 Awardee : Geethu Prakash
 Reference No. : 18KL1420863
 Class : 8th
 School Name & Address : Mambaram HSS
 District & State : Kannur, Kerala
 Guide Teacher : Prakasan K V



Safety has been one of the biggest concerns in the Indian railway system. A news report about railway accidents in UP caused due to the derailment of coaches caught Geethu's attention and intrigued her to make a device that can be fitted along a railway track to detect cracks. It also includes fire detection and a new mechanism for an automatic emergency door. Geethu has won many prestigious quiz completions at both the state and national level.



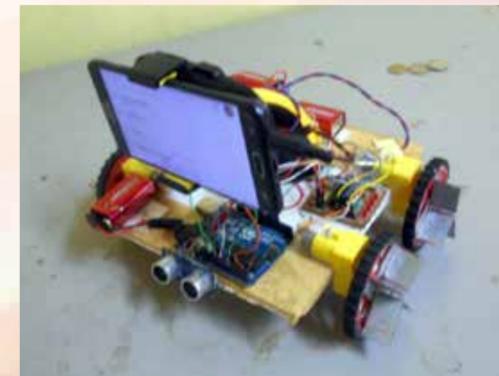
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Idea/Innovation : DTMF Controlled Robot
 Awardee : Abizal Kabeer
 Reference No. : 18KL1420842
 Class : 10th
 School Name & Address : SGHSS Vazhathoppe
 District & State : Idukki, Kerala
 Guide Teacher : Lucy George



One of the best things about robots is their ability to do jobs that would be just plain dangerous for people. Not only can robots operate in environments where humans can't, but they can also take on challenges that are hazardous. Abizal developed a Dual Tone Multiple Frequency Robot (DTMF) which is controlled by the keypad and call feature of the mobile phone. It is powered by a solar panel attached with the robot. This robot can be used in rescue operations and military spying. Abizal is a big-time science enthusiast.





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Idea/Innovation : Device to Protect Crop Field from Wild Animal
 Awardee : Athira.K
 Reference No. : 18KL1420920
 Class : 6th
 School Name & Address : VPAUP School Kundurkunnu
 District & State : Palakkad, Kerala
 Guide Teacher : Sivaprasad K



Human-wildlife conflict is a contentious issue and the crop damage due to wild animals is one of the major issues in Kerala, as it costs marginal farmers a huge economic loss. Athira witnessed similar activities in her village and came up with a potential device which will undertake appropriate protective measures to minimize the crop losses. She made an Eco-Sound Gun device which will produce exploding sound intended to threaten wild animals. The device is eco-friendly and will not harm animals.



Athira is interested in science. Her hobbies are reading and writing poems.



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Idea/Innovation : Eco-Friendly Vegetable Cultivation Pots
 Awardee : Anagha Vinod
 Reference No. : 18KL1453121
 Class : 9th
 School Name & Address : GHS Beenachi
 District & State : Wayanad, Kerala
 Guide Teacher : Asokan T



Anagha observed that most nurseries sell little saplings in plastic bags. Once these plants are transferred to mud or cement pots, the plastic bags are discarded. They either end up in landfills or are burnt – causing pollution and harming the environment. This inspired Anagha to develop an eco-friendly vegetable cultivation pot. She uses the optimum combination of cow dung and other natural binders to make it sturdy. Her idea is highly environment-friendly and can be used without much-sophisticated technology. Her project is based on the Environment Day theme of 2018, 'Moving towards a plastic-free future'. Anagha likes to read, sing and dance.





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Idea/Innovation : Dammer Bee Honey Extractor and New Colony Division Technique
 Awardee : Ashin Anil
 Reference No. : 18KL1453004
 Class : 10th
 School Name & Address : St. Thomas HS Marangattupally
 District & State : Kottayam, Kerala
 Guide Teacher : Jobin Jose



The main role of bees in different ecosystems is their pollination work. Pollinators strongly influence ecological relationships, ecosystem conservation and stability. But unfavourable climatic conditions, such as continued heavy rainfall, reduce the honeybees' access to nectar and pollen, thus weakening the colonies which do not have enough food. This motivated Ashin to develop a new colony division technique. He developed five dammer bee (Also called stingless bee) colonies from a single colony. He also created artificial bee pollen by mixing soybean with milk powder for feeding bees in the rainy season. His hobbies include bee farming and singing.



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Idea/Innovation : Wonder Climber
 Awardee : Muhammed Ansil M A
 Reference No. : 18KL1453120
 Class : 9th
 School Name & Address : GHS Beenachi
 District & State : Wayanad, Kerala
 Guide Teacher : Asokan T



Tree climbers are a rarity these days in Kerala and other coconut and areca nut growing states, with a very few taking on this traditional profession. The occupational risk and arduous labour involved causes this reluctance. This inspired Ansil to make a wonder climber which works on the principle of shock absorption. It is attached to the tree and a rope is used to adjust climbing speed. The same rope is used for plucking areca nut also. Ansil is an internet enthusiast and his hobbies include playing football and watching movies.





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Idea/Innovation : Solar Powered Sanitary Napkin Incinerator
 Awardee : Anna Alphonsa Theresa
 Reference No. : 18KV1482244
 Class : 9th
 School Name & Address : Kendriya Vidyalaya Sangathan RO Ernakulam
 District & State : Ernakulam, Kerala
 Guide Teacher : Sheeja Menon



Menstruation and menstrual practices still face many social, cultural, and religious restrictions which huge impediments in the path of menstrual hygiene management in the country are. To assess the level of menstrual hygiene in her village, Anna carried out a survey where she found out that women still use cloth for menstrual protection because they do not know how to dispose of soiled napkins, owing to lack to the proper garbage collection system. If the disposal aspect was taken care of, it would become easier to convince women to use sanitary napkins. This intrigued her to make solar-powered sanitary napkin incinerator which will help numerous women in discarding sanitary napkins in an environment-friendly way. Anna likes to indulge in sports, baking and blogging.



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Idea/Innovation : Integrated Anti-Fire System
 Awardee : Merlin Shiby
 Reference No. : 18KL1453013
 Class : 9th
 School Name & Address : Providence GHSS
 District & State : Kozhikode, Kerala
 Guide Teacher : Juby Varghese



Fire breakouts impact people, property and environment in all countries around the world. In some cases, the resulting losses are huge, causing hundreds of deaths, widespread damage to property and documents, and significant environmental impacts. One such incident in her neighborhood inspired Merlin to devise this system in which an alarm is sent out and the emergency door automatically opens upon a fire breakout. It comes with an inbuilt water sprinkler. Her hobbies include reading books, dancing and playing the violin. She aspires to devote her career to research.





Madhya Pradesh



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Idea/Innovation : Electric Shock Shoes
 Awardee : Sakshi Patel
 Reference No. : 18MP1421573
 Class : 10th
 School Name & Address : Govt. Model Higher Secondary School Gudi
 District & State : Khandwa (East Nimar), Madhya Pradesh
 Guide Teacher : Qurrat Fatima Khan



Eve teasing is still a nuisance in the society, Sakshi came up with an idea of Shock shoes for the safety of women. The pair of shoe will give a mild shock to miscreant and give time to the girl/woman to escape. The entire circuit including batteries and transformers is inside the sole of the shoe and the outer body of the shoe sole is laced with metallic wiring through which the current flows. The tip of the shoe is provided with a push- switch. When the person taps the shoe tip on the ground, the circuit is activated.



Sakshi takes her inspiration from her teacher and she likes dancing, playing and studying. She believes that science and technology is important for everyone, and everyone must be innovative.



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Idea/Innovation : Water Bicycle
 Awardee : Abhishek Sonwane
 Reference No. : 18MP1422057
 Class : 7th
 School Name & Address : GBMS Barghat
 District & State : Seoni, Madhya Pradesh
 Guide Teacher : Parmanand Temre



A bicycle that can work on water can help in multiple ways like to cross the river, to clean the pond, and even to rescue a drowning person. An ardent follower of science, Abhishek came up with this idea when he heard about river accidents. The water bicycle is symmetrically fitted with four small round rafts to keep it afloat. Two propellers are provided which receive drive either from pedaling or through battery power, which helps in driving the vehicle forward. Abhishek aspires to become a scientist. He likes listening to music and experiment with new projects and ideas.





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Idea/Innovation : Moving Bio Toilet (Mobile Portable)
 Awardee : Dhermendra Yadav
 Reference No. : 18MP1422062
 Class : 6th
 School Name & Address : GMS Amanala
 District & State : Seoni, Madhya Pradesh
 Guide Teacher : Mithlesh Kumar Thakur



Dhermendra has developed a mobile bio- toilet. The idea struck him when he saw his grandma facing difficulty in walking to the toilet. The innovative part of the toilet is that it has capacity to produce biogas from human waste through anaerobic digestion. The mobile toilet is also equipped with a wash basin. Dhermendra wants to become a soldier and have the opportunity to serve the nation. He likes studying, playing and listening to music.



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Idea/Innovation : Fire Fighting Equipment (With Drone)
 Awardee : Pawan Kumar Soni
 Reference No. : 18MP1421581
 Class : 10th
 School Name & Address : GHS Venkat Ward
 District & State : Katni, Madhya Pradesh
 Guide Teacher : Aparna Tripathi



Fire extinguishing in high- rise buildings is difficult. In order to provide a solution to this Pawan came up with an idea of a fire fighting multicopter equipment. The drone is equipped with cylinders containing extinguisher gases like CO₂ and N₂. The equipment can easily reach the high- rise buildings and help in extinguishing the fire. Pawan saw that drones were used for various recreational purposes. From there, he got the idea of using a drone for extinguishing fire. He is interested in public welfare and wants to become an inspirational teacher like his own.





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Idea/Innovation : The Painters Bucket with Ladder
 Awardee : Ashutosh Sharma
 Reference No. : 18MP1421317
 Class : 7th
 School Name & Address : Gwalior Glory High School, Gwalior
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : Taposhi Nath



Ashutosh had a bad experience of falling down when he tried to pick up a cleaning brush while on ladder. This struck him to make modifications in the ladder. This modified ladder is equipped with tool box and a pulley- arrangement to pull things up. The ladder also has been made mobile. The legs of the ladder are fixed with wheels that are power- driven and its operation is remote controlled. Ashutosh is inspired by the work and spirit of Leonardo da Vinci. He likes playing volleyball and wants to become an astrophysicist.



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Idea/Innovation : Portable Folding Smart Parking
 Awardee : Nisha Dhare
 Reference No. : 18MP1421452
 Class : 7th
 School Name & Address : Willers Valley English School
 District & State : Indore, Madhya Pradesh
 Guide Teacher : Abhilasha Dubey



Nisha has given the idea of a new type of parking system model. The structure of parking system is like the Ferris wheel. In the model structure, two discs are mounted on a horizontal axis and the discs are connected by slots on which the cars are to be parked. Simultaneously two cars can be parked together. The use of this car parking model, saves floor space and thus can be effectively used in open spaces like grounds, etc.

Nisha likes studying and has participated in many extra-curricular activities. She loves science and thus wants to become a scientist.





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Idea/Innovation : Smart City Air Refreshing System
 Awardee : Sita Rajak
 Reference No. : 18MP1t421324
 Class : 7th
 School Name & Address : GGMS Thatipur
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : Archana Sharma



Sita's asthma issue gave her the idea to work upon on a model where filtering units are installed at the cross roads which can absorb pollution from all the crossing vehicles. The system is installed with four central filters, which are connected to the auxiliary filters. The polluted air is drawn in and fresh air is given into the atmosphere. Sita likes to play chess and read stories. According to her 'from dawn to dusk and dusk to dawn, our lives depend on science.' And she wants to contribute her part to science. Sita wants to become an IAS officer.



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Idea/Innovation : Herbal Pesticides
 Awardee : Amit Jatav
 Reference No. : 18MP1421984
 Class : 10th
 School Name & Address : Govt. High School Gopalganj Sagar
 District & State : Sagar, Madhya Pradesh
 Guide Teacher : Chanchal ghai



Amit's idea is an herbal pesticide formulation prepared by using a paste of different naturally available weeds/tree leaves like Neem, Aak, Dhatura, etc. The leaves are first ground with water. The mixture is filtered and then, collected into a pot. The spray formulation can be used to protect crops and it destroys the plant weeds. Amit likes playing cricket and he wants to become a police officer.





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Idea/Innovation : Fire Detector with Mobile System
 Awardee : Kavya Jain
 Reference No. : 18MP1421881
 Class : 7th
 School Name & Address : Shri Nahar Convent Senior Sc. School
 District & State : Ratnam, Madhya Pradesh
 Guide Teacher : Sunita Raheja



Kavya heard about accidents happening due to gas leakage and people losing lives because of it so he designed a system that detects LPG leakage. If volume concentration of gas in air increases more than 5%, the system alerts the owner on their mobile phone. Moreover, buzzer can also alert the neighbours to take precautionary measures. His mother his biggest inspiration and he likes sketching. With knowledge and courage, he wants to brave the impossibilities and become an artist.



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Idea/Innovation : Spider Net Remover with Bucket and Torch
 Awardee : Sakshi Gautam
 Reference No. : 18MP1421181
 Class : 10th
 School Name & Address : Jawahar Navodaya Vidyalaya
 District & State : Datia, Madhya Pradesh
 Guide Teacher : Ravi Kant Mishra



This is an automated spider net remover where the brush is battery powered which rotates, a dust collecting bucket is also provided to collect all the dirt and dust that falls from the ceiling. An LED strip is attached to the device to provide a localized source of light in case of emergency. The battery is thus used for twin purpose of cleaning and for powering the LED strip. This device can help in time saving and can also provide permanent prevention of spiders. Sakshi got this idea when she saw her mother cleaning and the spider web fell in her eyes caused irritation. Sakshi likes singing and playing musical instruments. She wants to become a famous singer. Her biggest sources of inspiration in her life are her parents and her teacher.





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Idea/Innovation : Green Energy from Railway Waste
 Awardee : Prabha Yadav
 Reference No. : 18MP1421586
 Class : 10th
 School Name & Address : Govt HSS Kanhwara
 District & State : Katni, Madhya Pradesh
 Guide Teacher : Vandana Patel



Railway waste all over the railway line is known to everyone and Prabha who lives near a railway station faces this unhygienic condition everyday. The solution came to her through the idea of a system that would collect sludge and food waste from the railway line. This waste is then collected through a pipeline into a chamber where it is digested for methane production. The produced methane is then to be used for electricity production.



Prabha likes helping people and she wants to become a doctor.



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Idea/Innovation : Vacuum Duster with Solar Panel
 Awardee : Divyansh Panwar
 Reference No. : 18MP1421211
 Class : 6th
 School Name & Address : St Thomas Sch. Dewas
 District & State : Dewas, Madhya Pradesh
 Guide Teacher : Rameshwar Soni



Divyansh saw his own teacher getting affected from the chalk dust. He decided to make a duster which would suck the dust. A solar cell panel is provided on the body of the duster to provide the required power. The duster is also equipped with system to convert the collected chalk dust back into the chalk, wherein a few millilitres of water has to be externally fed into the system. Divyansh likes dancing and singing and he wants to become a famous actor and businessman.





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Idea/Innovation : Laser Acoustic System, Flood Alarm System Using Laser
 Awardee : Shashwat Saha
 Reference No. : 18MP1438656
 Class : 7th
 School Name & Address : P. Sagar Public Sch. Nr Airport
 District & State : Bhopal, Madhya Pradesh
 Guide Teacher : Shainy Philip



Shashwat came up with idea of developing Laser Acoustics and Communication when he heard about Kerala Flood, he did lot of research and concluded that there are many alarm system which are based on sensors but when natural calamities happens the device stops working, so he came up with Laser signal idea which can travel very fast and can be helpful in communicating the message to large areas within very short interval of time. When sensors sense the flood then the electronic circuit activates the laser light. Shashwat loves listening to music and playing flute.



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Idea/Innovation : Bicycle Broom
 Awardee : Ronak Pandey
 Reference No. : 18MP1421300
 Class : 10th
 School Name & Address : Govt. HS Amrol
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : Anita Wadhvani



Following the clean India initiative student developed a device which not only helps to remain fit but also to clean surroundings. The device "cycle sweeper" is an intelligent solution for quick and easy cleaning. The device consists of cycle which is connected with brooms and bins. Dust is swept and collected into bin with the help of central brush and side brushes. The broom chamber is completely sealed with rubber which ensures dust free sweeping. Its compact design fits through any standard door and can be used indoor as well as outdoor. This device is totally pedal operated and does not require any source of energy. It is eco-friendly and reduces labour cost.





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Idea/Innovation : Multipurpose Crutches
 Awardee : Nisha Rathore
 Reference No. : 18MP1502063
 Class : 9th
 School Name & Address : Government Girls High School,
 Piploda
 District & State : Ratlam, Madhya Pradesh
 Guide Teacher : Harsha Namdev



While travelling once, Nisha saw a physically challenged person struggling with the existing model of Baisakhi there she decided to redesign the crutches to make it multipurpose. The multipurpose crutch developed by her is combination of a crutch, wheel chair and a table to make it more useful an umbrella, a torch and a horn is also fixed with the Multipurpose Baisakhi. The crutch developed by Nisha is light in weight so it is portable. Nisha likes dancing and reading.



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Idea/Innovation : Increase the power of Solar Panels
 Awardee : Riddhi Tiwari
 Reference No. : 18MP1502793
 Class : 10th
 School Name & Address : Government H.S Excellence
 School, Sagar
 District & State : Sagar, Madhya Pradesh
 Guide Teacher : Ram Kumar Vaidya



Riddhi's developed an idea of Solar Panels with increased power when she observed that the farmers are not able to irrigate the farm when the sunshine is less during winters. Riddhi's idea is to place a mirror in front of a solar panel through which sunlight will be reflected on the panel with more intensity which would help in creating more energy through panels. She has also developed a technique through which plate is rotated and the panels will be getting sunlight directly to conserve more energy. Riddhi likes participating in science fairs and competition so that she can learn new things.





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Idea/Innovation : Patient's Bed
 Awardee : Khushi Malviya
 Reference No. : 18MP1499868
 Class : 10th
 School Name & Address : Government H.S School, Putli Ghar
 District & State : Bhopal, Madhya Pradesh
 Guide Teacher : Hemlata Malviya



Looking at the problem of old/aged/sick people who are dependent on others for the basic needs. Khushi thought of redesigning the bed for patients or others in need of some form of health care. Patient's Bed designed by Khushi has special features for the comfort and well-being of the patient/old aged person. Unique features include underground commode, underground wash basin, underground food rack, wheel chair, support for back etc. This would help them to do regular activities on their own. She likes singing and doing creative thinking by innovating new ideas.



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Idea/Innovation : Smart Dustbin
 Awardee : Dhruv Saxena
 Reference No. : 18MP1501134
 Class : 10th
 School Name & Address : Gwalior glory high school Gwalior
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : Jaya Sharma



Dhruv has developed Smart Dustbin when he saw overflowing dustbins with waste scattered all around his society. He thought of developing a smart dustbin which is easily traceable and can be monitored by municipal authorities. This will help to keep the society clean and keep track on dustbin to avoid overflowing. Dhruv likes playing cricket.





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Idea/Innovation : Separator Machine (Prathakaran Machine)
 Awardee : Kuldeep Singh
 Reference No. : 18MP1501607
 Class : 9th
 School Name & Address : HS Dhandhoda
 District & State : Mandsaur, Madhya Pradesh
 Guide Teacher : Prabhulal Chauhan



Kuldeep observed that when grain comes from the field it contains various contaminants like weed seeds, other crop seeds, and inert material as stems, leaves, broken seed, and dirt. Therefore, cleaning of grains is requisite, he also saw his parents dependent on winds for the process. So, Kuldeep developed this machine which not only cleans the grains but is also energy efficient and good for physical exercise, the machine is a bicycle based which is connected with a fan through a belt which is again connected to a ring in the wheels. When the pedal is pushed wheels which are linked to the ring moves and fan start working and this is how it helps in cleaning the grain. Kuldeep like playing games his favourite is Kabbadi.



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Idea/Innovation : Smart Cobweb Remover Adjustable Broom Stick with Light and Dust Career
 Awardee : Chandraveer Bairagi
 Reference No. : 18MP1501467
 Class : 10th
 School Name & Address : Shree Academy
 District & State : Indore, Madhya Pradesh
 Guide Teacher : Rajesh Patidar



The idea of smart Cobweb cleaner came to Chandraveer when he once saw that while removing the web, table slipped and accident happened. In the Smart Cobweb cleaner broom stick the height of the stick can be adjusted upto 15 feet, it cleans the cobweb when the broom rotates and carrier collects all the dust and residue, it has infrared lights which destroy virus and germs, it has a small dustbin in it which collects all garbage through long pipe. Chandraveer likes reading, singing, and to work on creative projects.





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Idea/Innovation : Maize Roasting Machine
 Awardee : Ku. Khushi Yadav
 Reference No. : 18MP1503189
 Class : 9th
 School Name & Address : GHS Bothiya
 District & State : Seoni, Madhya Pradesh
 Guide Teacher : Pooja Mohar



Khushi got the idea of making a machine for roasting maize/corn when she was roasting maize she had to manually fan the machine which gave lot of smoke also, she thought of developing a machine which will help in setting up fire thus roasting the maize and it also has rotating rod which will rotate the maize and get it roasted from all sides. This will save manual labour and time. In addition to Maize it can also be used in roasting brinjal, potato etc. Khushi likes playing game and dancing.



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Idea/Innovation : Automatic Mixer Grinder
 Awardee : Shivani Baghel
 Reference No. : 18MP1501078
 Class : 10th
 School Name & Address : Govt. HSS Excellence, Morar
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : DN Suresh



Shivani came up with an idea of Automatic mixer grinder when she saw her mother grinding and she had to wait for it to get completed so that she could start other household activity. She thought of a timer in mixer grinder so that time can be set based on the requirement which means you can then focus on other things rather than waiting by the mixer grinder. Shivani likes reading and singing.





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Idea/Innovation : Automatic Irrigation
 Awardee : Chandan Kushwaha
 Reference No. : 18MP1500136
 Class : 8th
 School Name & Address : MS Lakhanguwa
 District & State : Chhatarpur, Madhya Pradesh
 Guide Teacher : Har Prasad Gputa



Chandan has developed low cost Automatic irrigation pump which can irrigate larger size of field. Chandan got this idea when he read an article on saving electricity and diesel and developing low cost irrigation machine. Chandan likes studying and learning new things.



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Idea/Innovation : Fully Automatic Toilet Cleaning Machine
 Awardee : Sulochana Kakodiya
 Reference No. : 18MP1500252
 Class : 8th
 School Name & Address : Girls Ms Asram Bichhua
 District & State : Chhindwara, Madhya Pradesh
 Guide Teacher : Suresh Kumar Pawar



In student's village majority of people clean their toilets using bare hands. This conventional way of cleaning toilets are unhygienic and may lead to many health related issues. Sulochana gave a solution to this problem by developing an automatic toilet cleaning machine. In this device, three types of brushes are fixed on PVC pipe. The long brush is used for cleaning the toilet seat, Round head brush is used for cleaning the floor of bathroom and roller brush is used for cleaning the walls of bathroom. For every use of toilet, brushes will rotate automatically and clean the toilets.



Sulochana who aspires to become a scientist, enjoys dancing and listening to music. She considers Dr A P J Abdul Kalam and astronaut Kalpana Chawla as her idol.



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Idea/Innovation : Onion Transplanting Machine
 Awardee : Pradeep
 Reference No. : 18MP1501120
 Class : 9th
 School Name & Address : Govt. HS Badori
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : Bhanu Kumar



After watching his father working in the farms, Pradeep thought of developing an onion transplanting machine for his father that would make less workload on him. The device helps in Seeds transplanting and thus will reduce the manual labour and also results in saving time. He studies in 9th and he is inclined towards art and craft.



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Idea/Innovation : Shock Punch Connection
 Awardee : Ajendra Yadav
 Reference No. : 18MP1502799
 Class : 9th
 School Name & Address : GHS Menpani
 District & State : Sagar, Madhya Pradesh
 Guide Teacher : Shaeen Ajaz



The idea behind his project was to develop a safety device for Women. It is a shock Punch that has inbuilt electric shocks. In any situation where women are in trouble, they can use this device for their protection. It will not cause any major injury to the person but will scare and hurt a little. Ajendra took this idea from his teacher. He takes Dr. A.P.J Abdul Kalam as his inspiration and exploring science is one of his hobbies.





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Idea/Innovation : Formation of Bio painkiller
 Awardee : Vatsal Bisen
 Reference No. : 18MP1499619
 Class : 10th
 School Name & Address : Govt Hs Badgaon
 District & State : Betul, Madhya Pradesh
 Guide Teacher : Rakhi Raghuwanshi



Vatsal prepared this project with the help of his teachers and parents. It is made by using multiple ingredients that are easily available in the market such as Aloe Vera, Neem, and Chilli etc. The process involves heating these ingredients in an earthen pot connect via pipe and further its deposition through the process of condensation. He says, it is highly cost effective in comparison to the ones available in the market. Art, Science and dance are the part of his extracurricular activities.



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Idea/Innovation : Modern 4 in 1 Stove
 Awardee : Bhan Singh Rupak
 Reference No. : 18MP1501629
 Class : 8th
 School Name & Address : Govt. GHSS Khadiyahaar
 District & State : Morena, Madhya Pradesh
 Guide Teacher : Pradeep Kumar Yadav



This unique stove is multi-faceted. It can help in doing 4 tasks at once thereby saving time, labour and energy. It is made of heating water, producing distilled water, usual stove top and cooking vegetable. He thought of making this model after observing that many utensils is required to do multiple tasks which eventually is time consuming and tiring as well. He quotes his teacher as his idol and wishes to become a scientist when he grows up.





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Idea/Innovation : Double Use of Gas Burner
 Awardee : Jatin Yadav
 Reference No. : 18MP1501263
 Class : 10th
 School Name & Address : Govt.HS Bhatti
 District & State : Hoshangabad, MP
 Guide Teacher : Neha Sahu



Jatin's model is about saving extra energy on gas stove burner that is generally wasted by using it to heat water during winters. This can be done by attaching pipe around the corner of the gas. Water will be heated through the energy provided by the gas stove. He made this model with the help of his teacher and father who guided him throughout. Jatin loves to play cricket, Kabaddi and read books in his free time.



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Idea/Innovation : Automatic Tractor Trolley Loader
 Awardee : Sahil Thakre
 Reference No. : 18MP1501269
 Class : 9th
 School Name & Address : Govt.HS Gonchi Taronda
 District & State : Hoshangabad, MP
 Guide Teacher : Sadhana Soni



Sahil's idea is providing a solution to the problems of the people who go out in the market to sell their grains. His uncle faced one such problem as one of the customers refused and he had to bring the grains back. In such cases, you need extra labour and this further adds to the cost. Thus he decides to develop such a machine that automatically loads the leftover grains through the process of suction by attaching a motor to the end of the machine. Cricket and watching science fiction films are his hobbies.





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Idea/Innovation : Low Energy Pan and Stove
 Awardee : Divyanshi Prasad
 Reference No. : 18MP1501104
 Class : 10th
 School Name & Address : MS Ramkrishan Vidya Mandir
 CBSE
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : Sunita Saxena



Divyanshi saw loss of heat energy while using Chullhas, so she came up with the innovative idea of effective utilisation of heat energy. The model is Biomass based in which cast iron tawa has been used and a fuel tank with Heat resistance wall in order to prevent heat loss. Combustion created during the cooking heat up the water pipe (making water hot) which is connected to water tank. So, this stove has many features and utilizes the heat energy in an efficient way. Her mother and her hard work is her biggest inspiration for this model. Divyanshi likes reading books and playing badminton.



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Idea/Innovation : Epilepsy Alarming System
 Awardee : Tanishq Londe
 Reference No. : 18KV1482302
 Class : 10th
 School Name & Address : Kendriya Vidyalaya No-2, G.C.F
 District & State : Jabalpur, Madhya Pradesh
 Guide Teacher : Sandeepa Mishra



The idea of this project struck Tanishq when his friend collapsed in the middle of school assembly due to Epilepsy. The device comprises of cap that measures the activity of the brain abnormality, BP and pulse. It can be charged and attached to the mobile of the patient. While going out, the patient can wear the cap and in case of any epilepsy attack, the mobile will send a message to the nearest relative or ambulance service. This will be useful in saving the lives of several patients. His maternal uncle is a neurosurgeon and his biggest inspiration. Tanishq likes reading novels and dreams of pursuing his subjects at IIT or MIT.





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Idea/Innovation : To Prepare Electric Fuse
 Awardee : Vinod Muda
 Reference No. : 18MP1500461
 Class : 10th
 School Name & Address : Govt. HS Marutal
 District & State : Damoh, Madhya Pradesh
 Guide Teacher : Vibha Sharma



Vinod saw blown fuse in his house which created problems, so he thought of exploring the reason for failure and found that it is caused by excessive electrical current flowing through the wires. He started thinking about a solution wherein indication is received before the fuse is blown, so that the person is prepared well in advance. The device is made of LED (green & red), fuse holder and alarm, this alarm will inform once there is short circuit in the house and red LED will start giving light. Vinod likes playing cricket and studying.



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Idea/Innovation : Eco-Friendly Waste Plastic Bottle Toilet
 Awardee : Harshita Bhargava
 Reference No. : 18MP1501105
 Class : 9th
 School Name & Address : Govt. HSS Girls, Padma, Lashkar
 District & State : Gwalior, Madhya Pradesh
 Guide Teacher : Anita Wadhvani



Harshita believes Plastics and their by-products are littering the cities, oceans, and waterways and contributing to health problems for both humans and animals. To provide solution to the problem she started making use of plastic bottles to make it a toilet. This toilet can be easily made with less investment and no cost for maintenance; it can also be easily shifted from one place to another. Harshita like attending science exhibitions and learning the facts related to science.





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Idea/Innovation : Crop Cutter
 Awardee : Darshan Patel
 Reference No. : 18MP1502776
 Class : 10th
 School Name & Address : Ghs Kanera Deo
 District & State : Sagar, Madhya Pradesh
 Guide Teacher : Rachna Pathak



Darshan came up with an idea of crop cutter when he saw his father plucking brinjal from a plant. It was difficult to pluck because of thorns in the brinjal plant. The crop cutter developed by Darshan can be used for cutting brinjal and other fruits and vegetable and helps the small scale farmers with the cost effective technology. In addition to cutting of Brinjal fruit a bag is attached to the crop cutter which will store the fruits and prevent it from damaging. Darshan likes reading and experimenting and wants to pursue his career in Science field.



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Idea/Innovation : Cost Effective Road Cleaner
 Awardee : Tarang Purohit
 Reference No. : 18MP1501370
 Class : 10th
 School Name & Address : Shri Devi Ahilya Shishu Vuhar
 District & State : Indore, Madhya Pradesh
 Guide Teacher : Sandeepa Mishra



The idea of developing low cost road cleaner came in Tarang's mind when he saw the price of existing road cleaner available in market. He thought with that the machine is not affordable by everyone and to accomplish the mission of Swacch Bharat we should come up with some affordable technology. The machine is bicycle based with four brushes in front which would collect the dust when the bicycle will move forward, Tarang has also connected the cleaner to solar panel and a battery which will store the energy and is connected to pump which is further connected to pipe for watering plants. Tarang likes playing football and exploring new things.





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Idea/Innovation : Polluted Air Absorbing Apparatus
 Awardee : Navanshu Diwakar
 Reference No. : 18MP1499927
 Class : 8th
 School Name & Address : Sagar Public School Saket Nagar
 District & State : Bhopal, Madhya Pradesh
 Guide Teacher : Shubhangi Nemade



Air pollution causes damage to crops, animals, forests, and bodies of water. It also contributes to the depletion of the ozone layer, which protects the Earth from the sun's UV rays. Navanshu believe to protect the earth some technological solution should be made. So,he came up with polluted air absorbing apparatus which would purify the air, in this model Navanshu used four filters enclosed within a chamber, an inlet for polluted air, an outlet for purified treated air, a solar PV power source, pump for pumping liquid to respective filters and a battery bank. Navanshu loves machines and loves to discover how each part of any machine works.



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Idea/Innovation : Kitchen Composter
 Awardee : Ruchi Nagar
 Reference No. : 18MP1499823
 Class : 8th
 School Name & Address : Harra Kheda
 District & State : Bhopal, Madhya Pradesh
 Guide Teacher : Shabnam Khan



Looking at the biodegradable waste generated from a kitchen waste, Ruchi thought of an amazing solution of Kitchen waste management. She has developed a solution where she has transformed Kitchen waste into useful manure, presently compost is prepared in a pit which is open and gives bad odour in the nearby area, Ruchi's compost maker is closed and has charcoal rods fixed so it prevents bad odour to spread. Once the compost maker is full the button is pressed which is connected to the shredder fixed inside the maker, which would cut the waste and then it goes to 2nd chamber, due to shredding decomposition takes faster than the pits used for making compost. Ruchi has also fixed temperature control set up in 2nd chamber where temperature can be set as per the requirement (and depending on season). Ruchi likes gardening and dancing.





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Idea/Innovation : Water Gas Stove
 Awardee : Sujal Yadav
 Reference No. : 18MP1503062
 Class : 10th
 School Name & Address : Govt HSS Aree
 District & State : Seoni, Madhya Pradesh
 Guide Teacher : Dinesh Kumar Gautam



Sujal came up with the idea of water-based gas stove which will reduce fuel consumption upto 40%. He has developed a stove from regularly used stove; the stove developed by him has an extra strong burning power. The burner is attached with two containers, one containing water and the other containing kerosene. The tank containing water is connected from a burner through Copper tube (which has small pores). When stove starts burning water starts flowing to the copper tube, water spreads into the small fumes; oxygen and hydrogen are the parts of this fume. They mix with the flame and increase the flame power. This is cost effective stove. Sujal likes experimenting and making new things.



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Idea/Innovation : Microphone for Handicapped Person
 Awardee : Radhika Rajesh Sankhala
 Reference No. : 18MP1501404
 Class : 8th
 School Name & Address : Vaishnav Bal Mandir
 District & State : Indore, Madhya Pradesh
 Guide Teacher : Mrunal Alekar



While going to school one day, Radhika observed that to receive phone calls for physically challenged (particularly who does not have hand) was a big challenge. So, she thought of developing a microphone for them, the model is about operating the telephone with the help of the leg, it connects to the keypad and microphones is automatically switched on once the call is received so whenever the phone rings the person can just operate with his/her leg. Radhika's science teacher guided her to make this model. In addition to this model, she wishes to modify it by connecting few more things like one mic to connect, one hand set, one telephone diary, one Braille keypad. Radhika loves drawing and reading books.





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Idea/Innovation : The Sound Bite Hearing System
 Awardee : Akanksha Pandey
 Reference No. : 18MP1499856
 Class : 9th
 School Name & Address : HSS Naveen (Girls) Tulsi Nagar
 District & State : Bhopal, Madhya Pradesh
 Guide Teacher : Prerana Bardey



Akanksha's idea is to help deaf people through developing a simple, portable and affordable device. The device works on DC motor which is attached from amplifier to produce magnetic field which creates vibration. The motor is placed in between the jaws of a person who is deaf, when the person presses the motor using teeth, the motor sends signals via cells to the brain. And a deaf can listen. The device can also be connected through Bluetooth speaker. This will be useful and affordable device for deaf people. Akanksha loves learning new things, reading science facts and making new/innovative projects.



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Idea/Innovation : Advanced Bio toilets for Indian Railways
 Awardee : Pratiksha Salyam
 Reference No. : 18MP1501564
 Class : 10th
 School Name & Address : Navodaya V. (Central) Padmi
 District & State : Mandla, Madhya Pradesh
 Guide Teacher : A P Singh



Pratiksha's idea of Advanced Bio toilets came when she was travelling; she saw toilets in train with garbage accumulated in them. Her idea is that the drain hole of the toilet will always be closed until the person is coming and exerting pressure, the pressure will pass through a mechanism and the wooden block moves and the drain hole opens, this will resist people to throw garbage and keep the toilets clean. Such toilets will prove to be convenient to the male users by making urinal pots for male users. Pratiksha likes singing and dancing.





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Idea/Innovation : Sensor for Buses
Awardee : Bhawana Yadav
Reference No. : 18MP1499284
Class : 7th
School Name & Address : Mudra Bahadara
District & State : Ashok Nagar, Madhya Pradesh
Guide Teacher : Naresh Raghuwanshi



While travelling on bus Bhawana saw an accident which happened because a girl was peeping out from the window. Bhawana's idea is to place sensors in window of bus so that whenever a person is putting his/her hands or any body part outside window, sensors will automatically activate and send the alert to the driver. This would help to prevent accidents. Bhawana likes watching and playing cricket.



Maharashtra



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Idea/Innovation : Accident Controller Vehicle
 Awardee : Suryavanshi Rutuja Dnyaneshwar
 Reference No. : 18MH1423572
 Class : 9th
 School Name & Address : New English School, Kawad
 Dara
 District & State : Nasik, Maharashtra
 Guide Teacher : Pardeshi Pramod Eknath



Suryavanshi developed a safety car which shall have multiple arrangements to save people from major injuries caused during accidents. She thought of developing safety arrangements after witnessing a car accident. The multi-features of this car include a system that requires the driver or passenger to wear seat belt to start the vehicle and a carbon meter detector to detect emission of carbon. She also decided to add extra protection by providing shock absorber at the front of the bonnet which opens automatically once the vehicle comes in proximity with another vehicle/obstruction. It also has GSM system to track location of the vehicle.



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Idea/Innovation : Multi-Purpose Spreader
 Awardee : Krishna Ramdas Jadhav
 Reference No. : 18MH1423579
 Class : 10th
 School Name & Address : New English School, Taked
 District & State : Nasik, Maharashtra
 Guide Teacher : Bhalerao Amol Laxman



Krishna observed that spreading of fertilizer and seed grains manually to agriculture field is a tedious task. He decided to develop an equipment that consumes less energy, takes less time to spread fertilizer and seed grains thereby benefitting the farmer. He used an empty colour basket, hand drill, iron bar and fitted with a screw in the bucket to develop this model fertilizer and seed grain spreader. It is economical and affordable option for poor farmers.





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Idea/Innovation : Wireless Mouse
 Awardee : M.D. Laik Ansar Naikwadi
 Reference No. : 18MH1423749
 Class : 9th
 School Name & Address : K. B. H. Vidyalay Harsul
 District & State : Nasik, Maharashtra
 Guide Teacher : P B Kapadnis



To help his good friend who was handicapped and unable to operate a computer or laptop Mohammad Laik decided to develop an innovative wireless mouse. This mouse is designed specifically for physically disabled and people suffering from physical ailments. He used simple components like a wireless mouse, Wi-Fi dongle (Receiver), switches, cell (Battery 3 V) and developed this much needed device.



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Idea/Innovation : Hi-Tech Fan
 Awardee : Arya Dinesh Patil
 Reference No. : 18MH1423423
 Class : 6th
 School Name & Address : Shrraf High School, Nandurbar
 District & State : Nandurbar, Maharashtra
 Guide Teacher : Kishor M Raundal



Arya decided to develop an anti-suicide fan after one of her neighbours committed suicide by hanging himself from the fan. The device works such that whenever a person tries to hang himself, the fan will automatically fall thereby saving the life of the person. An alarm has been fitted on the fan that rings when the fan bears a weight of more than 15 kg. It also has an air flow measuring device. Her biggest inspiration is Dr. A.P.J. Kalam. She loves science and likes reading story books.





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Idea/Innovation : Borewell Rescue Robot
 Awardee : Vishal Sanjay Khot
 Reference No. : 18MH1423189
 Class : 8th
 School Name & Address : M.G. Shaha Vidyamandir, Bahubali Kumbhoj
 District & State : tKolhapur, Maharashtra
 Guide Teacher : R.K Chougule



Vishal realized the importance of developing a bore well rescue model when he saw the news of a child named Prince trapped in a bore well. He decided to develop a robot that would help rescue children stuck in a bore well. The device uses a Camera, DC motor, Robotic Arm, Safety bag and Rack. The movement of the arm of robot can be controlled with DC motor. The robotic arm will put the safety bag behind the trapped child and which will automatically get inflated. Such a system can be used to save children trapped in bore well.



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Idea/Innovation : Farmer's Friend
 Awardee : Manikrao Balvant Patil
 Reference No. : 18MH1423274
 Class : 8th
 School Name & Address : B. K. Patil Highschool, Koulav
 District & State : Kolhapur, Maharashtra
 Guide Teacher : Ananda Vasant Charapale



Manikrao observed the various day-to-day activities carried out by farmers and decided to make a multipurpose equipment that will make some of them easier. The equipment can be used for cutting cattle food, removing coconut husk, making rope, etc. The machine is environment friendly and it also serves various purposes like making coconut powder from coconut husk, fertilizing the crops and sharpening of tools. His biggest inspiration is Dr. APJ Abdul Kalam.





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Idea/Innovation : Flood Protected Home
 Awardee : Atharv Dilip Ghule
 Reference No. : 18MH1423918
 Class : 6th
 School Name & Address : Radhesham N Agarwal
 District & State : Pune, Maharashtra
 Guide Teacher : Sau Dhavale S M



Atharv came to know about the destruction of houses caused by floods. He decided to develop a flood protected home. He developed a house made of plastic that can float on water. This house may be made with recycled plastic materials thereby reducing dependence on natural resources. The floating house will help in saving lives during floods. He likes to play cricket, football and dreams to join Navy someday.



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Idea/Innovation : Multi-Purpose Stick
 Awardee : Srushti Sudarshan Awate
 Reference No. : 18MH1423869
 Class : 9th
 School Name & Address : New English Medium School,
 Gho
 District & State : Pune, Maharashtra
 Guide Teacher : Maryflora Dsouza



The idea struck Srushti when she observed various problems faced by women, girls, farmers and old age people. This stick consists of a Galvanized pipe, Torch, Battery, Spy Camera, Lighter, Multipurpose Knife and Lenses. The stick can be used in case of emergency and is designed portable. Her biggest inspiration is her science teacher "Smt. Pooja Barman" as she recognizes talent in young children and guides students in every possible way.





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Idea/Innovation : Automatic Gear Changer in Two Wheelers Using Electromagnet
 Awardee : Kank Sakshi Prakash
 Reference No. : 18MH1423958
 Class : 9th
 School Name & Address : Bhor English Medium School, Bhol
 District & State : Pune, Maharashtra
 Guide Teacher : Ulka Bandal



Sakshi got the idea to develop a product useful for the disabled while she was having a discussion with her father on the difficulties faced by disabled people in their day-to-day life. The device, which is an attachment will aid the disabled by automatically shifting gears. It uses electromagnets to shift the gear and can also be used to control the speed of the vehicles. In theory it will help increase fuel efficiency by timely shifting and will make it easier for disabled to ride two wheelers. Her role model is Dr. APJ Abdul Kalam.



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Idea/Innovation : Folding Toilet
 Awardee : Ashish Ajay Raut
 Reference No. : 18MH1422229
 Class : 9th
 School Name & Address : A E S Bhingar Night School
 District & State : Ahmednagar, Maharashtra
 Guide Teacher : Vivek Sakharam Atpadkar

Considering the scarcity of toilets in India and lack of space in big cities Ashish thought of developing a toilet which has a unique folding feature. The toilet can easily get fold into the wall and has special feature to separate waste excreta and urine. The toilet gets folded to the wall by a system of zigzag strips. The application of such an innovation include high usage at places like pilgrimage centres, homes, offices and shops or any other place that may have space constraints. It has also been designed to produce Bio gas, natural manure and urea. Ashish has participated in many science fairs and also has a certificate from 'Google Science Fair'





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Idea/Innovation : Solar Pressure Cooker cum Solar Swing Machine
 Awardee : Pranali Dnyaneshwar Deore
 Reference No. : 18MH1422294
 Class : 7th
 School Name & Address : Sai Shikshn Prs Mnd, Shirdi
 District & State : Ahmednagar, Maharashtra
 Guide Teacher : Sunita Manohar Maske



The idea of this project struck Pranali when she observed difficulties faced by women to sew shawls at Shirdi. Project has been developed by using simple components like solar panel, head of an old sewing machine, an old DC motor, pulley, an old pressure cooker, small glow plug, switches, etc. The DC electricity produced by solar panels can be used to run sewing machine and pressure cooker hence enabling more than one activity to be done at a time. It can save electricity, time and is easy to operate.



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Idea/Innovation : Helping Hand for Handicapped Person
 Awardee : Prachi Dhaku Mestry
 Reference No. : 18MH1424552
 Class: 6th
 School Name & Address : Pragat Vidyamandir, Ramgad
 District & State : Sindhudurg, Maharashtra
 Guide Teacher : Mahadev Pundalik Pawar



The "Helping hand" developed by Prachi can carry out various activities. It can hold a pen, brushes or pencil and can operate computer/laptop. It can also be used to play musical instruments, prepare paper dishes and cut vegetables. The idea to develop this struck her when she observed various problems faced by handicapped in day-to-day life.





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Idea/Innovation : Groundnut Cutting Machine
 Awardee : Badaskar Rahul Laxman
 Reference No. : 18MH1424409
 Class : 8th
 School Name & Address : M. G. Vidyalay & Jr. College
 District & State : Satara, Maharashtra
 Guide Teacher : Jadhav R J



Rahul got the idea of developing the machine when he saw groundnut de-shelling by rotating the pedal of a cycle. He thought of making the machine to work on same principle. This is multipurpose machine and can be used for breaking, cutting and/or removing shells of groundnut, potato, radish, corn, sunflower, carrot, cucumber, beetroot and onion. The machine is portable, affordable and easy to operate. No professional training is required to use the machine which being a manual device saves fuel and also saves time as compared to traditional process. Rahul loves working on field (for farming activity) and keep experimenting new things.



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Idea/Innovation : Vibrating Chair
 Awardee : Sumit Kishore Luthade
 Reference No. : 18MH1424628
 Class : 6th
 School Name & Address : S.S.M. Vidyalaya, Hinganghat
 District & State : Wardha, Maharashtra
 Guide Teacher : Shyam Meghare



Sumit got this idea after he observed that due to their busy schedule, people do not take care of their health. He says that now-a-days people are suffering from serious health issues (like obesity, blood pressure etc.) at a very young age. Hence, he developed a Vibration chair -a household chair which can gives vibrations to specific parts of the body as required which will help in reducing stress and giving relief to that part. Sumit has installed different vibrating motors to different part of the chair and their connections are separated from each other giving a modularity to the chair. Only those parts of the chair which is in contact with the body part having pain or stress will be activated.





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Idea/Innovation : Multi-Purpose Crutches
 Awardee : Nimish Bandu Atole
 Reference No. : 18MH1423902
 Class : 6th
 School Name & Address : J D Gawade, Parawadi
 District & State : Pune, Maharashtra
 Guide Teacher : Phadtare D K



Nimish was motivated to make multipurpose crutch for physically challenged to make them independent. Multipurpose crutch developed by Nimish is foldable with an inbuilt toilet seat. Additionally, it has an umbrella, a torch, a bottle holder and a charging point. The multipurpose crutch serves various purposes and has the ability to create a huge impact on the lives of the physically challenged. Nimish likes helping people and reading.



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Idea/Innovation : The Crutch - Friend of Physically Challenged People
 Awardee : Avanti Gopal Khade
 Reference No. : 18MH1424667
 Class : 7th
 School Name & Address : Kankubai Madhyamic Kanya School
 District & State : Washim, Maharashtra
 Guide Teacher : Shubhangi Jayant Kale



While travelling once Avanti saw a physically challenged person struggling at railway station. She got inspired to develop a crutch that will be friendlier as compared to existing one to the physically challenged. The friendly crutch developed by her has portable commode, thief detector alarm, water indicator, music system, side indicator, and a springs. Springs are fixed at the bottom to reduce pressure on the under arm, side indicators (both left and right) has been fixed to turn safely and avoid accidents, portable commode has been made with water pipe which can be easily fitted with a screw. Avanti like photography and reading about science.





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Idea/Innovation : Multi-Purpose Bicycle
 Awardee : Lohate Hrushikesh Santosh
 Reference No. : 18MH1422291
 Class : 10th
 School Name & Address : Adarsha Mv, Shirdi
 District & State : Ahmednagar, Maharashtra
 Guide Teacher : Gawali Y V



The multi-purpose Bicycle developed by Kumar can be used in ploughing, weeding, and sharpening of knives. It is also useful for making pulses from seeds and will be like an exercise if used regularly thereby enabling the user to lead a healthier life. Hrushikesh loves reading attending science fairs and exhibitions.



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Idea/Innovation : Multipurpose Farm Stick
 Awardee : Dipali Ganesh Bhutekar
 Reference No. : 18MH1423157
 Class : 8th
 School Name & Address : Mahatma Phule Madhyamik Vidyalaya
 District & State : Jalna, Maharashtra
 Guide Teacher : Choudhari



Dipali's father is a farmer. Touched personally by the problems faced by him, she came up with an idea of multipurpose farm stick. The device is made up of easily available material and it can be used to catch fish, draw honey bee, protect user from wild animals, cut fruits, clean the house, draw garbage from lake, and pluck leaf for feeding animals. The versatile device can be very beneficial for the farmer and its light weight design will enable the farmer to carry it everywhere. Dipali likes making friends and is committed to learning new things.





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Idea/Innovation : Multi-Purpose Voice-Controlled Robot
 Awardee : Aniket Prashant Kakde
 Reference No. : 18MH1424778
 Class : 9th
 School Name & Address : School Of Scholars, Yavatmal
 District & State : Yavatmal, Maharashtra
 Guide Teacher : Sapana Mahure



Aniket read about farmer's deaths due to manual chemical spraying through newspaper. Realizing the need for a safer method to spray chemicals, he developed a multipurpose voice-controlled Robot. He wishes to introduce technological changes in present farming methods. The multipurpose robot helps in reducing workload and increases safety of farmers as pesticides and other chemicals are done by the robot. It is an eco-friendly, low cost and portable device which can help the farmer save money by eliminating labour costs. It can perform multiple functions like spraying chemicals, watering the grounds and guarding of the farm (day and night). Aniket is very passionate towards technology and he has initiated a startup idea "Anfosys". He has received silver medal in International Skating Championship at Goa and has also worked as the Ambassador for Internshala, Gurugram.



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Idea/Innovation : Innovative Teaching Aids
 Awardee : Naina Vikesh Mandavkar
 Ref No. : 18MH1458591
 Class : 10th
 School Name & Address : Jagruti Vidyalaya, Warud
 District & State : Amravati, Maharashtra
 Guide Teacher : Sandesh Arunrao Kaware



Present model converted sound into electric signals and electric signals are amplified with a separate unit. Afterwards audio signals are send to motors which converts the signals into vibrations. The vibration waves are transmitted through the teeth to the inner ear. Then the electric signals are transmitted to the hearing cortex. In this way, we can improve the hearing efficiency of deaf person.



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Idea/Innovation : All in One Multipurpose Boot
 Awardee : Aaryan Sanjayrao Bhaise
 Reference No. : 18MH1458558
 Class : 9th
 School Name & Address : Sefala High school, Dhamangaon
 District & State : Amravati, Maharashtra
 Guide Teacher : Sachin L Kurlekar



Present invention designed a new walking support system for the blind people in order to navigate without any assistance. A user can move independently and able to walk freely almost like a normal person. In the present invention, a belt is equipped with ultrasonic sensor as well as sharp infra-red sensor and can be wear on the waist or legs of blind person. This belt having many features such as light weight, cost effective, less power consumption, adjustable, require less training and availability of activation system.



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Idea/Innovation : Novelty of Third Eye for Blind People
 Awardee : Om Santosh Suneri
 Reference No. : 18MH1463228
 Class : 9th
 School Name & Address : Jawaharlal Darda Eng. Med. School, Yavatmal
 District & State : Yavatmal, Maharashtra
 Guide Teacher : Priti Vikramsingh Bais



Present project is especially made for blind people. It helps the blind person to walk on street independently and categorizing between living and no-living things. The present model protect the user from any threat and user can inform relatives/friends when he/she is in danger by pressing the button. The model is in the form of jacket and cap which can be easily wearable.





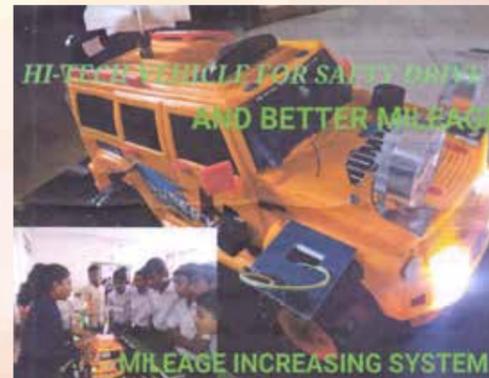
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Idea/Innovation : Mileage Increasing System for Car
 Awardee : Arya Bhausheb Rane
 Reference No. : 18MH1458665
 Class : 7th
 School Name & Address : Saint Anns School, Beed
 District & State : Beed, Maharashtra
 Guide Teacher : Sayyed Amjad



Description of the idea-In present model, MIS- Mileage Increasing System wall of air that pulls the cars backward direction (drag) is converted into forward direction, resulting increase the average/mileage of car. In addition, other 10 features are incorporated in my model and called as Hi-tech vehicle for safety drive with better mileage.



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Idea/Innovation : Automatic Water Pump Controller
 Awardee : Vaishnavi Eknath Shitale
 Reference No. : 18MH1459251
 Class : 10th
 School Name & Address : Ahilyadevi Holkar Kanya Vidyalaya, Basmath
 District & State : Hingoli, Maharashtra
 Guide Teacher : A.N. Jawkar



In the present invention, when water goes up to certain level then electric water pump gets off with alarming automatically and save the water as well as electricity. In the same way, when thief entered in our home or shop then we will get the call on cellphone as well as alarming automatically. In this way, we can protect our home/shop from the thief.





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Idea/Innovation : Smart Cott (Bed)
 Awardee : Sakshi Sudesh Mane
 Reference No. : 18MH1459648
 Class : 8th
 School Name & Address : Kalamba Girls High school,
 Kalamba
 District & State : Kolhapur, Maharashtra
 Guide Teacher : Dattatraya Ganpat Patil



The present invention is very useful to the patient as the product is incorporated with many features such as toilet system, detachments, first aid box etc. which minimizes the efforts of the patient.



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Idea/Innovation : Plantable Seed Paper
 Awardee : Tejas Sandip Ghatage
 Reference No. : 18MH1459737
 Class : 6th
 School Name & Address : Raghunath New English School,
 Kolhapur
 District & State : Kolhapur, Maharashtra
 Guide Teacher : More Sambhaji Rajaram



Peoples are cutting and burning trees, so Tejas has find out a trick to reuse a paper. He took a used paper by grinding it with use of mixer and one semisolid solution applied on a square shape screen sieve by dipping in water. After that He dried that sieve for 3 to 4 hours naturally and one sheet of paper he gets after sundry which is called a seed paper. As paper is a product from tree itself it is a biodegradable, so waste particles of paper he suggested to use for germination of seeds in a pot of flowers. Seed paper is a type of handmade paper that includes any number of different plant seed. Seed paper can use for making invitation cards, stationary, etc. Seed paper can grow even it 5 to 6 years old.





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Idea/Innovation : Women Safety Pad
 Awardee : Srushti Shrikant Patil
 Reference No. : 18MH1459740
 Class : 9th
 School Name & Address : Raghunath New English School
 District & State : Kolhapur, Maharashtra
 Guide Teacher : More Sambhaji Rajaram



Srushti strikes this idea because of menstrual cycle problem in women. She found an idea of sanitary napkin that is a safety pad which is skin friendly, soft, ultra and hygienic, having super absorbing capacity and easily disposable and also a with strong leakage protection. This safety pad has a chief material that is active oxygen strip. Polymer gel used for it is basically naturally which is made by Aloe -Vera gel/ powder. As aloe Vera is a medicinal plant having lots of medicinal qualities it plays an important role in this safety pad. It is covered by 8 layers of cotton and stitched well without leakage. 8 layers are as follows: Silk and cotton, strip, paper, cotton, absorbing polymer, paper, and cotton.



She compared this safety pad with other types of sanitary napkins which will found very effective, cost effective, used friendly.



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Idea/Innovation : Waste Plastic Bottles as a Small Scale Industry
 Awardee : Aryan Janardan Mali
 Reference No. : 18MH1462683
 Class : 9th
 School Name & Address : Azad Vidyalaya Kasegaon
 District & State : Sangli, Maharashtra
 Guide Teacher : S.S. Mohite



Now a day, plastic bottle has become essential. Plastic bottles are used on a large scale for liquid substances. It is not degradable neither in actual recycled and creates a large pollution in environment, Aryan has given an idea to re-use this used plastic bottle, actually he made a small scale industry to reuse plastic again. Initially, in this system, bottom of waste plastic bottle has cut, remaining part i.e. bottles mouth is attached to shaft. Cutter which is at the bottom of the bottle fixed in a way that, it may cut remaining part of bottle in expected width of fibre thread.



In next step, these fibre threads are passed to another bobbin from small bobbin. Here they are rotated by using gear motors. Thus fibres of different width are obtained by adjusting cutter. From these fibres, we can make a daily use thing in a very low cost.

In this machine there is a separate provision given for straightening these fibres. For this, bobbin to which fibres are spinned, is attached to the stand. Again it passed through sleeve. It gets straightened because of heating coil on sleeve.

Now last part is remaining part of bottle is that its mouth is also used. Plastic bottle is a chain of Polyethylene terephthalate and monomer. In this project a F6 bacteria found in plastic degrades.

These plastic threads are used to make brooms from plastic treads, brushes which are useful in cleaning toilets and painting work, badminton rackets, poultry compound for protection, homemade show pieces and for binding.



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Idea/Innovation : Li Fi Project
 Awardee : Tejas Ashok Patil
 Reference No. : 18MH1462671
 Class : 9th
 School Name & Address : Karanjwade High School
 Karanjwade
 District & State : Sangli, Maharashtra
 Guide Teacher : Ashok Vitthal Patil



Li- Fi project is a concept to make in digital India, Tejas strikes this idea when he was travelling by bus on highway. Li-Fi project stands for Light fidelity it provides transmission of data though a LED light Wi-Fi is great general wireless within building where as a Li-fi is high density wireless data. Coverage in confined area li-fi provides better bandwidth efficiency availability and secure than Wi-Fi. When vehicle travel on both side of divider on highway, vertical axis wind mill turbine will be rotating vertically around axis and light will be produce in that unit, these lights is used for Highway Street and by using this led light we can transmit internet data by using light.



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Idea/Innovation : Pollution Motoring System
 Awardee : Joshi Prathmesh Mahesh
 Reference No. : 18MH1462689
 Class : 9th
 School Name & Address : Adarsh Balakmandir, Islampur,
 Sangli, Maharashtra
 District & State : Sangli, Maharashtra
 Guide Teacher : S. L. Patil



Air pollution is a most serious problem of current time in all over world especially in large cities and even in villages because of huge level of industrialisation and rapid growth of vehicular transportation.

Prathmesh made a pollution monitoring system which has components CO- sensor, CO2 sensor, soil moisture sensor, light sensor, LCD, Display, GSM, Modem etc. Its applications include measuring CO, CO2 in atmosphere, pollution of vehicles, and measure and control humidity in polyhouses and to maintain adequate temperature in playhouses.





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Idea/Innovation : Distance Measurement Instrument (Height)
 Awardee : Akshar Bhushan Agiwal
 Reference No. : 18MH1460203
 Class : 7th
 School Name & Address : Eklavya Vidyalaya, Nandurbar Distt. Nandurbar
 District & State : Nandurbar, Maharashtra
 Guide Teacher : N. D. Patil



In this instrument, it is a distance measurement apparatus. Here student is using trigonometry particularly tangent ratio of right angle triangle. Tan is the ratio of opposite side to adjacent side. Here the adjacent side i.e. height of stand 5 feet. Using formula opposite side = Tan × adjacent side. This is very useful for distance measurement for observation there is small telescope and laser spot light protector.



Another instrument measuring height of window, pole, wall etc. it is based on similar triangle by using formula $h_1/h_2 = b_1/b_2$ we can measure height and width.



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Idea/Innovation : Writing Machine
 Awardee : Ghanwat Aditya Vijay
 Reference No. : 18MH1461512
 Class : 9th
 School Name & Address : New English School, Dorlewadi
 District & State : Pune, Maharashtra
 Guide Teacher : Mahapure V T



This machine is based on mechanical work it provides beautiful writing. This machine is attached to laptop or computer. The words, pictures, signs create in laptop this words, pictures or symbols write on paper by the machine.



The machine writes like word, sentences, capital letters, small letters, hollow letters, Marathi letters, numbers, geometrical symbols, signs, sketches, designs etc.



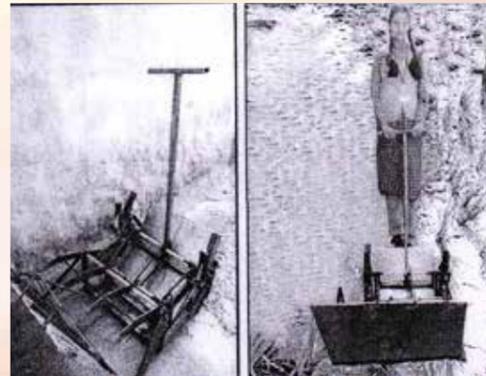
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Idea/Innovation : Multipurpose Rice Plantation and Cutting Machine
 Awardee : Aishwarya Nitin Bhagat
 Reference No. : 18 MH1461540
 Class : 9th
 School Name & Address : Amrita Vidyalayam Baneshwar
 District & State : Pune, Maharashtra
 Guide Teacher : Amol Dusane



Student belong to hilly area where heavy rainfall is witnessed. Mainly rice is cultivated in this area. To reduce the drudgery of farmers, student has developed a multipurpose rice plantation and cutting machine. This machine is cost effective, easy to handle and durable. In an hour time, half acre area is planted.



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Idea/Innovation : Plastic Bottle Cutter
 Awardee : Dhalait Mehraj Mubarak
 Reference No. : 18MH1461588
 Class : 6th
 School Name & Address : Nageshwar Vidyalaya Patas
 District & State : Nandurbar, Maharashtra
 Guide Teacher : Deshmane Shilpa Avinash



One of plastic's strong points is its relatively soft nature, and its ability to be cut, molded, melted, and shredded. Student used this property of plastic for recycling the bottles. He made a simple device, which is basically just a wooden handle with an embedded razor blade and cutting guide, can effectively turn an old plastic bottle into one continuous strip of plastic, which can then be used as 'rope' or as raw materials for other uses, such as crafting or DIY projects.





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Idea/Innovation : Multi-Purpose Agricultural Machine
 Awardee : Tejas Tukaram Chavan
 Reference No. : 18MH1461269
 Class : 10th
 School Name & Address : Matoshri Sonai Madhyamik Vidyalaya, Anjneri
 District & State : Nashik, Maharashtra
 Guide Teacher : Jadhav Bhausahab Uttam



In that developed machine is used for fertilizer application in agricultural farm. In that machine working, both solid and liquid form of fertilizer dropping at farm. Solid fertilizer is apply by dropping mechanism and liquid fertilizer is apply through spraying mechanism are used in that developed machine. It is minimized the labour work in agricultural farm, so that machine is cost efficient for farmer. Also it has minimized the operational time, so that machine is time efficient for farmer. It has protect the farmer from skin diseases while fertilizer application.



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Idea/Innovation : Robotic Fire Fighter
 Awardee : Riddhi Ramakant Bhamare
 Reference No. : 18MH1460412
 Class : 7th
 School Name & Address : Baglan Education Society English Medium School
 District & State : Nasik, Maharashtra
 Guide Teacher : Hemant Jibhau Suryavanshi



The robotic fire fighter is designed in such a way that we can search the place of fire with the help of camera fixed to it and extinguish the fire with the help of water and foam spray. We can control all these operation from safe place. With the help of remote control. we can operate the robotic arms by using hydraulic pressure which works on the principle of " Blaise Pascal law" here we have used water to reduce the intensity of fire and spray the foam to prevent the contact between fuel and oxygen which suppress the combustion.



The main advantage is that it can be accessed using remote control from a safe place, and many lives can be saved. This will hereby prevent the economic loss.



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Idea/Innovation : Labour Stand
 Awardee : Thavale Vitthal Tukaram
 Reference No. : 18MH1460651
 Class : 10th
 School Name & Address : Sahyadri Madhyamik vidhyalaya,
 Ambewadi
 District & State : Nasik, Maharashtra
 Guide Teacher : Pawar Kailash Keda



Carrying weight on the head is common in many parts of the developing world. It is an ancient tradition. Many women and men may be seen carrying burdens on top of their heads. It is observed in places where no inexpensive, or more efficient, ways of transporting workloads exist. The most common problems that develop after heavy lifting is generally back pain, and in particular low back pain. These type of problems can develop both acutely and suddenly as well as gradually. When such a problem occurs, it often results in the person having to stop working. This can spell economic disaster for the worker and his/her family. Student has developed a labour stand which will distribute the weight on other parts of the body.



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Idea/Innovation : Multipurpose Spreader cum Spare Pump
 Awardee : Pradip Sanjay Lagad
 Reference No. : 18MH1460684
 Class : 10th
 School Name & Address : New English School and Junior college, Taked
 District & State : Nasik, Maharastra
 Guide Teacher : Bhalerao Amol Laxman



Agriculture plays a significant role in overall socio-economic development. With the decreasing labour force in agriculture, increasing yield or productivity is the key to growth, which has to be accelerated. Shortage of labour and finding solutions thereof should become a major focus. To meet the requirements of small farmers, student developed a "multi-purpose spread cum spare pump". The tool is used for spreading fertilizers and seed grains evenly in agricultural field.





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Idea/Innovation : Air purifier
 Awardee : Aishwarya Sanjay Gunjal
 Reference No. : 18MH1460952
 Class : 9th
 School Name & Address : Maratha high school, Nasik
 District & State : Nasik, Maharashtra
 Guide Teacher : Patil Hemantrao Jagtanath



Now a day's people living in cities are suffering from both in and out door pollution. Market available air purifiers are not easily affordable because of cost. This inspired student to develop "Air Purifier". In this air purifier, air is purified in two steps. First step is sieving and second step is use of activated charcoal. It is economic, eco-friendly and portable device.



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Idea/Innovation : Wireless Transmission for Pacemaker Battery Charging.
 Awardee : Kshitija Nandkishor Sonawane
 Reference No. : 18MH1461000
 Class : 8th
 School Name & Address : Shree Swaminarayan English Meduim School, Nasik
 District & State : Nasik, Maharastra
 Guide Teacher : Poonam Marathe



Student has proposed a system in which the battery of pacemaker is wirelessly charged, without any physical connection. The power is transmitted wirelessly from primary coil (which is situated in the bed) and to secondary coil (which is situated in the human body of pacemaker). It works on the principal of electro magnetic induction of farada's law. The main advantage of this device is that we do not replace battery.





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Idea/Innovation : Maglev Train
 Awardee : Abhay Harish Patkar
 Reference No. : 18MH1458369
 Class : 9th
 School Name & Address : New English School, Puntamba, Ahmednagar
 District & State : Ahmednagar, Maharashtra
 Guide Teacher : Ghule Mahesh Rabhaji



In our country there are problems such that transport limits of fossil and danger of global warming. To avoid such problems, I made this train to save fuel, problems of traffic jam, natural disaster, avoid accident and save much life. Due to this instrument we can save the natural energy we can use in the city, tourist place and most populated area. In this train copper coil is used as track of train and nickel magnet attach with dry cell.



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Idea/Innovation : Agrobot
 Awardee : Prasad Santosh Kedari
 Reference No. : 18MH1458438
 Class : 10th
 School Name & Address : Shri Chhatrapati Shivaji Vidyalaya, Ahmednagar.
 District & State : Ahmednagar Maharashtra
 Guide Teacher : Gaikwad D G



Agrobot is an automatic robot used in farming to help improve efficiency & reduce reliance on manual labour. Big data analytics will help farmers extract information from the vast amount of data to make farming more efficient and improve output. The computer controls all other components agrobot player, the multiple type of function like cutting spraying with the help of pre-programmed commands. In this project movable assembly for moving robot from one place to other i.e., included due to this robot can move according to command. Multiple functions like grass cutting, spraying is included by using additional component for the purpose by using this device farmers can do agriculture works easily & cheaply. Work quality will improve.





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Idea/Innovation : Fan with Extendable Rod
 Awardee : Atharva Sunil Jaitapkar
 Reference No. : 18MH1460007
 Class : 9th
 School Name & Address : Arvind Gandbhir High School,
 Jogeshwari
 District & State : Mumbai, Maharashtra
 Guide Teacher : Sushila Vinod Jaitapkar



Blades of ceiling fan usually get covered in dust over a period of time, hence it needs regular cleaning. If it is not cleaned propely then it can have adverse effect on individual health as dust particles get mixed with air making it polluted. This polluted air can cause health issues such as asthma, allergies and breathing problems. Student witnessed the difficulty faced by aged people and people with muscular complicatins, as this activity involves heavy strain on muscles for people with problem like vertio. This inspired him to develop "fan with extendable rod". It is designed and developed in such a way that it can be easily used in day to day life.



Atharva inspiration is Dr A P J Abdul kalam. He loves listening to music.



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Idea/Innovation : Automatic Toilet
 Awardee : Tekmale Ritesh Sudhakarrrao
 Reference No. : 18MH1460074
 Class : 9th
 School Name & Address : R.S.C.S. Sainiki Vidhyala Sagroli,
 TQ. Biloli
 District & State : Nanded, Maharashtra
 Guide Teacher : D.K. Vakil



Student project is automatic toilet that works on push and pull principle. He has fitted two valves, below the foot rest. Upper tank is water tank and lower tank is flush tank. When person sits on the foot rest to attend natural call the push valve starts its function by releasing water from water tank to flush tank. As soon as person gets down of the rest then push valve blocks the water from water tanks then push valve starts its function. Water stored in flush tank comes down from the pipe to flush the sink. It is fully automatic and doesn't require physical or electrical efforts.





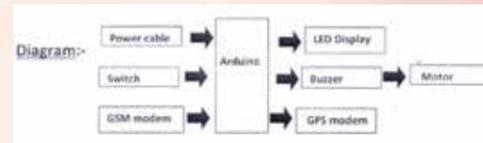
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Idea/Innovation : Vehicle Theft Detection and Notification with Remote Engine Locking
 Awardee : Anushka Bhausahab Ganore
 Reference No. : 18MH1460522
 Class : 9th
 School Name & Address : K.R.T. High School Mohadi, Nashik
 District & State : Nashik, Maharashtra
 Guide Teacher : Walke M L



The operating system of the device is based on the basic discovery of vehicle theft and giving its owner to SMS owner, if an attempt is made to steal a vehicle, the vehicle owner can send a SMS & stop theft of the vehicle and prevent theft of vehicle. In this system when the thief tries to steal immediately send information GSM module vehicle owner send an SMS to its register number and GPS found the theft car and locked engine.



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Idea/Innovation : Mini Portable Fridge
 Awardee : Anuj Navnath Lonkar
 Reference No. : 18MH1461657
 Class : 6th
 School Name & Address : SNBP School's & Jr. College, Pimpri, Pune
 District & State : Pune, Maharashtra
 Guide Teacher : Pallavi Pardeshi



Some medicines require special storage conditions such as refrigerator or even freezer. Such medicines can expire quickly if they are improperly stored at room temperature, becoming toxic or less effective. Keeping this into consideration while travelling, student has developed lightweight and portable mini fridge. Framework of fridge is made using acrylic sheets. Peltier unit is attached to heat sink on both the sides. Fans are also attached on both sides. This mini portable fridge is very useful in summers while travelling. Anuj loves reading books and playing cricket. He plays musical instruments like keyboard.





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Idea/Innovation : The Radio Frequency Based in Solar Spraying Robot
 Awardee : Shubham Santosh Bhagat
 Reference No. : 18MH1461932
 Class : 10th
 School Name & Address : Shri Chhatrapati High School Belwadi, Indapur, Pune
 District & State : Pune, Maharashtra
 Guide Teacher : Govekar B P



Using Mobile (Android Mobile Application) is RF Transmitter application forward, Reverse, Left, Right direction app. This app is RF frequency generator. This frequency transmits surrounding area 10 meter. Receiver is Robot TX and RX is communication wireless this robot. All direction control by mobile app forward, reverse, left, right and spraying gun metals to detect spray water level is mobile application. This robot is fully use in form.



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Idea/Innovation : Suction Fog Remover
 Awardee : Yashdeep Raju More
 Reference No. : 18MH1462025
 Class : 9th
 School Name & Address : Dnyanvardhini English Medium, Mahalunge
 District & State : Pune, Maharashtra
 Guide Teacher : Geeta Lele



Fog reduces visibility, limits contrast, distorts perception and each year. It limits your ability to see other cars and objects on the road. This inspired student to develop "Suction Fog remover". In this device, the vacuum chamber will inhale fog through nozzle. Then this fog is taken to the coupling chamber which is under the ground. After that it comes in contact with steel container whose surface temperature is 0 degree Celsius. When the fog comes in contact with steel surface it forms a tiny water droplets after cooling. These water droplets can be saved in water tank.



Yashdeep inspiration is Thomas Alva Edison. His interest involves around car designing.



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Idea/Innovation : Bicycle with Wheel Chair
 Awardee : Mayuri Popat Yadav
 Reference No. : 18MH1462148
 Class : 10th
 School Name & Address : Anand Vidhalaya and Junior college, Hol.
 District & State : Pune, Maharashtra
 Guide Teacher : Vasekar K.V.



Once while visiting the local market in his district, student spotted a differently abled man who was trying to cross a road with the help of a wooden plank attached to wooden wheels. The sloppy road obstructed his movement and the wooden wheels got trapped in a pit. He noticed the man was in distress as he was blocking the traffic and was being taunted by impatient passersby. This inspired Mayuri to develop a "Bicycle with Wheel Chair". This bicycle is easy to carry disabled people and will save time and fuel.



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Idea/Innovation : Robotic Hand
 Awardee : Mauli Dattatray Patole
 Reference No. : 18MH1462927
 Class : 9th
 School Name & Address : Sadashivrao Mane Vidyalaya, Akluj
 District & State : Pune, Maharashtra
 Guide Teacher : Boravke U J



This equipment is very useful to our society. It works like our hand. As like human hand, this robotic hand also has five fingers and it works as like our human hand. Our human hand works or moves through the elbow. As like this hand also work in the elbow.

This hand is very useful for those people who do not have hand they can work or move with the help of this hand.



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Idea/Innovation : Home Safety
 Awardee : Arnav Anil Jagtap
 Reference No. : 18MH1461751
 Class : 8th
 School Name & Address : St Alphonsa High School
 District & State : Pune, Maharashtra
 Guide Teacher : Shireen



Arnav after seeing the incidence of robbery in which his father watch and cash of about 10 lakh was stolen, he thought of a system which can be controlled through mobile SMS and can be controlled from any part of the world. System uses unique rack and lock system which is unbreakable and unhackable. Arnav aspires to become a scientist. He likes observing things and work on new projects and drawing.



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Idea/Innovation : A Paperfuge
 Awardee : Aryan Changdev Ladkat
 Reference No. : 18MH1461725
 Class : 6th
 School Name & Address : Sardar Dastur Hoshang Boys High School
 District & State : Pune, Maharashtra
 Guide Teacher : Anil Scott



Aryan was suffering from dengue and everyday blood plasma was required so he found an easy way to separate plasma from blood stocks by using a toy / spinner. At times there were many tests done on him. He came up with an idea of paperfuge which works similar to centrifuge, it can spin biological samples at thousand rotation per minutes. It's a critical step in the diagnosis of infection like malaria and HIV, but unlike a centrifuge the paperfuge doesn't need electricity. Aryan takes his inspiration from his teacher and he likes to prepare low cost working models for the society in the field of health. He believes that science, technology is important for everyone, and everyone must be innovative!





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Idea/Innovation : Sintex Tank Cleaner
 Awardee : Gaikwad Saurabh Pravin
 Reference No. : 18MH1461876
 Class : 10th
 School Name & Address : Shri Bhekaraimata Madhyamik Vidhyalaya
 District & State : Pune, Maharashtra
 Guide Teacher : Khedkar Maruti Pandurang



Gaikwad observed Sintex tank on terrace which contains many sediments in the bottom, so he thought of equipment which can clean sintex tank all side as well as on top and bottom. This equipment which rotates around the middle axis which cleans all the sides as well as bottom of the sintex tank where there is an outlet of funnel like shape fitted at bottom of tank, by using this outlet all sediments gets separated. Gaikwad likes reading science books and articles.



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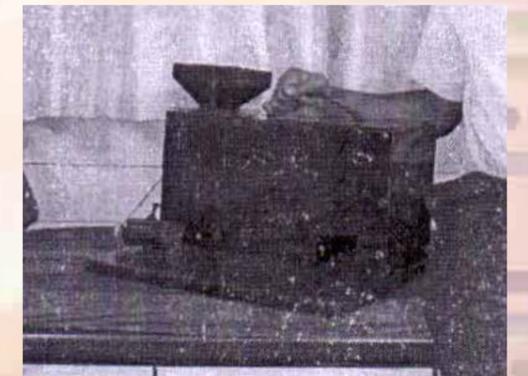
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Idea/Innovation : Husk Remover & Peanut Grinding Machine
 Awardee : Mrugendra Anantprasad Deshpande
 Reference No. : 18MH1461663
 Class : 8th
 School Name & Address : Abhinava Vidyalaya English Medium High School (AVEMHS)
 District & State : Pune, Maharashtra
 Guide Teacher : Mayuri Shriniwas Deshpande



Mrugendra saw his mother working in kitchen for removing husk. At that moment he thought of a machine for removing husk and grinding peanut. This machine scrub the peanut on the shaft and husk remove from the peanuts with the help of gravitational force on peanuts which moves it forward and peanuts gets collected in a bowl.

Mrugendra aspires to join NDA. He likes horse riding, swimming, cricket, cycling.





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Idea/Innovation : Car Fuel Tank Leakage Indicator
 Awardee : Rakshit Yogesh Iyengar
 Reference No. : 18MH1461803
 Class : 9th
 School Name & Address : Hindustan Antibiotics School,
 Pimpri
 District & State : Pune, Maharashtra
 Guide Teacher : Shweta Naik



Few months ago Rakshit's car fuel tank had a leakage but they didn't realized that and understood only when the garage person told. He saw in newspaper that due to petrol leakage many accidents are happening on road so he motivated to design a system which will intimate the driver on the dashboard when there is a leakage as well as message will be sent in mobile. Rakshit yogesh inspiration is Dr A.P.J Abdul kalam. Since childhood he is interested in science. His hobbies include circuit design.



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Idea/Innovation : A Crutch Which Does Not Require
 Any Hands to Use
 Awardee : Suyash Shreepad Chandolkar
 Reference No. : 18MH1461726
 Class : 7th
 School Name & Address : Sardar Dastur Hoshang Boys High
 School
 District & State : Pune, Maharashtra
 Guide Teacher : Anil Scott



Suyash mother fell down and fractured her leg while doing her daily life work so she had to use an underarm crutch. After seeing the difficulty of people face in walking after fracture and accident he thought of designing a crutch which is support free. The device removes the strain on the underarms and transfers it to your legs, leaving your hands and arms free for daily tasks.

Suyash takes his inspiration from his mother and he likes playing and studying. He is interested in preparing gadgets for people who are handicapped in the field of medical sciences.





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Idea/Innovation : Helping Hand for Farmer
 Awardee : Dipti Ankush Valanju
 Reference No. : 18MH1462873
 Class : 10th
 School Name & Address : Pragat Vidyamandir Ramgad
 District & State : Sindhudurg, Maharashtra
 Guide Teacher : Mahadev Pundalik Pawar



Farmer in Dipti's area only grow rice crop. So an idea strikes in her mind to create setup which can do different operations. In this setup, different section are arranged in order to do eleven operation in one setup. These operations are making hole in tender coconut, peeling off cover of coconut or tender coconut, grating coconut kernel, curd churning machine, juice extraction machine, cutter, cashew cutter, sifting machine, ploughing sowing seeds and covering land again with soil, weeding machine, spraying machine.



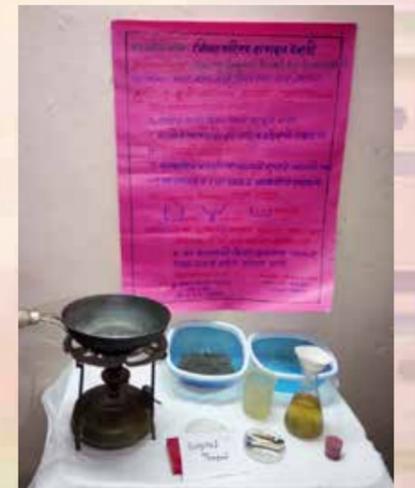
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Idea/Innovation : Making Surgical Thread by Achiranthus Plant
 Awardee : Divya Madhukar Nandurkar
 Reference No. : 18MH1458879
 Class : 9th
 School Name & Address : Z.P.High School Dewahadi.
 District & State : Bhandara, Maharashtra
 Guide Teacher : R. S. Girhepunje



Divya noticed that when we burn the garbage in our society, the ash collect is alkali in nature. So she get the idea to form surgical thread by this alkaline ash. First collect the achiranthus plant and burn it to get ash. Now soak this ash in water for 24 hour. Then filter this soaked ash with filter paper. Now boil the water after filtration to form alkali. Finally take linen thread, alkaline water and turmeric to form surgical thread. Cost of this thread in market is around 1200 to 1500 rupees. These type of thread can used for curing the disease like piles.





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Idea/Innovation : Multipurpose Sprinkler Machine
 Awardee : Shirish Pundlik Chavhan
 Reference No. : 18MH1460717
 Class : 8th
 School Name & Address : Kai.D.N.Deshmukh ashramshala
 District & State : Nashik, Maharashtra
 Guide Teacher : Nitin Devba Thakare



Shirish's father is a tribal farmer. He saw everyday problem faced by his father. One of the problem he observed is of sprinkle. Farmer have to carry heavy sprinkler on his back to spray fertilizer in farm. So to reduce the drudgery he invent a setup which can mounted on wheel and can spray fertiliser as we move setup forward. From this we can do maximum of work in minimum time and energy. The setup is eco-friendly and it does not require any fuel as it is run by muscle power. It can perform different task at a time.



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Idea/Innovation : Orange Plucking Machine
 Awardee : Vibhav Awandhe
 Reference No. : 18MH1460032
 Class : 8th
 School Name & Address : T.B.R.A.N.'s Mundle English Medium School
 District & State : Nagpur, Maharashtra
 Guide Teacher : Purnima Dixit



Once Vibhav visited an orange farm. At that time he saw a labour climbing the ladder to pluck the oranges. He observed the drudgery of the farmer and started working on that. He used the colour sensor which will sense the orange which ripen properly. After that a motor will be operated and the orange will be plucked. This project can be used for plucking various delicate fruits i.e. various colour by using colour sensor with higher frequency and by coding it.





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Idea/Innovation : Multi-Purpose Glove
 Awardee : Gobare Vyankatesh Sanjay
 Reference No. : 18MH1461359
 Class : 8th
 School Name & Address : Shri Mahatama Bashwashwar Vidyalay
 District & State : Osmanabad, Maharashtra
 Guide Teacher : Potdar R D



Everyday we hear about incidences happening to females. There is big question of women safety in metro cities. Vyanakatesh got motivated from the Nirbhaya incidence and want to contribute in safety of women. To stop the incidences happened with the girls, Vyankatesh made this project which contains two weapons: Hydrogen reactor and stung power weapon. This project helps women who work at night shifts.



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Idea/Innovation : Multi-User Machine
 Awardee : Ashvini Ravindra Zagade
 Reference No. : 18MH1462478
 Class : 6th
 School Name & Address : Madyamik Vidyamandir Tamhane, Ratnagiri
 District & State : Ratnagiri, Maharashtra
 Guide Teacher : Khedkar B D



When Ashvini heard the news about the hanged or suicides of the farmers. She decided to help the farmers. So, she came up with the idea of multi -purpose machine. She has developed a machine which is cheap and very useful to the farmers. The multi- purpose machine is developed in very low cost with scientific method. This machine can be used to cut and separate the sugarcane buds, to cut the grass, to dig the root crops, to extract the juice from fruits, to dig and collect the stones.



Ashvini takes her inspiration from her parents and teacher and she likes to read stories. Also she takes part in speech competitions.



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Idea/Innovation : Swarm ID Cards
 Awardee : K.Ragavraj Vikas
 Reference No. : 18MH1458976
 Class : 10th
 School Name & Address : Narayana Vidyalayam, Dist. Chandrapur
 District & State : Chandrapur, Maharashtra
 Guide Teacher : Lipika Roy



Once Ragavraj went to summer camp, one student got lost when they were moving in group in Museum. Similarly he noticed that in his native place, herding animal was very difficult so he thought about a card which can control the student and animal moves in group. The guide or in-charge of group should have the Control panel ID card and all the other member should wear ID card. The control panels has details of ID card and number of people in the group. If anyone stray away from the group there is an indication or alarm on control panel which will inform which person wearing the ID card is out of the group. The location in ID card can also be seen in control panel. This way the person lost can be located. The range of ID card and the control panel can be altered according to requirement.



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Idea/Innovation : Good Friend of Farmer
 Awardee : Yash Mangesh Shinde
 Reference No. : 18MH1462838
 Class : 8th
 School Name & Address : Parkhandi High School Parkhandi
 District & State : Satara & Maharashtra
 Guide Teacher : Yadav Prasad Jagannath



Yash is a son of farmer. He saw the problem of unavailability of labour in peak period of farming. So, he decided to help the farmers. An idea strike in his mind to develop a unique machine. The developed machine is very useful to the farmers for performing post-farming operations like to easily collect the grains and deliver it into grain bags. He also installed a fan in the machine for windrowing purpose. In his machine, Grain bags can be weighted automatically. Sieving mechanism is also given in his machine. Machine can easily move bags from one place to another. This machine is useful for Jawar, Bajara, Wheat, corn etc.





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Idea/Innovation : Chilly Grinding Machine
Awardee : Shinde Payal Pandurang
Reference No. : 18MH1461584
Class : 7th
School Name & Address : Namdevrao Pasalkar Madyamik
Vidyalaya, Nanvij
District & State : Pune, Maharashtra
Guide Teacher : Shelke U K



With the help of present device we can grind or paste four different types of spices, condiments, oilseeds, grains etc. concurrently. Present device made up of wood and steel. It contain one handle connected with four different wooden pounders through roller. These four pounders pounded/paste the stuff (spices, condiments etc.) in the steel pots at a time. Present device is very cost-effective and minimizes the time of operation.



Manipur



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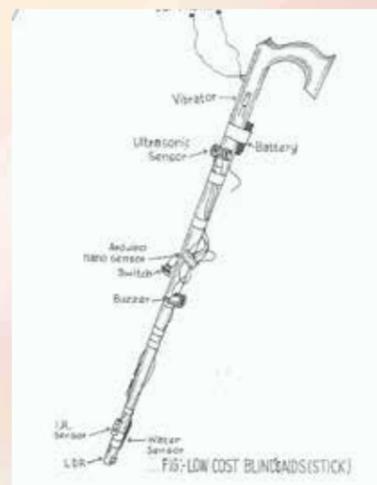
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Idea/Innovation : Blind Stick
 Awardee : Pukhrambam Dayananda Singh
 Reference No. : 18MN1424797
 Class : 7th
 School Name & Address : Victory High School (Rec.)
 District & State : Kakching, Manipur
 Guide Teacher : Lokeshwar



His project is useful for blind people. He developed a cheaper stick using an LDR. On using this stick different frequencies of sound will be produced on the speaker when light falls on the LDR. Hence it will be easy for a blind person to walk. He also wants to make this stick as light as possible with lot of advanced sensors.

His biggest idol is Sir Issac Newton and in future he wants to build a smart fire extinguisher.



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Idea/Innovation : Pen Tooth Brush
 Awardee : Haominlal Lhouvum
 Reference No. : 18MN1424796
 Class : 10th
 School Name & Address : Eklavya Model Residential School
 District & State : Kandpokpi, Manipur
 Guide Teacher : D. Silas



During a busy day in exam, student forget to brush his teeth and went to exam hall. He was carrying only pen to the exam centre. This incident inspired him to develop Pen toothbrush. It consists of two sections: pen section and toothbrush section. The pen section consists of pen, when the tip is rotated clockwise it gives the pen-tip. On its side, there is a 360 degree rotatable laser pointer and LED torch which can be used at the times of emergency in the dark; even while writing. The tooth brush section is kept at the side of the pen which can be attached or detached as per the desire of user. The toothbrush is adjustable and toothpaste is refillable as well. Unlike ordinary pen, this pen-brush is a seven in one prototype.



Haominlal loves singing and listening music. He is interested in painting, modelling and exploring new things.



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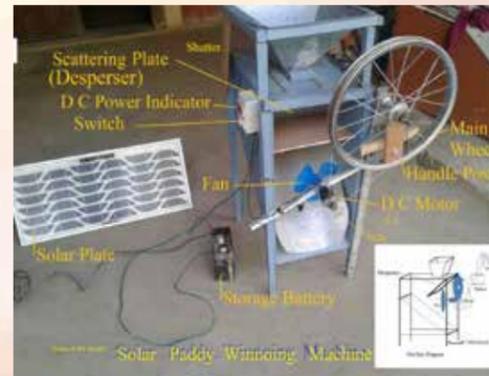
Idea/Innovation : Solar Paddy Winnowing Machine
 Awardee : Soubam Vivekananda Singh
 Reference No. : 18MN1424799
 Class : 6th
 School Name & Address : Ningombam Jr. High School
 District & State : Thoubal, Manipur
 Guide Teacher : Soubam Biren Singh



He developed a time saving simple winnowing machine for rural people which can separate husk, dust and other unwanted material from paddy and rice. This machine runs on solar power

When paddy is put on the top container of the machine and the shutter of machine is opened, paddy falls on the inclined dispenser. There is a solar powered fan inside that blows away dust and the clean paddy is separated and falls on a basket.

In future Soubam wants to become scientist and serve people. His hobbies include reading books, making science models and playing badminton



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Idea/Innovation : Multipurpose Insect and Mosquito Killer
 Awardee : Soubam Bhorot Singh
 Reference No. : 18MN1424791
 Class : 8th
 School Name & Address : Jawahar Navodaya Vidhyalaya, Khumbong
 District & State : Imphal West, Manipur
 Guide Teacher : Soubam Ingocha Singh



It is common practice to use mosquito and insect repellents at home in the form of chemical liquid, spray, coils or other forms which are hazardous to health as well as harmful for environment. So this student decided to develop a solar powered model to attract the insects and mosquitoes. The LED lamp is switched on to turn on a light that attracts mosquitoes and insects. Also he decided to use high voltage DC generator that will help in killing the attracted insects and mosquitoes. The device has potential application in hospitals, schools, public places, and agriculture field and railway stations. Soubam wants to become scientist in future and his hobbies include reading comics and various science magazines.





Meghalaya



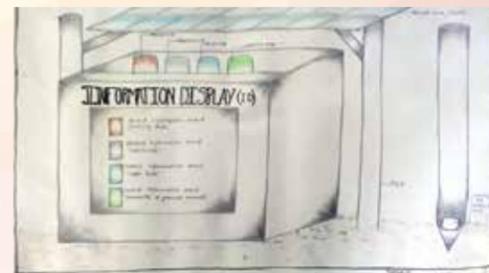
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Idea/Innovation : Field Information Indicator Device
 Awardee : Md. Zishan
 Reference No. : 126645
 Class : 9th
 School Name & Address : Jawahar Navodaya Vidyalayas,
 Williamnagar
 District & State : East Garo Hills, Meghalaya
 Guide Teacher : Vinesh Yadav



The indicator device gives information of the field to farmers using simple colour coded pipes. The device has four measure pipes which come in Brown, Silver, Blue and Green colours. The Brown pipe gives information on the fertility of the soil, Silver indicates insecticide level, and Blue gives information on the water level and Green gives information in the probability of growth of the crop. With this information, farmers can decide on when and where to start cultivation, on optimum level of insecticide to be applied and plan to irrigate the fields as per the requirement. The device is to be developed such that it can be powered using electricity or solar panels or battery.



Zishan understands the difficulty in developing this device but is committed to develop it and also make it cheap and affordable for farmers.



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Idea/Innovation : Vacuum Garbage Picker in Railway Coaches
 Awardee : Shubham Pramanik
 Reference No. : 126650
 Class : 9th
 School Name & Address : Jawahar Navodaya Vidyalayas,
 Williamnagar
 District & State : East Garo Hills, Meghalaya
 Guide Teacher : Sarvesh Gautam



India has one of the largest railway networks in the world with millions of daily users and consequently the amount of garbage and waste generated is steadily increasing. Shubham observed that manual workers pick up garbage and human faeces which contain harmful microbes and may lead to health issues for the labourers. He compared the vacuum cleaning done on aeroplanes and pondered on why the same system cannot be used in Railway Coaches. The idea is to fit the railway coaches with garbage trays at the bottom which in-turn can be fitted with vacuum cleaning machines. When the train reaches a station, the Vacuum Garbage Picker (VGP) can suck in garbage and dirt materials which will be operated centrally by the loco pilot. He also suggests the VGP to have a 360° rotatable nozzle with a capacity to suck garbage at a distance of 5 feet of the surrounding area. The garbage trains can be cleaned at the last destination of that particular train.



Shubham envisions that the system will reduce manual scavenging to a large extent and would help clean railway stations more efficiently. A station with more foot fall will have more stops which would result in more frequent and efficient cleaning of tracks.



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Idea/Innovation : Grab Picking Device
Awardee : Srishti Yadav
Reference No. : 18ML1453142
Class : 8th
School Name & Address : Jawahar Navodaya Vidyalayas,
Williamnagar
District & State : East Garo Hills, Meghalaya
Guide Teacher : Sarvesh Gautam

Lack of cleanliness around the surrounding inspire student to develop "Grab Picking Device". This device is like a vacuum Cleaner which can be fitted with cars and other transportation devices. This device consists of a large tank which is connected to a vacuum cleaner. This vacuum cleaner collects the waste and other items from our surrounding and store it into the big tank which is fitted with it. This device will collect waste materials like plastic bags, bottles and wrappers etc.

Srishti likes reading different types of books. Her hobbies include playing badminton.

Mizoram



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Idea/Innovation : Electrolysis with Free Electricity
 Awardee : Lalhriatrenga Khiangla
 Reference No. : 18MZ1533776
 Class : 9th
 School Name & Address : Govt.Chattlang High School
 District & State : Aizwal, Mizoram
 Guide Teacher : F Lalhmangaihi



This project shows how to create electric current and stored electric energy to run the machine. The student through this project want to show that the hydrogen can be used as fuel which can replace petrol and diesel.



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Idea/Innovation : Chemical Composition Based Studies on Impact of Milk to Prevent and Cure Pimple or Acne
 Awardee : C. Lalhmingmawii
 Reference No. : 18MZ1533778
 Class : 10th
 School Name & Address : New Diamond School
 District & State : Mamit-Mizoram
 Guide Teacher : Lalramchhana



Many teenagers feel shy due to pimples or acnes on their face. For many it becomes a cause of loss of confidence. The student has carried out the study of chemical composition of impact of milk to prevent and pimple or acne. The student gave an idea how to avoid pimple using milk.



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Idea/Innovation : Hospital and Locality Based Of Hygiene and Nutrition on Diarrhea Disease
Awardee : Vanlalmihriata
Awardee : 18MZ1533777
Class : 9th
School Name & Address : New Diamond School
District & State : Mamit-Mizoram
Guide Teacher : Lalramchhana



The student carried out hospital and locality based studies on impact of hygiene and nutrition on diarrhoea to know how local people suffered from diahorria disease. He study was carried out through questionnaire

Nagaland



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Idea/Innovation : Smart Helmet
 Awardee : Rupak Saha
 Reference No. : 18NL1453152
 Class : 9th
 School Name & Address : Kendriya Vidyalaya, Dimapur
 District & State : Dimapur, Nagaland
 Guide Teacher : Neeraj K



While there are laws that prevent riding a two wheeler without a helmet, it would be safe to say that laws are not followed by all, resulting in many unfortunate incidents. This issue inspired Rupak to develop a "Smart Helmet". This helmet is used as an ignition switch to start a two wheeler. It effectively means that until the rider has worn the helmet, the vehicle shall not start.



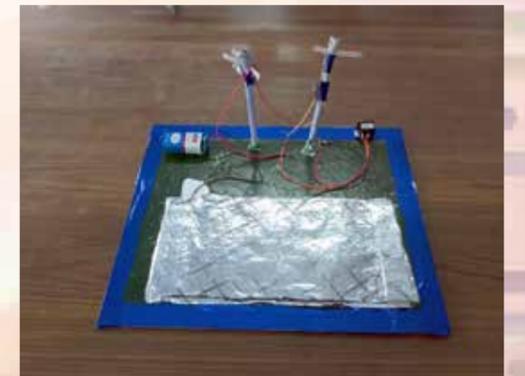
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Idea/Innovation : Save Energy
 Awardee : Shishikeya Chandra
 Reference No. : 18NL1453150
 Class : 7th
 School Name & Address : K.V.Dimapur
 District & State : Dimapur, Nagaland
 Guide Teacher : Neeraj K



Many villages do not have adequate electricity and therefore it affects day-to-day businesses at such places. Shishikeya drew inspiration from the concept of electricity generation by utilizing human footsteps. He developed a path with slabs paved onto it to convert energy from one's footsteps to small amount of electricity. This can make available low cost electricity to villages. His hobbies include reading and playing.





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Idea/Innovation : Save the Earth from Polythene and Other Waste Material
Awardee : Vijayanand. V Thomas
Reference No :
Class : 8th
School Name & Address : St. Mary's Cathedral
District & State : Kohima, Nagaland
Guide Teacher : Thomas. V.J



One of the major challenges in life the world faces is: Global warming and Disposal of waste materials. Student developed a project which will enable us to get rid of these problems. Project is made of two devices. First device is Biogas plant which is used for energy generation, vermi- culture and composting fertilizers with bio degradable waste. Second device is used to convert carbon monoxide into a more useful product i.e formic acid. This product will save the earth from pollution and global warming. Vijayanand hobbies include playing basketball and listening to music.



Odisha



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Idea/Innovation : Easy Removal of Husk from Green Coconut
 Awardee : Barsa Behera
 Reference No. : 18OR1438984
 Class : 9th
 School Name & Address : Satyabadi High School, Badajorada
 District & State : Angul, Odisha
 Guide Teacher : Merlin Singh



The coconut is a tropical tree species, mainly grown and harvested by small-scale farmers. Production of coconuts is concentrated on island and coastal areas. This is a very useful plant with a wide range of products being sourced from it. Its kernel is harvested for its edible flesh and delicious water, while its husk is used for its strong fibres. Traditional methods of removal of husk consumes a lot of time and money, this inspire barsa to develop a technique which will reduce efforts and cost. This machine stands on two angles with knives attached to handles. It can be operated either by using hands or legs. This technique is very effective in small scale industries.



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Idea/Innovation : Cradle for Multipurpose Use
 Awardee : Dibanshu Padhan
 Reference No. : 18OR1425488
 Class : 7th
 School Name & Address : Jawahar Navodaya Vidyalaya, Jharsuguda
 District & State : Jharsuguda, Odisha
 Guide Teacher : Mohanlal Prajapat



Student has come with the idea of multipurpose cost-effective cradle which can be used for entertainment purpose, energy conservation, physical exercise etc. Dibanshu always keeps his interest in engineering innovations, new technologies etc.





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Idea/Innovation : Safe and Smart Platform
 Awardee : Diptimayee Bag
 Reference No. : 18OR1425615
 Class : 10th
 School Name & Address : Ananta Prasad Das High School
 District & State : Kalahandi, Odisha



Diptimayee has come with an innovative idea of a smart bridge connected with the two platforms of Railway station for the easy crossing of one platform to another without climbing the ladder of the over bridge, it also has some security arrangements like different colours of light and siren for making the passengers concerned, so that they can safely cross the platforms.

Diptimayee believes in learning, she believes that learning is a continuous process and she wants to learn from everybody and every moment.



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Idea/Innovation : Flying Insect/Worm Killing Device
 Awardee : Jnanalipsa Parida
 Reference No. : 18OR1425760
 Class : 6th
 School Name & Address : Nodal U.P. School, Sarangada
 District & State : Kandhamal, Odisha
 Guide Teacher : Gokul Krishna Patnaik



Jnanalipsa comes with her simple machine of worm killing, which is cheap and needs only some organic materials and some common cheap materials like some bio oils, candle a bulb, a pipe etc., where insects are attracted by the bulb light, enter through the holes of the pipe and died by the heat of the candle and the debris gets deposited in the oil, we can then reuse the oil after sieving for the same purpose and the debris can be used as compost.

Jnanalipsa is now a student of class 8th and wants to serve for people through her life as she sees her idol in Swami Vivekananda.





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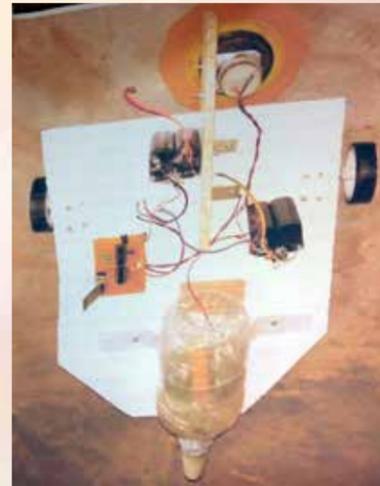
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Idea/Innovation : Floor Cleaner Robot
 Awardee : Jyotirmayee Swain
 Reference No. : 18OR1425287
 Class : 6th
 School Name & Address : Mangalpur (B) Ups School
 District & State : Dhenkanal, Odisha
 Guide Teacher : Robalin Nayak



Student has come with an idea of smart Bluetooth Floor cleaner, which gets connected to the Smartphone Bluetooth and automatically operates.

Jyotirmayee loves the teaching profession as she thinks it the pathway of lightening one's dark life.



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Idea/Innovation : Photon Heater
 Awardee : Jyoti Shankar Behera
 Reference No. : 18OR1424945
 Class : 6th
 School Name & Address : Sarangapur Ugup School
 District & State : Balasore, Odisha
 Guide Teacher : Saroj Kumar Dash



Student comes with an idea of easy and cheap heater, a dish antenna is converted into a concave mirror and a boiler is attached at the focus to generate heat directly, where a water supply is connected and a pipe is taken out from the upper portion to collect steam in a container and a turbine is there to generate electricity. The steam can be used for household purposes like cooking, water heating etc. and boiling water can also be used sterilizing clothes or any required instruments etc.

Jyoti loves science and want to do something in the Science background in future.





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Idea/Innovation : My Ladder
 Awardee : Manaswinee Mohanty
 Reference No. : 18OR1425410
 Class : 9th
 School Name & Address : Osakana High School
 District & State : Jagatsinghpur, Odisha
 Guide Teacher : Krushna Chandra Mohanty



Student has come with a smart ladder, which has a multiple usage like it can be used as a ladder, as a trolley and also as a table.

By serving for others, Manaswinee wants to bring joy and happiness among people.



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Idea/Innovation : Bio Detoxification of Hexavalent Chromium Ions Using Cyanobacteria
 Awardee : Naisargik
 Reference No. : 18OR1425590
 Class : 9th
 School Name & Address : DAV Public School, Unit- 8, Bhubaneswar
 District & State : Khurdha, Odisha
 Guide Teacher : Rajan Kumar Das



This project is a cost- effective detoxification of Chromium using a self-isolated Cyanobacteria species (Anabaena sp.) immobilised in a polymer matrix, this prevents Chromium from entering our food chain.

He wants to be attached with the science field and contribute to the progress of our country.





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Idea/Innovation : Manufacturing of Cement from Waste
 Awardee : Padma Pradhan
 Reference No. : 18OR1425646
 Class : 8th
 School Name & Address : Girijana High School
 District & State : Kandhamal, Odisha
 Guide Teacher : Guru Charan Samal



Cement is an extremely important construction material. It is used in the production of the many structures that make up the modern world including buildings, bridges, harbours, runways and roads. The constant demand for all of these structures, increasingly from the developing world, means that cement is the second most consumed commodity in the world after water. Student developed a new technique to manufacture cement in small scale using waste material. Sugarcane waste and paddy husk is used as raw material in appropriate ratio. Homogeneous mixture is obtained from the mixer and fed into furnace. The final output is cement which is obtained as a fine powder.



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Idea/Innovation : Movement of a Trolley on the Step
 Awardee : Pami Sahu
 Reference No. : 18OR1424971
 Class : 9th
 School Name & Address : Rengali High School
 District & State : Balangir, Odisha
 Guide Teacher : Dillip Kumar Dhal



Student has recognised a very common problem, which we ignore most of the time. She has come with such a trolley that can easily be moved also on stairs, and over any obstacles. She has modified the trolley up to certain level like adding six wheels on it, adding a cycle chain etc. to give it its advanced version.

As Pami's innovation is really helpful for common people, even it is also cost- effective, like that we look forward for her next invention and she has also said that she is so eager to serve for the mankind.





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Idea/Innovation : Domestic Crusher for Pulses Processing
 Awardee : Rajani Hembram
 Reference No. : 18OR1425334
 Class : 9th
 School Name & Address : Utkal Bharati Bidyapitha, Khaliborei
 District & State : Dhenkanal, Odisha
 Guide Teacher : Pravash Kumar Ghadei



Student has come with a drudgery reducing solution, her invention is a hi- tech Pulses crusher which is a hand- operated machine where a funnel collects all the seeds, there by 2 grinding stones crush them and one pipe collects them at the lower portion of the machine. Rajani wants to serve the society by being a doctor.



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Idea/Innovation : Ideal Bins
 Awardee : Ranjan Behera
 Reference No. : 18OR1424875
 Class : 8th
 School Name & Address : Mansing Bazar School
 District & State : Balasore, Odisha
 Guide Teacher : Sushree Das



Student simple idea is of a dustbin with a sloppy base and of certain height so that we have not to uplift the total dustbin to make it empty, rather it will have an opening system at the sloppy base.

As we have seen above that Ranjan's discovery can really reduce the drudgery, like that Ranjan feels bothered about the handicapped people and he wants to do something for them in the future.





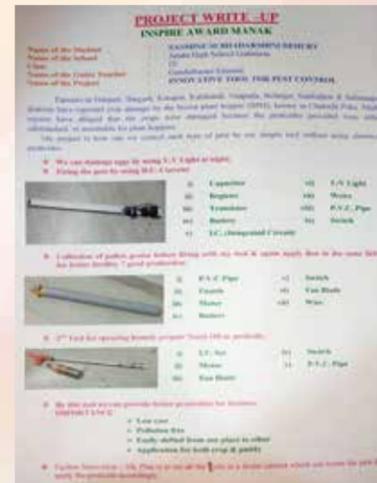
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Idea/Innovation : Innovative Tool for Pest Control
 Awardee : Sasmine Subhadarshini Dehury
 Reference No. : 18OR1424830
 Class : 9th
 School Name & Address : Janata High School, Gadataras, Angul
 District & State : Angul, Odisha
 Guide Teacher : Gundicharani Khuntia



Student has designed a smart tool to catch & kill the crop damaging Brown Plant Hoppers. This device is something like the mosquito catching bat with some advanced technologies like UV light, pollen grain collector, Neem oil sprayer etc.; this is a great idea for small areas to be availed in cheap cost. Sasmine is keenly interested to serve for the society.



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Idea/Innovation : Gas Leakage Alarm
 Awardee : Sunita Das
 Reference No. : 18OR1424910
 Class : 9th
 School Name & Address : Satsang Simanta Girls High School
 District & State : Balasore, Odisha
 Guide Teacher : Raghunath Patra



Student has recognised an issue which is so much related to our routine life and has come with a definite solution and that is LPG Gas leakage alarm that means whenever there is any leakage in the gas pipe, a sensor will sense it and a siren will therefore ring to make the surrounding people concerned.

Sunita is an eager student, always looks forward for any kind of advanced technology and wants to serve for society and god in her future.





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Idea/Innovation : Green Polyester
 Awardee : Akankshya Samal
 Reference No. : 18OR1465035
 Class : 8th
 School Name & Address : Buxi Jagabandhu English Medium School II
 District & State : Khordha, Odisha
 Guide Teacher : Monalisa Das



Plastic in any form or any quantity is harmful. It takes 1000 years to decompose plastic into smaller pieces which seeps down into the soil and release chemicals, which eventually reach the water supply. Considering the use of plastics in every nook and corner of our lives, banishing it completely seems unrealistic and impractical. Student propose to substitute plastic with suberin, major constituent of cork from the bark of the tree. Suberin is a bio polyester which is a cross linked network of aromatic and aliphatic monomers which builds up a hydrophobic, microbial protective barrier. Suberin's waterproof properties make it suitable for making biodegradable bags and raincoats. Its anti-bacterial properties which make it suitable for medicinal uses. The cork tree extract is also used as a dietary supplement in form of capsules.



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Idea/Innovation : Water Purification from Moringa Seeds
 Awardee : Anand Kerketta
 Reference No. : 18OR1465731
 Class : 9th
 School Name & Address : Panchayat High School, Ekma
 District & State : Sundargarh, Odisha
 Guide Teacher : Sanjukta Naik



In many parts of the world river water which can be highly turbid is used for drinking purposes. This turbidity is removed by treating the water with expensive chemicals. Student uses natural coagulants that have been used for centuries in traditional water treatment practices throughout certain areas of the developing world. He uses crushed moringa seeds to clarify and purify water to suit domestic use and lower the bacterial concentration in the water making it safe for drinking. By using Moringa seeds people will no longer be depending on expensive means. Using Moringa to purify water replaces chemicals such as aluminium sulphate, which are dangerous to people and the environment, and are expensive. The moringa powder joins with the solids in the water and sinks to the bottom. This treatment also removes 90-99% of bacteria contained in water.





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Idea/Innovation : Solar Dryer
 Awardee : Anusaya Samantaray
 Reference No. : 18OR1465600
 Class : 8th
 School Name & Address : Aishaneswar Dhandamulak
 Bidyapith
 District & State : Puri, Odisha
 Guide Teacher : Debasisha Pradhan



The use of solar energy has been practiced over the years to increase shelf life of various agricultural and marine products for local consumption. In order to benefit from a free and renewable energy source provided by the sun, student developed solar dryer. It is made by using wooden box with transparent glass slab attached at certain angle. The sides of boxes are painted black to maximise the absorption of heat. Its eco-friendly and low cost appliance.



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Idea/Innovation : Smart Bus
 Awardee : Archana Kisan
 Reference No. : 18OR1465890
 Class : 8th
 School Name & Address : Nirmala English School
 District & State : Sundargarh, Odisha
 Guide Teacher : Chandan Satpathy



Public transport remains the primary mode of transport for most Indian citizens. But Public Transport System now faces severe problems. Buses are either overcrowded or not on time causing inconvenience to passengers. When a crowded bus arrives at the bus stop, passenger could not decide whether to board the bus or wait for the other bus. The passenger is in trouble in both cases. This inspire student to develop a "smart bus system". In this system, Radio frequency Identification Card (RFID) is issued to passenger. This card contains details of passenger occupying the seat. When a passenger occupies the seat, a limit switch gets pressed, which display the availability of seats at bus stop. This card needs to be recharged to avail the facility. This system will also help in catching criminals because of data retrieved from RFID smart card.





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Idea/Innovation : Alternative of Tractor Cultivation Using Bike
 Awardee : Asish Kumar Sahoo
 Reference No. : 18OR1464907
 Class : 6th
 School Name & Address : S N Nodal UPS Padmapur
 District & State : Keonjhar, Odisha
 Guide Teacher : Sukadev Sahoo



Not all farmers in the country can afford tractors. Also due to relatively low land holding capacity many farmers do not need these expensive farm equipment's. This inspired student to make an affordable ploughshare using bike. This ploughshare dig the soil two to three times at a level of 4 to 6 inch, thereby maintaining the fertility of soil. This method will also help in making farmers independent. It's easy to take this bike in areas where the entry of vehicle is narrow and compact.



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Idea/Innovation : Safety Ladder
 Awardee : Baruna Pradhan
 Reference No. : 18OR1465247
 Class : 8th
 School Name & Address : Dakapala Upper Primary School
 District & State : Kandhamal, Odisha
 Guide Teacher : Raj Kishore Pradhan



Falls from portable ladders (step, straight, combination and extension) are one of the leading causes of occupational fatalities and injuries. This inspired student to make safety ladder. He coated the steps of the ladder with rubber plates to increase friction. He coated front wall of the ladder with a foam sheet, which protects human body in case of accidents. A touch sensor is also attached to ladder railing which switches on the room light, making it compulsory for individual to hold the ladder, thereby decreasing chances of accident.





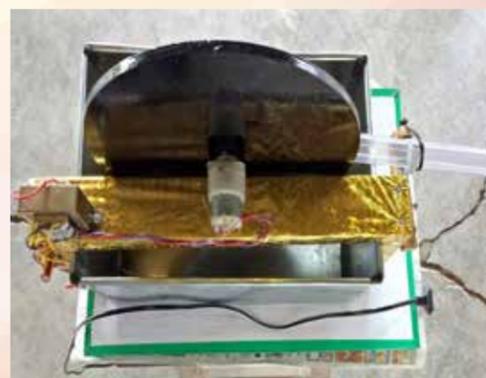
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Idea/Innovation : Splitting Oil Removing System from Ocean to Save Sea Animals
 Awardee : Chandan Kumar Mahanand
 Reference No. : 18or1464337
 Class : 9th
 School Name & Address : Khilei High School, Deogarh
 District & State : Deogarh, Odisha
 Guide Teacher : Chhabil Kumar Samal



In the case of marine oil spills, the first living receptors who come in contact with the oil spill are the marine life, including the various fish species. The negative effects on marine life relate to the accumulation of persistent and bio accumulative components of oil in the tissue and bodies of marine life (fish) with the potential to induce a variety of health and reproductive problems, as well as mass mortality events within marine life in general. This is due to the gradual and additive accumulation of increased concentrations of oil pollutants through combined exposure to a polluted environment (i.e. polluted water) and polluted food (with higher pollutant concentrations than in ambient environment). This inspire student to develop a machine which will remove oil from the surface of water. The machine is partially dipped in water. The machine consists of DC power supply and gear motor, shaft and oil separating disc. The rotating disc will attract oil due to static energy produced, which is then dumped into collecting tank. This machine will regain the oil which is spilled in oceans, rivers etc. It will reduce water pollution.



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Idea/Innovation : Pesticide Control (Agriculture) and Multipurpose of Steam Injection
 Awardee : Debiprasad Dandapat
 Reference No. : 18OR1464649
 Class : 9th
 School Name & Address : Beenapani High School
 District & State : Jagatsinghpur, Odisha
 Guide Teacher : Sidhilal Soren



Pesticides are agrochemicals used in agricultural lands, public health programs, and urban green areas in order to protect plants and humans from various diseases. However, due to their known ability to cause a large number of negative health and environmental effects, their side effects can be an important environmental health risk factor. Student aim to control the use of pesticides by using injection steam. This steam injection can also be used for floor cleaning, bacteria control and mosquito control.





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Idea/Innovation : GPS System
 Awardee : Jayprakash Sahu
 Reference No. : 18OR1463391
 Class : 7th
 School Name & Address : S.R. Govt. High School Baliapal
 District & State : Balasore, Odisha
 Guide Teacher : Manoj Kumar Sahu



Bike theft is a big business. Worldwide, more than a million bikes are stolen every year, but recovery rate is very low. This motivated student to develop anti-theft system. Whether it's at home or away, this device will help you keep your bike more secure. This is a GPS based system. This device can track the position of bike as well as turn off its engine. The GPS device attached to the bike has a sim card which directly transmits the signal to the satellite. The satellite then sends signal to the server which further sends signal to mobile number. By sending certain message code to the device, you can turn off the ignition system of bike. Bike theft can be avoided using this mechanism.



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Idea/Innovation : Light Harvester for Street Vendor
 Awardee : L. Piyush Patra
 Reference No. : 18OR1465191
 Class : 9th
 School Name & Address : DA.V. Vedanta Int. Sch, L.Garh
 District & State : Kalahandi, Odisha
 Guide Teacher : Saroj Kumar Mishra



Street vendors are an integral part of economies around the world, offering easy access to a wide range of goods and services in public spaces. They sell everything from fresh vegetables to prepared foods, from building materials to garments and crafts, from consumer electronics to auto repairs to haircuts at a rate cheaper than malls. They don't have enough money to build shops. Improving their livelihoods by means of science and technologies is the motto of student. Student developed a light harvested umbrella to protect them from rain and sun rays. The upper side of umbrella contains solar panel which is connected to battery. The power generated from the solar panel can be used for charging mobile phones, powering fan and light sources. The power saved during the day can be used at night. This project is a boon for street vendors. It is portable, easy to use and require one time investment.





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Idea/Innovation : Rice Planter
 Awardee : Madhusmita Sethi
 Reference No. : 18OR1463747
 Class : 9th
 School Name & Address : Garapokhari High School,
 Balasore
 District & State : Balasore, Odisha
 Guide Teacher : Chandramohan Murmu



Rice is the single largest crop in India in terms of considerable proportion of the total labour use in all agricultural operations. Indeed, rice was considered one of the most labour-intensive crops. But the mechanization process has reduced the labour intensity in rice cultivation. To reduce the labour cost and efforts, student designed a paddy planter for small scale farmers. This machine is made of bicycle spares, iron sheets and bar. This machine is easy to operate and maintain. Farmers will not suffer from back-breaking, under the scorching sun.



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Idea/Innovation : Eco Friendly Pest Control Machine
 Awardee : Mahabir Prasad Barik
 Reference No. : 18OR1465643
 Class : 9th
 School Name & Address : Puri Zila School
 District & State : Puri, Odisha
 Guide Teacher : Ajay Kumar Ojha



As a source of livelihood, agriculture (including forestry and fishing) remains the largest sector of Indian Economy. The threat posed to crop production by plant pests and diseases is one the key factors that could threatens to destabilise global food security. The use of potentially toxic pesticide to protect crop against these pests can have both acute and chronic health effects depending on the quantity and the ways in which a person is exposed. Cheaper pesticides can remain in the soil and water for years causing pollution. This inspire student to make eco-friendly pest control device. The device uses ultrasonic waves to create a noisy and hostile environment which repels pests, whilst remaining absolutely safe for humans and household animals. This device act as modern day scare crow.





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Idea/Innovation : Multi - Purpose Farm Tools
 Awardee : Pitambar Meher
 Reference No. : 18OR1464062
 Class : 9th
 School Name & Address : Gram Panchayat Public High School, Balangir
 District & State : Balangir, Odisha
 Guide Teacher : Ashish Mehra



Agriculture plays a significant role in overall socio-economic development. With the decreasing labour force in agriculture, increasing yield or productivity is the key to growth, which has to be accelerated. Shortage of labour and finding solutions thereof should become a major focus. To meet the requirements of small farmers, student developed a "multi-purpose farm tool". The tool is used for ploughing and levelling of land, cutting grass, sprinkling water and fertilizers, harvesting using solar energy and facility of light to work at night. Using this tool, farmers will be acquainted with technology.



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Idea/Innovation : Healthy Reading Table
 Awardee : Pragnya Paramita Nayak
 Reference No. : 18OR1465597
 Class : 9th
 School Name & Address : Brahmagiri High School, Puri
 District & State : Puri, Odisha
 Guide Teacher : Chitaranjan Jena



The disabled have difficulties in accessing various facilities. One such thing is when people without hands have to turn a page of book while reading. This inspired student to develop a 'Healthy reading table' device. This device uses concepts of friction, pulleys and electromagnetic induction. Even a person without hand and without leg can use his or her shoulder to operate this device. This device will ease disabled people task.





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Idea/Innovation : Reuse of Plastic Materials by Solar Cooker
 Awardee : Pratikshya Moharana
 Reference No. : 18OR1464265
 Class : 9th
 School Name & Address : Ravenshaw Collegiate School, Cuttack
 District & State : Cuttack, Odisha
 Guide Teacher : Dilleep Kumar Jena



Roads construction in India primarily uses asphalt mineral which is derived from fossil fuels. With the depleting petroleum resources, the availability of asphalt would be lesser. Student made an attempt to produce asphalt by processing polythene waste, which is a major concern in urban solid waste management. Waste polythene has to be pressed into the pipe toward solar bath section by mechanical action of pressing. Once it reaches polythene, pellet starts melting. For this greenhouse effect concept is intensified. This model uses solar energy instead of burning of fossil fuels. It's a greener way to construct asphalt than mineral pitch.



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Idea/Innovation : Water Dispenser for Handicapped Person
 Awardee : Pritesh Deb
 Reference No. : 18OR1465135
 Class : 7th
 School Name & Address : KIIT International School
 District & State : Khordha, Odisha
 Guide Teacher : Bijoy Mathur



There are many people who are born disabled, or loosed limbs in accidents, war and diseases. Student has designed a water dispenser for people who don't have functional hands. This dispenser works with board operated with foot/body weight. An attached wire pulls the tap lever, starting the water flow. On release of the weight, the spring resort to the original position, thereby stopping the water flow. This water dispenser can be used for different purposes. It is a green device which require zero power consumption.





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Idea/Innovation : Solar Food Processor
 Awardee : Pujarani Khandai
 Reference No. : 18OR1464186
 Class : 9th
 School Name & Address : Kanti High School, Bhadrak
 District & State : Bhadrak, Odisha
 Guide Teacher : Rabindra Nath Murmu



Fish drying is an age old practice and was adopted as a practical method of preserving fish that have not been immediately consumed or sold in the fresh market. However, fish processing may cause environmental contamination, not only by the odours generated, but the wastes generated are a potential source of environmental pollution (water, soil) that may affect public health. This inspires student to make "solar food processor". This processor uses solar energy and ultraviolet rays to prepare odourless dry fish without losing the ingredients. It is an eco-friendly device which prevent spoilage and works as a food reserve.



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Idea/Innovation : Water Spray Machine
 Awardee : Rajesh Maharana
 Reference No. : 18OR1464578
 Class : 9th
 School Name & Address : Budhagiri Bidyapitha, Ganjam
 District & State : Ganjam, Odisha
 Guide Teacher : Rohit Kumar Sethi



Rajesh is a creative boy of village Beeradhananjayapur, Ganjam who always worry about the pain farmers are facing in villages while farming. His concern towards the problems faced by farmers motivate him to make a Water spray machine which can also do Ploughing, Transport and Seeding. Once when he went to farm to do a visit to his uncle he saw how difficult it is for one person to carry the spraying equipment's on back and spray whole field. These traditional methods are prone to many diseases, so he used a cycle and attached a water storage unit along with sprayer which will automatically spray pesticide.





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Idea/Innovation : Multipurpose Farming Kit
 Awardee : Rupak Ranabir Padhan
 Reference No. : 18OR1464100
 Class : 8th
 School Name & Address : Chakarkend Toup, Bargarh
 District & State : Bargarh, Odisha
 Guide Teacher : Nameeta Pattanayak



Student developed a multi-purpose farming kit especially for women. This kit is specially designed for kitchen garden, flower garden and Rabi crops. This farming kit has a simple cycle arrangement of components which include wheel, small wheel, iron angles, leveller, grass cutter etc. The functions of this device includes ploughing soil, easy removal of weeds, levelling the soil by breaking crumbs and uprooting plants with less effort. This device reduce labour cost.



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Idea/Innovation : Multipurpose Wheel
 Awardee : Sounya Sucharita Biswal
 Reference No. : 18OR1464716
 Class : 9th
 School Name & Address : Kalarabanka H.S., Jagatsinghpur
 District & State : Jagatsinghpur, Odisha
 Guide Teacher : Alok Ranjan Mohapatra



In the age of science and technology hundreds of machines and tools are invented to make man free from drudgery of life. Many tools uses energy sought from resources like coal and water. Student in her project "Multipurpose Wheel" uses muscle power. By minor adjustment, this instrument can be used for multiple purposes. It can be used to load tractors and trucks, clean garbage accumulated on roads and cleaning grass from the fields. This is an economical product.





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Idea/Innovation : Bio Asbestos
 Awardee : Sriyanka Samal
 Reference No. : 18OR1464433
 Class : 10th
 School Name & Address : Utkal Bharati Bidyapitha,
 Dhenkanal
 District & State : Dhenkanal, Odisha
 Guide Teacher : Pravesh Kumar Ghadei



Global warming is a serious environmental issue and is on a rise with increase in population, industrialization and deforestation. For controlling global warming, asbestos was used to prevent heat transfer and promote insulation. But some respiratory health complications were also associated with it. This inspire student to develop bio asbestos, made from latex of mahul tree which act as a natural adhesive. Student prepare a mat using leaves of palm tree (bad conductor of heat) and enter into the core with latex of mahul tree. By growing more and more palm and mahul trees we can protect ourselves from global warming.



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Idea/Innovation : Mechanised Pollinator for Hybrid Rice Seed Production
 Awardee : Sudipta Pritiprajna Dang
 Reference No. : 18OR1463254
 Class : 9th
 School Name & Address : Sarswati Sishu Vidya Mandir
 District & State : Angul, Odisha
 Guide Teacher : Saumendra Kumar Dang



With the increasing global population, the world might soon be hungry for food. Improvement of agriculture in developing countries is the only way of alleviating hunger. Therefore scientists are producing hybrid seeds using cross-pollinated plants. This inspired student to develop a mechanised pollinator for hybrid rice seed production. This machine collects the pollen grains from male pollen spore and inject them into female spore. A new variety of rice seed is generated. The machine also uses dc motor for sowing hybrid seeds. The dc converts electrical energy to mechanical energy by consuming low power.





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Idea/Innovation : Chitosan Coated Gloves: Boon for Leprosy Patient
 Awardee : Suhani Sukanya Ray
 Reference No. : 18OR1465036
 Class : 10th
 School Name & Address : Buxi Jagabandhu English Medium School II
 Guide Teacher : Monalisa Das
 District & State : Khordha, Odisha



Leprosy is one of the principal causes of non-traumatic neuropathy and is clinically manifested as lesions of the skin and peripheral nerves. The pus coming out of skin sores causes irritation. Traditionally gauze or muslin cloth was used to cover wounds. In the hope of finding new dimension to this, student created chitosan coated gloves which would be a boon for leprosy patients. These gloves mainly have anti-microbial, anti-oxidative, anti-inflammatory and tissue repair properties. Chitosan properties allow rapid blood clotting, reduce the intensity and duration of infection. These gloves are not only effective in wound healing but are also affordable.



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Idea/Innovation : Electromagnet
 Awardee : Omm Prakash Swain
 Reference No. : 18OR1464759
 Class : 9th
 School Name & Address : Sri Jagannath High School
 District & State : Jagatsinghpur, Odisha
 Guide Teacher : Hatakeswar Biswal



Om Prakash is aware of the dangers caused by electric lines. He was pained at the loss of life of both humans and animals due to electric shocks when in contact with transmission lines. He developed a project to protect wild animals particularly elephants from this danger. His sole motto is to protect humans and wildlife, specifically elephants.





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Idea/Innovation : Eco Friendly Stove
Awardee : Seema Mishra
Reference No. : 18OR1464112
Class : 9th
School Name & Address : Bamadev Padhee High School
District & State : Bargarh, Odisha
Guide Teacher : Sanjeev Kumar Pradhan



The burning of solid fuels in open fires or traditional stoves indoor is serious health hazard as it releases toxic pollutants which may lead to lung diseases, cancer, etc. She is aware that the supply of air leads to complete combustion and reduces particulate matter and carbon monoxide. This inspired Seema to come up with and Eco-Friendly Stove that lets air to enter it easily and uses waste materials like groundnut husk, sugar cane waste, rice husk, charcoal, cow dung etc. It is made of two concentric tin cylinders and the inner cylinder has few holes on its sides. A side tube fitted on the other cylinder has a small DC fan. It is a low-cost project made up with simple technology in a local style. It gives smokeless, carbon free blue flame and uses agricultural by products eliminating the requirement of firewood and thereby reducing the pressure on forests.



Puducherry



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Idea/Innovation : Solar Bottle Light
 Awardee : Prarthana Sanath
 Reference No. : 18PD1428410
 Class : 6th
 School Name & Address : Government Middle School,
 Mahe
 District & State : Mahe, Puducherry
 Guide Teacher : Sreeja C



Prarthana observed that a large people in our country live in slum areas with less ventilation and inadequate electricity. She suggested an inexpensive, affordable, and sustainable solution to this with her idea of a solar water bottle. The arrangement is made of a simple circuit with a battery, LED and a solar panel. The LED light refracts through water and provides enough brightness to light a room. Her hobbies are reading books, cycling and calligraphy.



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Idea/Innovation : Safety Nail Cutter
 Awardee : Ealeja Sunil Gaikwad
 Reference No. : 18PD1428414
 Class : 9th
 School Name & Address : St. Mary's Sacred Heart Higher
 Secondary School, Puducherry
 District & State : Puducherry, Puducherry
 Guide Teacher : Santhi N



Ealeja suggested an idea to avoid any pain or cut that might occur by accident while we trim others' nails, especially in case of diabetics and children. A thin rubber piece is adjoined on the lower side of the nail cutter which is fit with a small movable shaft. This shaft enables the lower mouth of nail cutter to push further, so much so that as it is pressed against the skin beneath the nail, thus avoiding any chances of cut in the flesh. This makes cutting nails of other people a painless experience.





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Idea/Innovation : Solar Power Desalination Plant
 Awardee : R Michel Raj
 Reference No. : 18PD1428416
 Class : 8th
 School Name & Address : GHS, Panithittu, Puducherry
 District & State : Puducherry, Puducherry
 Guide Teacher : Tamizhventhan G



Michelraj has proposed an idea of converting seawater into drinking water with a simple low-cost technology which utilizes only solar power. In this setup, seawater is heated by several methods like solar light penetration, light convergence, light reflection in a big tank and the steam travels to an underground tank through a tube. With appropriate temperature regulation, steam is then condensed into drinkable water. He was inspired to come up with this idea since people in his hometown, which is on a seashore, walk three kilometres every day to fetch drinking water. His other interests include fishing and playing cricket.



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Idea/Innovation : Reforestation for Clean and Green India
 Awardee : Mahavishni S.
 Reference No. : 18PD1481919
 Class : 7th
 School Name & Address : Govt. High School Panithith
 District & State : Puducherry, Puducherry
 Guide Teacher : R. Gurunathan



Mahavishni's idea includes various collective methods to increase forest cover and decrease the level of pollutants in environment, especially in that of metropolitan cities. The solution includes reforestation tower method which can be used for enhancement of forest cover through ploughing, seed sowing and irrigating saplings and trees; plant saver box method for transplantation of plant saplings from one place to another; and green building concept that includes plantation of various pollutant absorbing plant species like lady palm, bamboo, aloe vera, snake plant and tulsi etc. She likes to spend her spare time by watching television and her aim in life is to become a social worker.





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Idea/Innovation : Safety Gates
 Awardee : G. Lifni
 Reference No. : 18PD1481942
 Class : 8th
 School Name & Address : Govt. Middle School Pooran Ankuppam.
 District & State : Puducherry, Puducherry
 Guide Teacher : Mr. B. Senthil Vadivu.



Railway gates are opened or closed manually by a gatekeeper. The current design of the railway gates lets motorists come the wrong way causing traffic jams. Lifni's solution to this is to redesign the Safety gates such the post is fixed at the center and not at the side of the road. While opening the gates on either side of the road, it pivots from the central point and acts as a divider not permitting motorists to enter from the wrong side. If due to some reason the gates are not closed, the locomotive pilot can visually see the post barring the tracks and can take corrective action. To totally avoid human intervention at these crossings, Lifni has also developed an Automatic Railway Gate Control System which helps in opening and closing of railway gate automatically upon detecting arrival of any train. She is fond of reading books and playing carrom.



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Idea/Innovation : Two In One Fridge
 Awardee : S. Abu Bucker Siddiq
 Reference No. : 18PD1481966
 Class : 10th
 School Name & Address : Govt. High School Ariyankuppam
 District & State : Puducherry, Puducherry
 Guide Teacher : D. Ramalingam



Abu Bucker has modified refrigerator such that it has an inbuilt water heating system by modifying the heat exchange coils of condenser. A water container with drinking water has been attached to the lateral side of refrigerator and extended part of heat exchange coils coming from the compressor which is hot due to the high pressure has been fitted inside this container. Cold water is put in the container gets heated by heat exchange coils and it gets boiled, thus being ready for use. Abu loves to perform scientific experiments in his quest to innovate and wants to become a Science teacher who serves his nation through education.





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Idea/Innovation : Low cost Portable Wi-Fi hotspot gun
Awardee : I. Arulmurugan
Reference No. : 18PD1481958
Class : 9th
School Name & Address : Cheddilal Govt. High School
Abishega Pakkam
District & State : Puducherry, Puducherry
Guide Teacher : V. Jayasundhar



Arulmurugan has developed a low-cost Wi-Fi hotspot gun inspired by the traditional antenna for TVs which is easily accessible and economically affordable. This model provides an excellent strength of Wi-Fi signals and can be used at rural schools, hospitals and public places. It is portable and can be used with both desktops as well as laptops. It is also suitable for Android-based smartphones. It ensures good internet connectivity throughout. Apart from this, Arulmurugan likes to read books and listen to music, and aspires to be a social worker.



Punjab



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Idea/Innovation : Smart Solar Robot Car
 Awardee : Kadar Khan
 Reference No. : 18PB1426626
 Class : 10th
 School Name & Address : Govt. Sr. Sec. School Chanarthal Kalan
 District & State : Fatehgarh Sahib, Punjab
 Guide Teacher : Munish Kumar



Kadar thought of this innovative idea while observing a freely moving car wheel. His project is based on a feedback loop which takes in solar energy using a panel attached to the car, converts this energy into mechanical energy which charges the battery attached and which further fuels the attached 300 rpm motors. His project will ensure low carbon emissions. Kadar is a curious student with a flair for innovations.



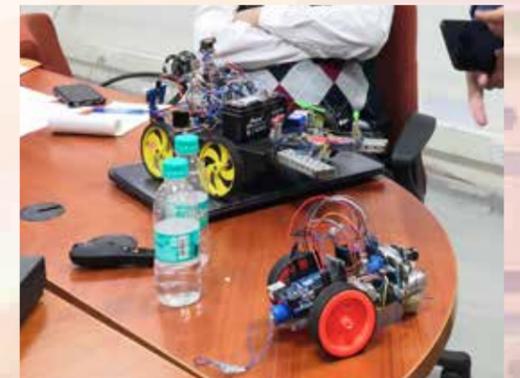
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Idea/Innovation : MBCR0001 (Mobile Control Robot)
 Awardee : Kuber Arora
 Reference No. : 18PB1426174
 Class : 8th
 School Name & Address : G. D. Goenka Public School
 District & State : Amritsar, Punjab
 Guide Teacher : Prabhjot Kaur



Kuber's project is based on multiple Arduinos which helps it to be a multitasking robot. It has a self-driving mode, motion detector, wireless camera and a bomb detector. He came up with this innovative idea while surfing through YouTube where he saw a pop-up which said 'Jai Jawan Jai Kisan'. Not many people supported him in this project and this fuelled his motivation even more. His main motive behind this is to be able to assist the Indian Armed Forces with his robot. Kuber takes interest in knowing about all unique things happening around.





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Idea/Innovation : Earthquake Resistant Buildings
 Awardee : Arshdeep Singh
 Reference No. : 18PB1426342
 Class : 10th
 School Name & Address : G.S.S.S. Khilchian
 District & State : Amritsar, Punjab
 Guide Teacher : Bharti Sharma



Natural calamities like earthquakes destroy homes and lives, and this had been a concern for Arshdeep since a long time, hence he thought of an innovative idea of making buildings resistant to earthquake. In this project, he has made use of the base isolated system and dampers to reduce the amplitude of the mechanical vibrations. Arshdeep takes deep interest in playing cricket and considers his parents and teachers as his idols.



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Idea/Innovation : Smart Sewage Shooter
 Awardee : Uday Jain
 Reference No. : 18PB1426866
 Class : 10th
 School Name & Address : Bhartiya Vidya Mandir, USN
 District & State : Ludhiana, Punjab
 Guide Teacher : Narendra Singh Rawat



The increasing cases of deaths of workers cleaning sewage alarmed Uday and made him ponder on the same. He soon came up with an innovative idea of a sewage shooter to curb the menace created by the manholes. Using this shooter, one can control and destroy the garbage in the manholes. It has a rotating blade attached to its mouth which destroys all the solid waste it encounters on its way inside the manhole. Uday loves to play computer games, watch news and read motivational quotes. His biggest inspiration is his father.





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Idea/Innovation : Urban Farming Mall
 Awardee : Urmila
 Reference No. : 18PB1426689
 Class : 7th
 School Name & Address : Govt. Sr. Sec. School Khuian Sarwar
 District & State : Fazilka, Punjab
 Guide Teacher : Surender Pal Singh



Getting affected by the price hike of grains, fruits and vegetables, Urmila speculated that the hike is due to lack of fields in urban areas and involvement of middlemen. She also understood that people living in cities are hugely enthusiastic about shopping from malls and so, she came up with an innovative idea of an urban farming mall which would mainly have two divisions- one for growing fruits and vegetables, and the other for selling the same directly to customer at prices lower than the usual ones. Her project includes a variety of soil types to grow vegetables in the off-season too, and solar panels to generate electricity using natural resources. Urmila is curious about to learn about new technologies and scientific breakthroughs.



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Idea/Innovation : Power on the Go and Women Security
 Awardee : Sanket Wadhwa
 Reference No. : 18PB1426680
 Class : 8th
 School Name & Address : LRS DAV Sr. Sec. Model School, Abohar
 District & State : Fazilka, Punjab
 Guide Teacher : Abhishek Mutneja



Eve-teasing and molestations have created a havoc in our society, and to curb this, Sanket came up with this innovative idea which includes placing piezoelectric plates in shoes which will convert mechanical energy into electrical energy upon walking. This electricity is then converted to 120-180 V using a transformer and finally used to provide shock treatment through gloves, belt, purse or wrist watches. Sanket's parents and his teachers inspire him to dream big and innovate. He enjoys playing the drums.





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Idea/Innovation : Sensing Eye for the Visually Impaired
 Awardee : Mannatbir Singh Sandhu
 Reference No. : 18PB1426837
 Class : 10th
 School Name & Address : Amrit Indo Canadian Academy
 District & State : Ludhiana, Punjab
 Guide Teacher : Charanjeet Singh



Mannatbir dreamt of innovating something that would be beneficial to the visually impaired as he felt such people do not get the liberty to freely move around due to multiple obstacles. He came up with a belt which comprises an Arduino UNO R3 chip that works as a CPU, and an ultrasonic sensor which would sense obstacles up to two feet distance and alarm the person in case of any obstruction in his or her path. Mannatbir likes reading novels, kick-boxing and athletics. His biggest inspiration is Dr. APJ Abdul Kalam.



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Idea/Innovation : Innovative Low Cost Seed Drill
 Awardee : Ratinder Kaur
 Reference No. : 18PB1426935
 Class : 7th
 School Name & Address : G. High School Madhir
 District & State : Muktsar, Punjab
 Guide Teacher : Kamal Jeet



Small scale farmers are one of the most deprived sections of the society, struggling often for capital and land, which makes them debt-ridden and forces them to end their lives. This moved Ratinder Kaur and she came up with an innovative low-cost seed drill machine. This drill consists of two sows which plough the mud, and a controlled sack to keep and sprinkle seeds in a controlled way. It is an apt alternative to the costly new farming equipments available in the market. Ratinder loves reading books and her biggest inspiration is one of her teachers.





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Idea/Innovation : Bricks Holder
 Awardee : Hemraj
 Reference No. : 18PB1426779
 Class : 8th
 School Name & Address : GHS Pandoribeet
 District & State : Hoshiarpur, Punjab
 Guide Teacher : Anupam Kumar Sharma



Being worried about the plight of farmers and labourers, Hemraj came up with an innovative idea of a brick holder which shall help workers to carry bricks from one place to another with ease. His project involves basic mechanics and is based on the principle of second class levers - fulcrum at one end, effort on the other and load in the middle. Hemraj's teacher and his elder brother motivated him to come up with this project. His biggest idol is Dr. Kalam, and his other interests include playing cricket.



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Idea/Innovation : Rain Switch to Cover Food Grains
 Awardee : Kulbir
 Reference No. : 18PB1426794
 Class : 8th
 School Name & Address : Govt. Sr. Sec. School Lambri
 Jalandhar
 District & State : Jalandhar, Punjab
 Guide Teacher : Upinder Kumar



Worried about the grains getting spoilt due to rain, Kulvir came up with an innovative technique of automatically covering them with a sheet as soon as it begins to rain. The project includes a basic mechanism where the sheet rolls down as soon as the circuit detects rain droplets. The sheet, within seconds, covers the grains, vegetables, fruits etc. underneath and prevents them from getting spoilt. This project can be used at food and vegetable markets, grain stores and even in backyards at home. Kulvir loves playing football.





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Idea/Innovation : Advance System for Paralyzed Patient
 Awardee : Harpreet Singh
 Reference No. : 18PB1427115
 Class : 8th
 School Name & Address : Govt. Sr. Sec. Smart School
 District & State : Taran Taran, Punjab
 Guide Teacher : Mandeep Kaur



On observing that a patient with paralysis was unable to communicate, Harpreet thought of devising an innovation to help such patients. He developed an advanced technology for in which a patient can take his medicine and food. This project includes 2 ICs to spark off LEDs. Harpreet's inspiration is his teacher. He also loves to play football.



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Idea/Innovation : Corn Waste Fuel
 Awardee : Komalpreet Kaur
 Reference No. : 18PB1466453
 Class : 10th
 School Name & Address : Arya Model Senior Secondary school
 District & State : Kapurthala, Punjab
 Guide Teacher : Pinky



She observed the scarcity of fuel and electricity and thought of waste management of corn cobs and sustainable resources. Dried corn cobs has to be kept in the hopper and then burnt at very high temperature to produce gases, these gases include H₂ and CO₂. They will react to form methanol, which will be used for generating electricity.



Komalpreet Kaur likes science and want to research and development of the country.



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Idea/Innovation : Power Production from Gamma Rays
 Awardee : Utkarsh Deepak
 Reference No. : 18PB1466227
 Class : 10th
 School Name & Address : Brahma Rishi Mission School
 District & State : Fazilka, Punjab
 Guide Teacher : Rajni Sachdeva



By seeing the current news on the television that in backward areas, power is not at par so there children are not able to get the education so he thought of producing electricity by conversion of gamma rays to infrared rays with the help of fluoroscope.

Utkarsh takes his inspiration from his teacher and teachers. He likes reading books.



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Idea/Innovation : Library Helper
 Awardee : Kush Aggarwal
 Reference No. : 18PB1466637
 Class : 9th
 School Name & Address : D.A.V Cent. Public, Nabha
 District & State : Patiala, Punjab
 Guide Teacher : Amit Oberoi



Kush observed the difficulty in management of library so he thought of making the work easier in library by locating particular books in huge library. His idea is to that almirahs has to be coloured differently according to the subject. One shelf contain the book of one particular author, indicators has to be fitted in each shelf.

Kush is motivated from his principal. He is eager to solve daily life problems. His hobby is to know about new technology.





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Idea/Innovation : Boon for Deaf Person
 Awardee : Udaynoor Singh
 Ref No : 18PB1466050
 Class : 7th
 School Name & Address : G.H.S.Guruwali
 District & State : Amritsar, Punjab
 Guide Teacher : Tripat Kaur



In order to save the life of deaf person he suggested this device. It is a cast effective and easy to fit in shirt/jacket. His project is based on the conservation of energy. Here sound energy gets converted into electrical energy. He gets motivated by his grandfather to develop this idea.

He would like to become a scientist in future. He has an interest in science project. His hobby is reading books.



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Idea/Innovation : Posture Correcting Device
 Awardee : Himanshu Kondal
 Ref No : 18PB1466354
 Class : 9th
 School Name & Address : Little Flower Convent Higher Secondary School
 District & State : Gurdaspur, Punjab
 Guide Teacher : Neha Sharma



Posture correcting device used to avoid road accidents causes by drowsiness, curing back pain problem. This device contains two main parts. These are attached to the vertebrae, when the person bends the vibration motor starts. This vibration acting as a reminder for the person who is in wrong posture.

His biggest inspiration is his parents and Dr. APJ Abdul Kalam. He has an interest in creating innovative ideas.





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Idea/Innovation : Smart Dustbin
 Awardee : Tania
 Ref No : 18PB1466100
 Class : 7th
 School Name & Address : Govt. Sen. Sec. Smart School,
 Ferozpur
 District & State : Ferozpur, Punjab
 Guide Teacher : Amandeep Kaur



Tania thought of a green and clean city so she designed a smart dustbin. This dustbin includes three bins green, blue and grey. The blue and grey are attached. There is an electromagnet in grey dustbin which collect metallic waste. There is a sensor which sense when metals touch the truck. Electromagnet gets off by relay system. Whole model is controlled by audino UNO, its help to segregate waste at root level.



She got motivated by family, friends, and teachers. Her hobbies are acting and reading books.



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Idea/Innovation : Smart Speaking Gloves
 Awardee : Mohit Grover
 Ref No : 18PB1466178
 Class : 10th
 School Name & Address : D. A. V Public kotkapura
 District & State : Faridkot, Punjab
 Guide Teacher : Kunal Monga



By seeing the problem of dumb person in our locality he thought of developing speaking gloves. The person just has to touch the thumb button to finger button and can convey his desire to person in front of him via Bluetooth.

He got motivated by seeing the problems of deaf and dumb people in the society. He is in robotics.





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Idea/Innovation : Water Absorbing Road
Awardee : Keshav Mahajan
Reference No : 18PB1466519
Class : 7th
School Name & Address : Lawrence Public Senior Secondary School
District & State : Mohali, Punjab
Guide Teacher : Reeta Arora



Incidents of flash floods and overflowing roads inspired student to develop "Water Absorbing Road". These roads have two layers. The concrete has an upper permeable layer, which is made up of large pebbles so that water can drain almost instantly. Bottom layer is attenuation layer, which pushes water into a drainage system that connects with the city's ground water reservoirs. This water is directed straight back into the system for irrigation. This project will also help in saving government funds on road replacement. It will also help in recharging ground water and rain water can be used for irrigation and other household purposes.



Keshav is an under-14 basketball player and a member of Punjab institute of sports. He loves making paintings and has won many gold medals.

Rajasthan



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Idea/Innovation : Lewity Water Conservation
 Awardee : Rajashree Choudhury
 Reference No. : 18RJ1427856
 Class : 9th
 School Name & Address : Nalanda Academy Sr. Sec. School
 Ananatpura
 District & State : Kota, Rajasthan
 Guide Teacher : Mod Subhan



Two to three liters of water is wasted while flushing the toilet. Facing water crisis herself, Rajashree Choudhury developed seven different models for water saving in toilet flushing. These models include dual water tank (70% greywater + 30% fresh water) model, leg operated tap system, S-trap system, area wise flushing system, tilting toilet pan system, etc. She says that these innovative systems can be used in multistory buildings, public places, etc. and can result in saving up to 50% of the water. A student of class 10, Rajashree loves dancing, playing basketball and swimming. She is a theatre actor and dreams of becoming an IITian so that she can make her parents and her country proud.



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Idea/Innovation : Exercise Machine
 Awardee : Sukhdev Singh
 Reference No. : 18RJ1427737
 Class : 8th
 School Name & Address : GSS Manaksar 19 Mks
 District & State : Hanumangarh, Rajasthan
 Guide Teacher : Kanta Bhadu



An excellent observer, Sukhdev saw that people were losing interest in sports these days which was also leading to increased health problems like obesity. He idealized and designed a unique exercise machine, which combines features of an exercise cycle and cricket-bowling machine. His machine comes not only with easy foldability and adjustability but is also an innovation to support renewable India by generating electricity for small households.





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Idea/Innovation : Cleaning Bot
 Awardee : Shailendra Singh Devra
 Reference No. : 18RJ1427966
 Class : 8th
 School Name & Address : G.U.P.S.Mandesar
 District & State : Udaipur, Rajasthan
 Guide Teacher : Narendra Shrimal



When Shailendra saw a floor cleaning machine, at a railway station, he thought about making a small household machine which could be used by everyone. The uniqueness of his machine is the automatic phenyl-dispensing tank, which makes cleaning a very easy process. The machine has added the feature of a Bluetooth speaker and it can be easily controlled using a joystick module. Shailendra likes reading about science and likes working on such innovative projects, which can become a boon for society. He likes machines and thus aspires to become an engineer.



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Idea/Innovation : Lich Pit Toilet
 Awardee : Dimple Soni
 Reference No. : 18RJ1427344
 Class : 9th
 School Name & Address : GSS Railway Kua No.3
 District & State : Barmer, Rajasthan
 Guide Teacher : Ramesh Kumar



Dimple's model incorporates the use of two separate septic tanks. In this concept, the second tank is used after the first one is completely filled. This is done in a way that while the second tank fills up, the contents of the first tank are converted to manure which could then be used in a field for organic farming and the process is repeated thereafter. She intends to incorporate a simultaneous biogas manufacturing plant in her system and use this concept system for community toilets. Dimple wishes that her concept model helps everybody to contribute to the Swachh Bharat Mission. She aspires to become a doctor.





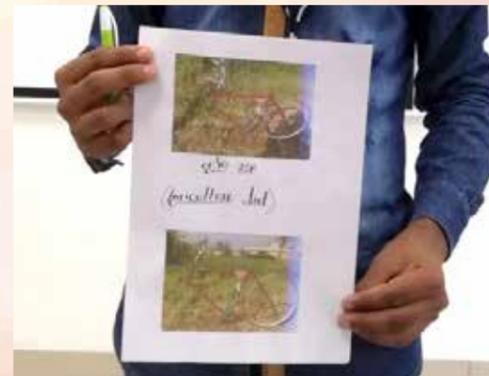
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Idea/Innovation : Agriculture Tool
 Awardee : Pradeep Suthar
 Reference No. : 18RJ1427946
 Class : 9th
 School Name & Address : G.G.S.SEC.S. Dabok, Udaipur
 District & State : Udaipur, Rajasthan
 Guide Teacher : Preeti Rathore



Watching his mother facing difficulty in using hand-operated gardening tools, Pradeep got the idea of making an agricultural implement, which could be used by small farmers. His frugal innovation makes use of old cycle spare parts, which makes it a very low cost. Using this implement, major farming operations like ploughing, seed sowing, weeding, etc. can be done easily. The unique feature that he has added to this tool is that the seed rate of sowing can be controlled by using the brake control lever of the cycle. Pradeep is very much interested in creating new things. He wants to become a mechanical engineer so that he can bring his ideas to reality.



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Idea/Innovation : Multipurpose Stove
 Awardee : Navneet Modi
 Reference No. : 18RJ1427400
 Class : 10th
 School Name & Address : G.S.S. Karni School, Bikaner
 District & State : Bikaner, Rajasthan
 Guide Teacher : Sanjay Kumar Kapoor



When Navneet saw villagers around him using the normal chulha, where the smoke was causing the problem and also a lot of heat gets lost to the surrounding from the walls of the chulha, so he decided to innovate the chulha. To conserve this heat energy, the proposed chulha is provided with water jackets around the walls. The heat energy saved can be used to boil the water, which can be used for various purposes. Another purpose, which this chulha serves, is that the calcium from the smoke can be collected to prepare chalk. Navneet is very much interested in electronics related projects and he wants to become an engineer so that he can help in the development of his country.





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Idea/Innovation : Multitasking Doughing Machine
 Awardee : Amandeep Singh
 Reference No. : 18RJ1427738
 Class : 9th
 School Name & Address : GSS Manaksar 19 Mks
 District & State : Hanumangarh, Rajasthan
 Guide Teacher : Kanta Bhadu



Amandeep was once home alone when he faced the problem of dough preparation. When he searched in the market he found that the available machines were costly and occupied more floor space. Also, all of them were a single purpose. Inspired, he designed a machine using which a person can prepare dough, vermicelli, Pede, Biscuit, etc. by just changing the outlet cap. His biggest inspiration comes from his mother and like Edison never stopped the same way he didn't quit until he succeeded with his fifth prototype. Amandeep wants to serve his country by becoming a Navy officer.



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Idea/Innovation : Electrical Stick for Blind
 Awardee : Indra Prasad Gothwal
 Reference No. : 18RJ1427912
 Class : 9th
 School Name & Address : Govt. Sr. Sec. School. Khotri Soda
 District & State : Tonk, Rajasthan
 Guide Teacher : Sheikh Mohammed Ilyas



An innovation keeping in mind the requirements of blind people. The stick designed by Indra Prasad can sense the presence of water, obstacles like wall or boulders, etc. This stick can guide the blind person to safety, amidst the crowd or at night by use of various sensors and buzzer alarms. Indra says that the low cost of this stick makes it economical for even the poor. When Indra shared his concern for the safety of blind people to his parents and teacher, they inspired him to work on the idea. Indra wants to become a RAS officer and a social server.





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Idea/Innovation : LDR Alarm in Helmet
 Awardee : Gurpreet Singh
 Reference No. : 18RJ1427733
 Class : 8th
 School Name & Address : GASSS Lilanwali
 District & State : Hanumangarh, Rajasthan
 Guide Teacher : Kewal Krishan



People tend to wear helmets only for the police around. The system incorporated by Gurpreet is intended to reduce this tendency habit. If a person removes the helmet while driving, a high pitch alarm will be triggered off. Many two-wheeler accidents happen around him and this gave him the idea to design the system. Gurpreet likes travelling and also attending science exhibitions. He says it increases his knowledge. He wants to become an engineer so that he can make big innovations.



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Idea/Innovation : Indicator Swing
 Awardee : Jitendra Kumar
 Reference No. : 18RJ1427767
 Class : 7th
 School Name & Address : Govt Sec. Madgaon
 District & State : Jalor, Rajasthan
 Guide Teacher : Rishiraj Saini



Jitendra saw that the women working in construction areas or on fields face difficulties in taking care of children. They have to work but at the same time, the child also needs to be taken care of. This indicator swing will do that work. If the child starts crying, the swing will start automatically. If there is a need to change the diapers, the swing can alert the mother by SMS or alarm. If also there is an emergency, the swing system can alert the parent. Jitendra likes learning about technologies in the social sector and wants to become a science teacher.





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Idea/Innovation : Multipurpose Crutch
 Awardee : Shahvan Khan
 Reference No. : 18RJ1466910
 Class : 10th
 School Name & Address : Iqra Secondary School, Dholpur
 District & State : Dholpur, Rajasthan
 Guide Teacher : Majid Sharifi



When a disabled/differently abled person walking with crutches feels tired and needs to rest, finding a place to sit is not always easy. To solve this issue, Shahvan developed a "Multipurpose Crutch". The crutch offers multiple uses. It has a foldable seat, an attachment to make a table, a torch and even an umbrella holder-cum-stand. A user can walk with the help of this crutch very comfortably despite all the add-on features. Shahvan likes to play cricket and wants to become a scientist.



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Idea/Innovation : Hand Hold Equipment for Bhawan Nirman
 Awardee : Ranjeet Kumar
 Reference No. : 18RJ1467062
 Class : 7th
 School Name & Address : Govt Sec. Madgaon
 District & State : Jalor, Rajasthan
 Guide Teacher : Rishiraj Saini



During construction work, the chances of masonry instrument getting lost are high. The incident of losing measuring tape at a construction site inspired the student to develop "Hand hold equipment". An arrangement is made with masonry instruments and other construction devices so that measuring tape cannot be misplaced. The design will also help in minimizing acquired space of instrument. Ranjeet likes to play cricket. His biggest inspiration is Dr A P J Abdul Kalam and Virat Kohli.





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Idea/Innovation : Grain Cleaning Machine
 Awardee : Aadish Goyal
 Reference No. : 18RJ1466794
 Class : 9th
 School Name & Address : Govt .Sen.Sec. B Chhipabrod
 District & State : Baran, Rajasthan
 Guide Teacher : Gajendra kumar Vaishnave



In agriculture, seed production is an important segment. Seed, as it comes from the field, contains various contaminants like weed seeds, other crop seeds, and such inert material as stems, leaves, broken seed, and dirt. Therefore, the cleaning of seeds is required. Inspired Gajendra went to develop an efficient low cost "Grain Cleaning Machine". Design of machine contains three level mechanism for cleaning grains. First mechanism clean heavy particles, second mechanism separate the grains and the third mechanism removes hay and chaff. A fan is used for winnowing. His biggest inspiration is Dr A P J Abdul Kalam.



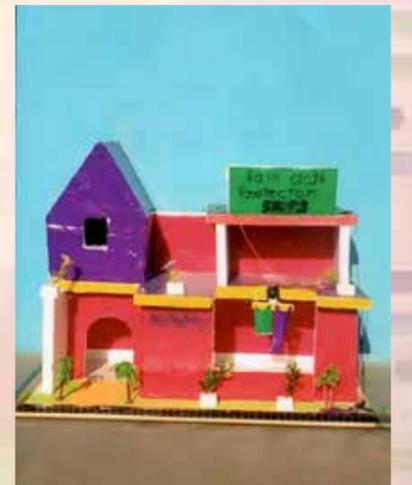
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Idea/Innovation : Cloth Protector from Rain Water
 Awardee : Ajay Mahawar
 Reference No. : 18RJ1467178
 Class : 10th
 School Name & Address : G.S.S. RAMNAGAR WARD NO 9.
 District & State : Kota, Rajasthan
 Guide Teacher : Hema Vijay



During monsoons drying of clothes in sunlight is an issue and one has to regularly keep check outside. For this purpose, Ajay devised a system through which this could be done automatically. It is a motor-driven system which withdraws the clothesline into the shade when it starts to rain, thereby preventing the clothes from getting wet. This system is best suited in places with sudden rainfalls or when people are not at home. Ajay loves reading books.





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Idea/Innovation : Vehicle Accident Prevention Using Eye Blink Sensor
 Awardee : Rinku Kumari
 Reference No. : 18RJ1466865
 Class : 8th
 School Name & Address : Govt.Secondary School Dabla Khasoli
 District & State : Churu, Rajasthan
 Guide Teacher : Anil Kumar



Sleep or drowsiness of the driver contributes to 4% of total road accidents. Rinku saw an accident which caused on the spot death because the driver was dizzy. This inspired her to develop a composite technique to slow down vehicle in case of driver sleeps. This is done by sensing the driver's blink of the eye. Once the blinking of eye stops, the sensor senses no motion and sends an alarm to alert the driver and passenger. Rinku loves playing kho-kho.



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Idea/Innovation : Prevention of Accident from Open Stand in Bike
 Awardee : Deepak Nayak
 Reference No. : 18RJ1467335
 Class : 9th
 School Name & Address : Govt.Sen Sec School Bhadlav
 District & State : Sawai Madhopur, Rajasthan
 Guide Teacher : Dhanraj Mahaver



There are many accidents that occur due to the side stand kept downwards the undistracted stand will hit the ground and eventually affect the rider's control during the turn. The need to prevent this type of condition aspired Deepak to develop the "Automatic Motorcycle Stand Removal System". This motorcycle side stands consists of a metallic rod and helical spring and is connected to a gear which will remove the stand whenever rider operate the bike.

Deepak hobbies include singing and surfing on the internet.





Sikkim



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Idea/Innovation : Anti-Theft-Charger
 Awardee : Binam Rai
 Reference No. : 18SK1427988
 Class : 10th
 School Name & Address : Damthang SS, Namchi
 District & State : South Sikkim, Sikkim
 Guide Teacher : Prakash Sharma



Binam got his idea when he observed that many mobile phones gets stolen during charging from public places like trains, school hostels, college hostels, shops and hotels. The project has a simple set up which operates with radio signal and relay switch. When a stranger try to remove the phone from charger, the charger gets turn off and hence the transmitter circuit gets complete and it sends signal to the receiver of wrist band. In case the owner is at home then he /she can remove the wristband from his hand. Also to avoid wastage of electricity Binam has added special feature in watch that whenever the mobile is fully charged an alarm rings to disconnect mobile from charger.



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Idea/Innovation : Smart Duster
 Awardee : Bishal Ramudamu
 Reference No. : 18SK1427992
 Class : 9th
 School Name & Address : Yangang SR.SEC. School, Namchi
 District & State : South Sikkim, Sikkim
 Guide Teacher : Puran Karki



There are lot of modifications in the blackboards used for teaching but no modification has been done to dusters. Hence, Bishal decided to use a smart duster using principles of vacuum cleaner. This innovation works on simple principal of wiping the dust with the aid of vacuum cleaner. Once the dust is full in the container it can be disposed safely. This technology one incorporated will save a lot of time. Also he thought of using alternate technology like solar panel to provide electricity to duster.





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Idea/Innovation : Light a dark room through Periscope
 Awardee : Puran Timsina
 Reference No. : 18SK1427975
 Class : 10th
 School Name & Address : Samdong SSS
 District & State : East Sikkim, Sikkim
 Guide Teacher : Siddarth Neopaney



Puran wanted to provide sunlight to every dark place using concept of periscope. This concept can be used for lighting a dark room. It's a cost effective lightening system that provides natural light. Here he carried out comparative study by observing light passed through periscope made of mirrors and one made of silver foil. He observed that the light passing through periscope made up of silver foil has greater intensity.



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Idea/Innovation : Automatic Railway Gate Crossing
 Awardee : Rishal Pandey Chettri
 Reference No. : 18SK1427976
 Class : 9th
 School Name & Address : Holy Cross (PVT), Tadong
 District & State : East Sikkim, Sikkim
 Guide Teacher : Tshering Yangchok



In order to avoid accident and ensure safety for road users. Rishal developed that the arrival of train is detected by the sensors placed on either side of the gate at about 1 km from the gate. Once the sensors sense the train, the signal is sent to Arduino Uno microcontroller. Subsequently, buzzer buzzes and indicated the closure of gate.





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Idea/Innovation : Path Producing Electricity
 Awardee : Abhishek Kumar
 Reference No. : 18SK1467624
 Class : 10th
 School Name & Address : Govt. Senior Secondary School, Singtam
 District & State : East, Sikkim
 Guide Teacher : Bhol Nath Sharma



Many villages does not have adequate electricity and therefore suffers in day to day business. An idea strike to Abhishek when he read about electricity generated from pavegen system in USA. This inspired him to develop a path that produces electricity. He developed paving slabs to convert energy from people's footsteps into small amounts of electrical power. This will help villages to get electricity at low prices. Abhishek wants to pursue computer science engineering from IIT and become a coder.



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Idea/Innovation : Digital Smart Dustbin
 Awardee : Ayush Ranjan
 Reference No. : 18SK1467617
 Class : 8th
 School Name & Address : Govt. Senior Secondary School, Rangpo
 District & State : East, Sikkim
 Guide Teacher : Prem Kumar Sah



In order to avoid long queues and disputes during garbage bill payment, Ayush developed "Digital smart dustbin payment system". This will provides an online payment feature for paying garbage bill. This system will help to manage customer the efficiently. The biggest advantage is that the bill or fee can be paid anywhere and anytime. Ayush likes to participate in seminars and quizzes and has keen interest in programming.





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Idea/Innovation : Solar Tracking system for maximum consumption
 Awardee : Abhishek Chettri
 Reference No. : 18SK1467621
 Class : 10th
 School Name & Address : Govt. Senior Secondary School, Lower Sumin
 District & State : East, Sikkim
 Guide Teacher : Rukesh chettri



The sun is a cheapest source of electricity. While the output of solar cells depends on the intensity of sunlight and the angle of incidence. In order to get maximum efficiency; the solar panels must remain in front of sun during the whole day. But due to rotation of earth those panels can't maintain their position always in front of sun. This problem results in decrease of their efficiency. This inspired Abhishek to develop "Solar Tracking Stand" which will help in getting a constant output and is capable to constantly rotate the solar panel. This will help in maximising the power consumption, Plastic bottles was used for rotation mechanism. Abhishek is Isaac Newton follower.



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Idea/Innovation : Automatic Curtain Drawyer
 Awardee : Aditya Sharma
 Reference No. : 18SK1467655
 Class : 9th
 School Name & Address : Govt. Senior Secondary School, Namchi
 District & State : South, Sikkim
 Guide Teacher : Penjo Wangdi Bhutia



Getting up to manually open or close your curtains can be tiresome. Aditya faced the same situation at home which inspired him to develop "Automatic Curtain Opener". This system can help to control your drapes, curtains, and blinds from the comfort of your bed or couch, with remote controlled Systems. This device is highly useful for disabled people because it works with voice command. Aditya field of interest is mechatronics.





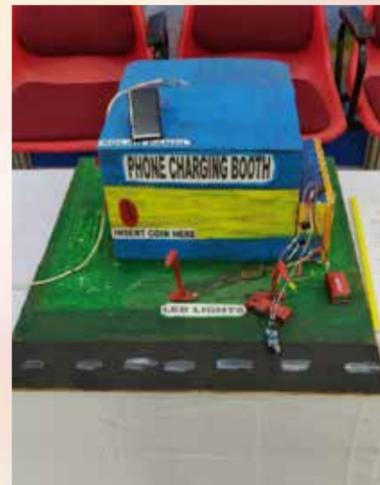
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Idea/Innovation : Phone Charging Booth
Awardee : Ashish Dangal
Reference No. : 18SK1467620
Class : 10th
School Name & Address : Govt. Senior Secondary School,
Rangpo
District & State : East, Sikkim
Guide Teacher : Tarannum Ibrahim



Mobile phones has become an inevitable part of our lifestyle. It becomes more important when you are stranded in a place with your phone running out of charge and you want to make an emergency call. A similar situation inspired Ashish to develop "Phone Charging Booth". The coin based mobile charging system charges the mobile phones when the coin is inserted. This system is used by shop owners, rural people and can be implemented in the public places like railway stations, bus stand to provide mobile charging facility. Ashish hobbies include quizzing and playing football. He loves listening to retro music.



Tamil Nadu



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Idea/Innovation : Drip Alarm
 Awardee : Benisha V B
 Reference No. : 16TN1386493
 Class : 9th
 School Name & Address : Govt. Girls Higher Secondary School, Marthandam
 District & State : Kanyakumari, Tamil Nadu
 Guide Teacher : Pushpa Bai N



Once Benisha observed that, in a hospital, the drip of patient was unmonitored and glucose in the bottle had finished. She saw that blood had reversed in the glucose bottle. This accident made her innovate a drip alarm. Her project has a circuit where, when the weight of the glucose bottle decreases, it closes and a buzzer is sparked off. The sound alerts the patient and the caretaker. Napoleon Hill's quote about action and intelligence motivated Benish to innovate. Dr. APJ Abdul Kalam is her biggest innovation and she loves reading books listening and playing music.



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Idea/Innovation : Smart Drainage System
 Awardee : Hema Prakash Y
 Reference No. : 18TN1428624
 Class : 8th
 School Name & Address : Pathipaga Chemmal K Ganapathy Govt HSS Kodambakkam
 District & State : Chennai, Tamil Nadu
 Guide Teacher : Sreeranjani B



It was during the floods of December 2015 in Chennai when Hema Prakash Y. observed that the drains were blocked due to a lot of plastic garbage. The sewage water gets mixed with sea water, hence the contamination affected aquatic animals. This made him come up with an innovative idea of managing the drainage system in way that would check water scarcity, address the fuel demand and increase the agricultural yield by involving mechanical, chemical and biological processes. This project removes drain blockages with the help of a grinder and a crusher which converts the solid waste into semi-solid waste. Further, different microbes are added to it. This recycles drainage water into fresh water, generate fuel H₂, decompose plastic waste in an ecological way and supply clean and nutrient-rich water for agricultural purposes. His biggest inspiration is his uncle and his school's ATAL Lab's faculties. He is interested in the field of electronics and loves playing cricket and carrom.





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Idea/Innovation : Sprayer cum Weed Remover
 Awardee : Boomika C
 Reference No. : 18TN1428934
 Class : 6th
 School Name & Address : PUMS Kumbarahalli
 District & State : Dharmapuri, Tamil Nadu
 Guide Teacher : Narayanasamy.K



Boomika's family is into agricultural activities and she often has to take leaves from school for spraying pesticides. This whole process consumes a lot of time, hence she thought of an innovative idea which would do both spraying of pesticide and removal of weeds. This project has 2 wheels, a sprayer which sprays 8 litre of pesticide/water in one cycle. This machine doesn't require any motor to function; it uses the principle of centrifugal force to spray. It can plough up to 2cm to 4cm of depth to remove weeds, and is suitable for brinjal, chilli, turmeric etc. Boomika's biggest inspiration is her science teacher. She likes reading books, painting and playing kho kho.



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Idea/Innovation : Staircase Climbing Wheel Chair
 Awardee : M. Jeeva
 Reference No. : 18TN1428935
 Class : 7th
 School Name & Address : Panchayat Union Middle School
 Khumbarahalli
 District & State : Dharmapuri, Tamil Nadu
 Guide Teacher : Narayanasamy.K



Jeeva empathised with her differently-abled classmate who could not move on steps and had to use a ramp which was only available at school hence she came up with an innovative idea of a wheelchair which having 3 wheels, with cushioned edges, sides fixed at 120o separation; the gap between the wheels provides grip to move on the steps. Jeeva likes reading books and painting and aspires to become a scientist like Dr. C.V. Raman.





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Idea/Innovation : Emergency Trips Alarms Sound
 Awardee : D Deepika
 Reference No. : 18TN1429152
 Class : 6th
 School Name & Address : Panchayat Union Middle School
 Pinayur
 District & State : Kanchipuram, Tamil Nadu
 Guide Teacher : Saratha



Deepika thought of this innovative idea while observing real-time applications such as automatic door opening/closing systems. In a populated country like India, there is a dearth of doctors and nurses and proper monitoring of patients is one of the most crucial things which needs to be taken care of. In hospitals, saline (glucose) is used to supply energy to our body and to maintain the blood flow rate and it should be refilled timely to prevent medical accidents like occurrence of air bubbles in blood vessels. To prevent such accidents, Deepika has come up with a device that alarms whenever the glucose level falls to a particular level. For this, she has used a wire which sparks off the alarm.



Deepika's inspiration is Dr. Muthulakshmi. She loves drawing, and playing with friends. She also believes that she is fearless.



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Idea/Innovation : Automatic Food and Medicine
 Dispenser for Aged People
 Awardee : E. Aravind Krishna
 Reference No. : 18TN1429157
 Class : 8th
 School Name & Address : Government High School
 Parvathipuram
 District & State : Kanyakumari, Tamil Nadu
 Guide Teacher : Maria Augustinal



This innovative idea struck Arvind while he was attending a funeral of a neighbour who passed away due to lack of continuous supervision despite having a large family. His project helps to provide food and medicine to the aged, sick, and helpless people during the absence of caretakers. The project consists of two main sideward chambers, one small lower additional chamber to receive food and medicine while automated. Also, a live video cum visual communication software and device is installed inside to intimate the caretakers. Arvind is an avid reader of novels, comics, and scientific books on innovations. 'Wings of Fire' by Dr. APJ Abdul Kalam motivated him to innovate and make a difference to the society. He is also interested in cycling, playing the keyboard and singing, and dancing.





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Idea/Innovation : Minimum Water Consumption Toilet
 Awardee : R. Arthi
 Reference No. : 18TN1429244
 Class : 8th
 School Name & Address : GHSS Koduppaikuzhi
 District & State : Kanyakumari, Tamil Nadu
 Guide Teacher : Kirubha Jini P



Scarcity of water in locality, especially during the summer season, motivated Arthi to innovate, she came up with an idea of a toilet that would need less amount of water as compared to the conventional toilets. Usually, 15-17 litres of water is used in the flush tanks of conventional toilets, but in her project, only 4-5 litres of water would be used in the closet whose cost would also be less. In this closet, water comes out from one hole and cleans all the sides, hence the consumption is less. She is interested in drawing, reading about innovations, and listening to music.



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Idea/Innovation : Electronic Napkin Incinerator
 Awardee : S. Arishma
 Reference No. : 18TN1429222
 Class : 10th
 School Name & Address : GHSS Koduppaikuzhi
 District & State : Kanyakumari, Tamil Nadu
 Guide Teacher : Kirubha Jini P



Being an empath, Arishma realised the sad condition of scavengers and came up with this innovative idea of an electronic napkin incinerator. It also contributes to the dream of PM Modi's 'Swachh Bharath Abhiyan'. Inside this incinerator, Nichrome alloy serves as a heating element. This alloy is made of Chromium. When current is passed, the alloy will turn red hot. When a used napkin is kept on the rack, it will burn, and the waste is collected in the bottom tray. Arishma is curious about knowing new things and finding solutions to societal problems. She is also interested in reading books, watching television, gardening, and listening to music.





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Idea/Innovation : Sundaram Automatic Side Stand
 Awardee : P. Hariharan
 Reference No. : 18TN1429565
 Class : 6th
 School Name & Address : Panchayat Union Middle School
 Athippuliyur
 District & State : Nagapattinam, Tamil Nadu
 Guide Teacher : Shanmuga Sundaram



Hariharan observed that major road accidents occurred due to forgetting to lift the side stands of two-wheelers, and many measures that had been taken to rectify this problem have been proved useless. Hariharan's project is based on the working principle of two-wheelers where the power is transmitted in engine to the rear wheel via chain drive. Since the design set is to be kept in between chain drive, the setup rotates and lifts the side stand automatically. The cost of this system is low and it can be installed in any type of two-wheelers.



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Idea/Innovation : Simplified Wheel Replacing Multi
 Nut Remover
 Awardee : S. Raj Rathinam
 Reference No. : 18TN1429578
 Class : 9th
 School Name & Address : Municipal Middle School
 Velippalayam
 District & State : Nagapattinam, Tamil Nadu
 Guide Teacher : M Kurinji



On observing the challenges faced by a differently abled person while changing the tyre of cars, made Raj Rathinam come up with this innovative idea. In this spanner, four sprockets and four wheel spanners are interconnected. All the four sprockets are fixed to the centre sprocket (fifth) with a handle on it. This handle is used to release or fix the tyres with spanners. Raj's biggest inspiration is Dr. APJ Abdul Kalam and he is interested in designing working models. He is also interested in drawing, and playing cricket.





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Idea/Innovation : Solar Agro sprayer
 Awardee : Vasanthakumar P
 Reference No. : 18TN1429828
 Class : 7th
 School Name & Address : Pums School, Viruthasampatti
 District & State : Salem, Tamil Nadu
 Guide Teacher : N Rani



Brief Description of Idea: Usually in the village areas, farmers use petrol sprayers which pollute the environment. This propelled Vasanthakumar to come up with an innovative idea of a solar agro sprayer. This project consists of a solar panel instead of a petrol engine. A wiper motor is used to pump the pesticide, it runs using the power produced from the solar panel and this power is stored in a battery. This project is low cost and pollution free. Vasanthakumar's biggest inspiration is Dr. APJ Abdul Kalam. His interests are reading books, playing 'kabaddi' and cycling.



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Idea/Innovation : Moving Platform at Railway/Bus Stations for the Disabled
 Awardee : S. Saran Raj
 Reference No. : 18TN1429940
 Class : 8th
 School Name & Address : Panchayat Union Middle School, Karuppur
 District & State : Sivaganga, Tamil Nadu
 Guide Teacher : Stephen R



Pitying at the condition of his disabled younger brother and his mother's fractured leg, Saran Raj thought of innovating something that would serve the differently abled and hence be beneficial to the society. Generally, people use either a staircase or a subway for crossing platforms, but this a difficult task for the physically disabled. In Saran Raj's project, when the signal will be red, the moving platform will automatically move and join the opposite platform. When the signal is green, the platform will return to its usual position. This can also be useful at the bus stands. Saran Raj's biggest inspiration is Dr. APJ Abdul Kalam. He is interested in creative writings, organising awareness camps about topics like sanitation in his village





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Idea/Innovation : Solar power Automatic Drainage Cleaning Robot
 Awardee : K. Suriya
 Reference No. : 18TN1429551
 Class : 10th
 School Name & Address : GHSS Udthagamandalam, Ooty
 District & State : Nilgiris, Tamil Nadu
 Guide Teacher : Suresh



In India, drains are manually cleaned and this has also resulted in a lot of accidents in the past. One fine day, on his way to school, Suriya observed municipal workers manually cleaning the drainage and this disturbed him, and he hence came up with an automatic drainage cleaner. This robot cleans drainages using solar energy and is operated using a remote control. It is also suitable for cleaning railway tracks. It sprays a disinfectant liquid after the vacuum suction of the solid waste, blowing dust by a rolling belt. Suriya's visit to Japan through an exchange program inspired him to innovate in the field of science. He is interested in Physics and Chemistry and also likes reading books on space and biotechnology.



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Idea/Innovation : Stair Climbing Wheelchair
 Awardee : K. Maheshwari
 Reference No. : 18TN1430082
 Class : 7th
 School Name & Address : Panchayat Union Middle School, Manjankaranai
 District & State : Tiruvallur , Tamil Nadu
 Guide Teacher : Mathivanan E



Maheshwari developed a Wheel chair that has the ability to climb stairs. She developed this cost-effective chair to help her ill grandfather who couldn't climb the stairs and required the help of 2-3 people to go upstairs. Three wheels set at 120 degrees are attached to the axle of the wheel chair. A person behind the wheel chair can pull it up the stairs easily. She like to practice Silambam and watch TV.





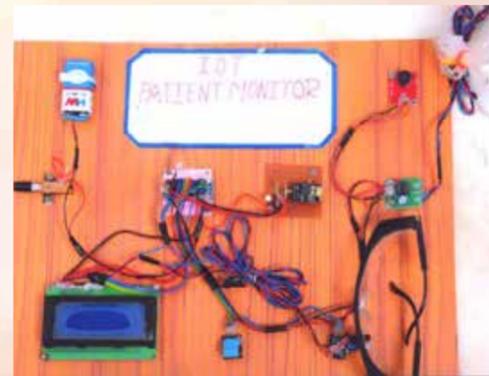
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Idea/Innovation : IOT (Internet of Things)
 Awardee : N. Deepak Raj
 Reference No. : 18TN1430538
 Class : 9th
 School Name & Address : Govt. Hr. Sec. School,
 Keelperumpakkam
 District & State : Villupuram, Tamil Nadu
 Guide Teacher : P Gnanaoli



Deepak wished to monitor living as well as non-living things and observe the data collected, hence he came up with the idea of IOT. With this project, he wants to connect the physical devices, operate them using the internet and observe the shared data. His project consists of wireless IR photo transmitters, IR LEDs, glucose monitors, temperature sensors etc. This project is applicable in smart houses, wearables, smart city, smart grid, connected cars, smart supply chain etc. Deepak is interested in reading books and analysing of data.



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Idea/Innovation : Seeder, Weeder and Sprayer
 Awardee : V. Vignesh
 Reference No. : 18TN1430508
 Class : 7th
 School Name & Address : Pums Pakkam
 District & State : Villupuram, Tamil Nadu
 Guide Teacher : Anand Vimal Raj



Vignesh has made a multi-functional farm tool which will help the Indian farmers in seeding and sowing, managing inter-crop weed, and spraying pesticides. All these tasks can be done without the use of any fuel. On pushing the handle of the tool forward, the wheel rotates- this movement is transferred to the seed section and the sprayer box through the connected chain. The seeder is designed in a way that it seeds up to three rows in a single movement while optimizing space, hence the plants will get proper air circulation and adequate space which results in high yields. The weeder removes unwanted grass between the row spaces.





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Idea/Innovation : Solar Umbrella
Awardee : S. Palpandi
Reference No. : 18TN1430654
Class : 10th
School Name & Address : Amala High School, Kariapatti
District & State : Virudhunagar, Tamil Nadu
Guide Teacher : Leelavathi S



Palpandi wanted to do something about the rising air pollution in the country, so he came up with the innovative idea of a smart umbrella. The source of power for this umbrella is the solar panel attached to it which continuously powers it. The power generated by this umbrella can be used to lighting purposes. Palpandi wants his to reach markets and create awareness.

Palpandi has a keen interest in the domain of science and also loves playing chess.



Telangana



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Idea/Innovation : Traffic Sensor at Turning of the Road
 Awardee : Pritam Biswas
 Reference No. : 18TE1435018
 Class : 8th
 School Name & Address : Shantiniketan High School
 District & State : Komrambheem Asifabad, Telangana
 Guide Teacher : Sujeet Kumar Ghoshal



Nowadays, road accidents happen quite often, though it is the most unwanted thing to happen to a road user. So to minimize the accidents resulting from U turn, Pritam found out a new solution which can minimize the road accident in U turn up to an extent limit. There will be two traffic light pole in opposite direction with three traffic lights, Red, Yellow and Green. The vehicles have to pass through the three sensors while taking a U turn. When a vehicle passes from the first sensor, red light in the opposite road will blow, which signifies, opposite direction vehicle should stop at that time. Similarly, when it passes through the second sensor yellow light will blow. When it passes third sensor the green light will blow.



Pritam takes inspiration from his teacher and believes that, this new idea can be helpful to prevent or minimize accidents occurring in U turn.



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Idea/Innovation : Garbage Remover for Swachh Water
 Awardee : Keesari Naveen Kumar
 Reference No. : 18TE1435073
 Class : 8th
 School Name & Address : ZPSS Nennel
 District & State : Mancherial, Telangana
 Guide Teacher : U. Srinivas



Water pollution has been an existing problem since very long time. One of the main causes of getting polluted is accumulation of garbage into the water, which is prevalent in the pilgrimage area and therefore it is difficult to get clean drinking water. Hence, to dispel this problem, and to get fresh water a working model named "Garbage Remover for Swachh Water" has been devised by Keesari Naveen Kumar.



This device doesn't need fuel or electricity to run, instead solar energy is used and according to him, it can be very much effective in removing the garbage from the water easily.



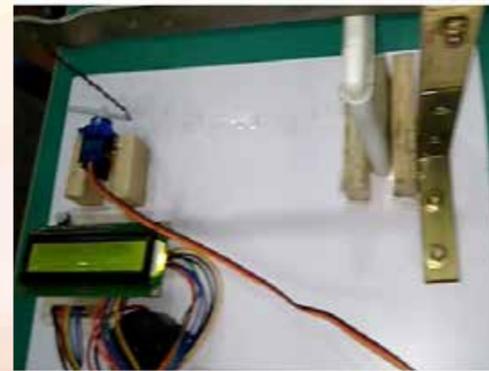
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Idea/Innovation : Smell Alarm Clock for Hearing Impaired
 Awardee : R. Raghavendra Chary
 Reference No. : 16TE1386093
 Class : 10th
 School Name & Address : ZPHS Kompally, Munugode (M)
 District & State : Nalgonda, Telangana
 Guide Teacher : P. Saritha



The idea of this project was to develop a low cost device for people with certain sensory impairments preventing their normal wake-up. The olfactory awakening can also diffuse at scheduled times, a stimulating scent that will shake up nostrils and get out of bed. A device that can wake you up in the morning by diffusing a scent to wake-up the user providing its stimulus in the morning to start your day at its best. This idea was initially consulted with the ENT doctors and further tested on a peer group for 20 days. It is prepared by using i) micro controller ii) on/off switches iii) real time clock iv) LED screen v) key pad vi) battery vii) motor.



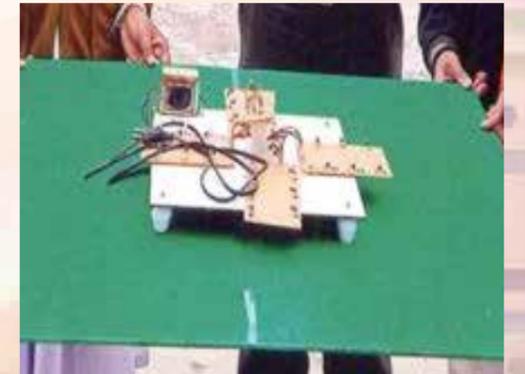
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Idea/Innovation : Density Based Traffic Management
 Awardee : Kaparathi Akshara
 Reference No. : 18TE1435183
 Class : 7th
 School Name & Address : Bharathi Vidya Bhavan High School
 District & State : Hyderabad, Telangana
 Guide Teacher : Venkat



Due to the increased population and changes in the standard of living of the people, density of vehicles in road is also increased; which further leads to tremendous traffic congestion. To avoid such congestion and smooth flow of traffic, proper signaling system at junctions is very much necessary. Conventional automatic signaling systems though useful, but don't have the capability to control the signal based on the density of vehicles.



To address such major issue, Kaparathi Akshara came up with the idea of "Density Based Traffic Management" for further improvement of road traffic movement. This system will automatically sense the density of the traffic on various sites of the intersection and accordingly dynamically change the signal on time.

She believes that, this system will be able to control the traffic in a very smoothly manner and which will help to save the wastage of time due to huge traffic congestion accordingly.



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Idea/Innovation : Advanced Vehicle Security System and Accident Notification with Rash Driving Sensor and One-Touch Alert

Awardee : L. Rajiv Lal

Reference No. : 18TE1435226

Class : 9th

School Name & Address : Raxford's Value High School

District & State : Hyderabad, Telangana

Guide Teacher : P Naga Mani



Most of the youngsters are exposed to the thrills of speed while riding, which sometimes results in lethal accidents. To overcome this major issue, L. Rajiv Lal thought to generate an intelligent system embedded in bike that can send a caution alert to the user about their driving statistics and providing them the best security necessary and also send the alerts to the parents and one concerned person about the driving behavior of the driver. This intelligent system will be embedded in the bikes and motorcycles to prevent speeding and therefore rash driving accidents. The system consists of various sensors like accelerometers, gyroscope and GPS.



He claims that, the outcome of this system aims at providing multiple benefits like preventing accidents, maintaining the ride statistics and getting the directions for the ride. He believes that, thus state authority can use this data for grabbing and finding the driver with these unfit driving skills and it can be used to study the driving behavior of a specific area.



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Idea/Innovation : Suraksha Band-The Life Saver

Awardee : Tamima Fatima

Reference No. : 18TE1435357

Class : 8th

School Name & Address : Sai Krupa High School, Sri Krishna Nagar

District & State : Hyderabad, Telangana

Guide Teacher : Jahnvi Kadimicherla



The trafficking of women and children is a burning issue in today's world and from the ages, they are the most vulnerable part of the society. This situation is accompanied by potentially lifelong and/or life-threatening health consequences; which prevents victims from attaining the highest possible level of physical, mental and social well-being. To overcome such exploitation, Tamima Fatima thought of designing a device which will serve as firsthand help in case of emergencies by using a GPS satellite technology to track the victim's location and send it to police station whose details are stored in advance, in device. Probable safety measures should be there with the women.



Suraksha band is one such initiative which improves the safety and security of the individuals. This device is equipped with an inbuilt rechargeable-battery, rectifier, microcontroller, GPS receiver to track the location, Crystal oscillator, SOS switch to send the message regarding the location of the person to the microcontroller, GSM module to send message to the predefined numbers after message received by the microcontroller and reset button. The entire device is like a wrist band which embodies all the above components mentioned. This intelligent process is done by using programming Language.



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Idea/Innovation : Foot Power Electricity Generator
 Awardee : Asher Phillip Mandal
 Reference No. : 18TE1435499
 Class : 8th
 School Name & Address : St. Peter's High School,
 Bowenpally, Secunderabad
 District & State : Hyderabad, Telangana
 Guide Teacher : Khairunisa Begum



Day by day, as the population increases, the requirement of the power also increases. At the same time the wastage of energy also increased in many ways, as a result, power generation using conservative methods becoming deficient. So reforming this energy back to usable form is the major solution. To overcome this problem, Asher Phillip Mandal came up with an idea to convert energy wastage to usable form by generating power using the footsteps. The project is based on the principle of electromagnetic induction.



When a huge number of pedestrians move through busy footpaths, due to the footsteps there is to and fro motion which can be harnessed to generate electricity by conversion of mechanical energy into electrical energy.

According to him, the energy generated can be stored in a battery and a small LED can indicate charging in progress. During the day time battery can be changed and during night it is switched on and can be effectively used as street light and can also be used to charge mobile phones. This is an eco-ecofriendly method of conserving energy.



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Idea/Innovation : Smoke Pollution Controlling Device
 Awardee : Govindula Sumith
 Reference No. : 18TE1435760
 Class : 6th
 School Name & Address : GHS Dhanger wadi
 District & State : Karimnagar, Telangana
 Guide Teacher : K Triveni



Air pollution is increasing day by day and smoke from vehicles and from industries is one of the most important causes of air pollution. To reduce air pollution, Govindula Sumith found out a type of electrostatic precipitator that removes particles from a flowing gas using the force of an induced electrostatic charge. It is a highly efficient filtration device that can easily remove fine particulates matter such as dust and smoke from the air stream. His model is a type of an electrostatic precipitator which precipitates smoke when high voltage DC current is provided. This project is based on electrostatic induction. In this device a card board cone is used, which is wrapped by aluminum foil is connected to negative high voltage. There is a straight wire which is hanged at centre of the cone, connected to positive high voltage. For high voltage he used a voltage step up module which converts low voltage DC to high voltage DC supply. When the smoke passes through the cone due to electrostatic induction field, the pollutants are attracted and the smoke is purified.



So, he thought to use this filtration device in vehicles and industries to reduce smoke.



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Idea/Innovation : Air Sound Gun
 Awardee : B. Sri Vyshnava Mani
 Reference No. : 18TE1435920
 Class : 7th
 School Name & Address : Spandana Model School (S.M.S)
 District & State : Karimnagar, Telangana
 Guide Teacher : R. Ravindar Rao



Mani developed a cost effective air gun to frighten wild animals using small pebbles and paper balls. It is prepared by connect two PVC pipes with a coupler that uses the spray which compresses the gas. Due to the compression of gas liberated from the spray, and it is in-flammable, the paper ball will blowout from the pipe with big sound. So that it does not causes any injury to the animals and human beings paper is not harmful, and it can be recycled as well.



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Idea/Innovation : Adulteration in Food
 Awardee : P. Gowthami
 Reference No. : 18TE1436153
 Class : 8th
 School Name & Address : ZPSS Duginepally
 District & State : Khammam, Telangana
 Guide Teacher : Irpa Ramathulasi



The following project explains about the type of adulteration and a way to detect it. Adulteration in food is normally present in its most crude form, prohibited substances are either added or party or wholly substituted. In India normally the contamination and adulteration in food is done either for financial gain or due to carelessness and lack in proper hygienic condition of proceeding. Storing transportation and marketing. This ultimately results that the consumer is either cheated or often become victim of diseases. Such types of adulteration are quite common in developing countries or backward countries, however, adequate precautions taken by the consumer at the time of purchase of such produce can make him alert to avoid procurement of such food. It is equally important for the consumer to know the common adulterants and their effecting on health.





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Idea/Innovation : Waste Management at the Time of Disasters by Robotic Technology
 Awardee : K Mohan
 Reference No. : 18TE1436463
 Class : 6th
 School Name & Address : ZPHS Balijapally
 District & State : Wanaparthy, Telangana
 Guide Teacher : S Srekanth Goud



K Mohan has developed four robots namely soccer, crane, dumper and rope way in order to tackle with the problem of waste management. Soccer robot is help full in waste management to clear the roads and places with the help of its striker hand. Such as rocks, trees, waste bodies of human, animals, mud etc.

When the soccer robot struggles to clear the road, pulley with crane will help to lift the heavy waste materials like building blocks parts, heavy rocks, trees etc. Then crane robot takes the material and put it in the dumper robot. The dumper robot goes one place to another place and it will dump. The rope way robot can helpful to victims who are struggled in the disasters .it can easily lift the people to save them and shifted to safe place. It can also provide medical and food facilities to victims at the time disasters.



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Idea/Innovation : Solar Water Heater
 Awardee : Y. Harikrishna
 Reference No. : 18TE1436565
 Class : 6th
 School Name & Address : ZPHS Chandoor
 District & State : Medak, Telangana
 Guide Teacher : V. Venkata Swamy



It is a low cost water heater that is efficient to be used in the village areas who cannot afford the immersion rod or geyser at their homes. The model is made by using 1. Ply Wood, Black Drip Pipe, Thermacoal Sheet, PVC Transparent Sheet, DC Motor Water Pump. DC Battery - 12V, Solar Pannel and Digital Thermometer.

When it placed in direct sun light. The solar panel produce the current, stored in battery. When put-on switch the water pump pumps the water into drip pipe and water flows slowly through black coloured drip pipe and slowly water heat up in sun light and comes out.





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Idea/Innovation : Air Bubble Rescue Machine Making at Home
 Awardee : B. Madhumitha
 Reference No. : 18TE1436625
 Class : 7th
 School Name & Address : ZPHS Narayanarao Pet
 District & State : Medak, Telangana
 Guide Teacher : P Bhagwan



Now a days it has very prevelant to see babies falling into borewells and in order to overcome this problem, Madhumita has come up with a solution of air bubble rescue machine. It is cost effective and can be easily made at home. It is highly usful at rural areas where rescue team cannot reach on time. The machine can be sent into the borewell where the videos of teh concerned person can been seen and accordingly reslcued with its help. It is helpful as rescue operation takes 3 to 60 hours and thus it can give visuals of what is happening deep inside.



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Idea/Innovation : Herbal Beauty Soap
 Awardee : G. Susmitha
 Reference No. : 18TE1436791
 Class : 9th
 School Name & Address : ZPHS Velidanda
 District & State : Nalgonda, Telangana
 Guide Teacher : V Kalavathi



In India 80% of people are in rural areas. The teens from these areas are the most common victims of skin problems like acne. Skin is the principal, physical organ that requires an attention, or else, skin will give an idea about the signs of aging at the earlier age. For teens, though, breakouts go far beyond a zit or two, to create a chronic condition known as acne. It's characterized by whiteheads, and, more frequently, pus-filled pimples.



This Herbal soap is very useful for treating acne. This soap is a kind of soap mixed with natural ingredients, just or extract and vitamins from medicinal plants such as Mettataamara & Guava leaves which can available plenty in Telangana State.



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Idea/Innovation : Carcinogens Cleaning Tree
 Awardee : O. Swathi
 Reference No. : 18TE1436792
 Class : 6th
 School Name & Address : ZPHS Gaddipally
 District & State : Suryapet, Telangana
 Guide Teacher : Chinnappa



Because of the population explosion, our living style has been changed. Most of the people used to live in apartments, cluster of massive buildings etc. and in those buildings there is less chance to grow more trees, which results in scarcity of fresh air and indiscriminately they are using different chemicals in the form of body sprays, incense sticks, mosquito coils, room fresheners, bathroom cleaners etc. and also smoke from the kitchen and other objects used by them releases harmful gases. Those include carbon monoxide, benzene, trichloroethylene, xylene, ammonia, formaldehyde, carbon dioxide etc., which are the carcinogenic agents.



In this project, O. Swathi has developed a tree that absorbs all the carcinogenic gasses released at home. It is made by the combination of different plants capable of absorbing the gases. The biggest advantage is that they are the indoor plants and easily available anywhere. Some of them are Aloe Vera, Dumb cane, Money plant, Basil, English ivy, peace lily etc.



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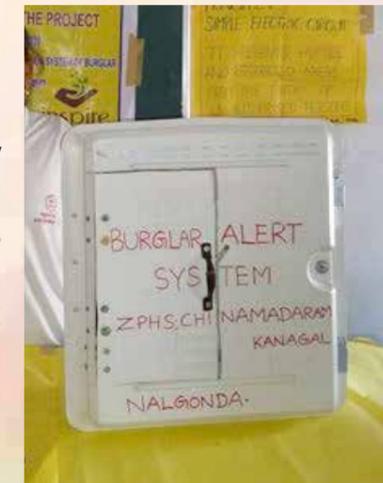
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Idea/Innovation : Burglar Alarm System
 Awardee : SK. Naziya Begum
 Reference No. : 18TE1436820
 Class : 6th
 School Name & Address : ZPHS Chinnamadaram, Kanogal,
 Nalgonda
 District & State : Nalgonda, Telangana
 Guide Teacher : V. Vinod kumar



To keep home, office and store safe burglar alarm system is an effective way to protect. This system provides extra safety to homes, offices and etc.

SK. Naziya Begum claims that, though there are many security systems available in the market, this system provides very intelligent security. When burglar attacks on home, bank etc. the system release huge siren sound and flash lights with different colors started to blink. It is also capable to send information to police by making a phone call. It uses only a simple electric circuit to perform all these operations. It is very easy to provide security in any area. It is also cost-effective.





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Idea/Innovation : Solar AASU Machine
 Awardee : Devaraya Omhari
 Reference No. : 18TE1437018
 Class : 9th
 School Name & Address : ZPHS Pochampally
 District & State : Nalgonda, Telangana
 Guide Teacher : I gopi



AASU machine is a machine, used to weave the thread to be used as weft. This was previously done manually by womenfolk in the weavers' families. To increase production of sari in one day as well as to reduce the wastage of time, AASU making machine was invented by Chintakindi Mallesham to do the process of "aasupoyadam" by the use of electricity. Thereafter, this machine is widely used in the weavers' families in Pochampally cluster. To improvise the existing AASU machine and to reduce energy consumption, Devaraya Omhari proposed to use Solar Energy by replacing electricity.



This machine encourages and enables shift from Non-Renewable Energy electricity (Hydel/thermal) to Renewable energy (solar energy), also able to save man-hours by ensuring uninterrupted power supply, as its solar energy.



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Idea/Innovation : Umbrella Model for Rain Water Harvesting
 Awardee : P. Medha Reddy
 Reference No. : 18TE1437252
 Class : 7th
 School Name & Address : Vijay High School, Mubaraknagar, Nizamabad
 District & State : Nizamabad, Telangana
 Guide Teacher : S Arcana



Water scarcity has become one of the major problems in our lives both in urban and rural surroundings. While climate change has affected the rain pattern, sporadic rains do bring inadequate amount of water for human consumption. However, most of it is wasted due to lack of rainwater storage facilities. To get rid of this problem, P. Medha Reddy proposed an idea to collect the plentiful water that pours during monsoon using inverted umbrella, which will help to overcome the problem of shortage of water even in summer. At the same time, if that rainwater collector can harness solar power as well, that would address the most pressing needs of our time.



Her project "umbrella model for rain water harvesting" consists of cluster of ten pieces. Rain water contain almost neutral pH and zero hardness which makes it more useful to be used in homes, industries, institution and other commercial establishments. According to her, this is definitely an eco-friendly and energy efficient solution to the worries regarding water scarcity.



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Idea/Innovation : Eco-Friendly and Bio-Degradable Menstrual Pads

Awardee : D. Kavya

Reference No. : 18TE1437351

Class : 9th

School Name & Address : ZPHS, Kukatpally

District & State : Rangareddy, Telangana

Guide Teacher : Anjani Devulapally



D. Kavya prepared an eco-friendly, bio-degradable menstrual pad using natural materials, which can also maintain the same quality of normal pad as well as can provide same comfort. She used jute, cotton, coconut Husk, cotton fabric as preparing material. According to her, by using of water with disinfectant, the jute and coconut husk has to be washed separately. Then they were left to be dried under the sun for a day. A pattern made by using of a normal pad and she used it to cut out two pieces of cotton fabric with slits in them and also cut out two smaller pieces of jute fabric and placed the coconut husk between the jute fabrics. Then she covered the jute with cotton and two pieces of cotton fabric and sewed the sides down and thus sealed the pad.



It can easily be made at home, bio degradable and cost-effective which would prevent girls in rural areas from missing school during period days.



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Idea/Innovation : Prevention of Death of Sewage Worker

Awardee : Manne Sushmitha

Reference No. : 18TE1437600

Class : 8th

School Name & Address : Nava Jyothi High School, Patwari Nagar

District & State : Medchal, Telangana

Guide Teacher : N. Rajani



It is almost a risky and deadliest job for a person to step into a manhole to unclog the sewage lines. The sewage workers' deaths are frequently occurring in India because of lack of safety devices. Almost 2000 workers have died in the countries every year since 2014 due to exposure to poisonous gases. In order to prevent the death of a sewage worker, Manne Sushmitha came up with an idea of a system that can easily detect the presence of harmful gases and can be able to pull the worker out automatically.



Whenever any sewage worker gets into the manhole to clean and if there is any presence of massive harmful gas, it will be sensed by the sensor and alert the sewage worker with a buzzer sound. Then the rope automatically pulls the worker without anyone's help.



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Idea/Innovation : Magic Cleaner (Robotic)
 Awardee : Prem Varma
 Reference No. : 18TE1437623
 Class : 9th
 School Name & Address : North City High School, Venkatram Nagar
 District & State : Rangareddy, Telangana
 Guide Teacher : B. Krishna



To clean water waste easily by reducing manpower, Prem Varma thought of a project based on "Android App Controlled by Remote Control".

In the first stage, he has developed a remote control car which can be used as a toy car. In this stage he developed a real time model for cleaning the water waste material which floats on the water and maintains cleanliness. He prepared a robot which can be controlled by an android app for this water waste cleaning. The main aim of the project is to reduce the manpower in cleaning the man-hole and water waste.



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Idea/Innovation : Free Electricity Generation by Salt Water Cells
 Awardee : Md. Arbaz
 Reference No. : 18TE1437627
 Class : 7th
 School Name & Address : MAA High School
 District & State : Rangareddy, Telan gana
 Guide Teacher : Shakila Begum



As we may run out of fossil fuels and power resources in coming generations, we must depend on some alternative natural resources like solar energy, wind energy and hydro energy etc. Taking it into consideration, Md. Arbaz thought to generate electricity by salt water and showing its application in coastal area. Seas and oceans mainly contain the useful mineral salt. This technique uses salt water to produce electricity. Salt water can be used as electrolyte in these cells. By using copper and aluminum as electrodes these cells behave like salt water battery cells. Each cell can produce about 0.5 volts. By connecting many cells in series more voltage can be produced and this voltage can be utilized for glowing LED bulbs.



In water, table salt or sodium chloride (NaCl) dissolves into positively charged Na⁺ and negatively charged Cl⁻ ions. These ions move towards the respective electrodes (cathode and anode). The charge imbalance between the two electrodes creates some potential difference or voltage, which can allow to pass the electrons from anode to cathode very fast and hence allowing the current to pass in the circuit.



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Idea/Innovation : Illuminating Pen- An Idea to Protect Grain from Rain Drain at Market Yard

Awardee : Gampala Santhosh kumar

Reference No. : 18TE1437881

Class : 9th

School Name & Address : ZPSS, Shivunipally

District & State : Warangal, Telangana

Guide Teacher : Gousia Begum



Gampala Santhosh kumar belongs to a farmer family. Every year due to unexpected rain his family incurred heavy loss. It has been observed that, due to unexpected rain, grains in the field get wet, as a result, farmers went through great loss; further which forced them to commit suicide. The aim of the project is to design and implement a mechanism that can cover the grain kept in sun for drying post harvesting. Once grain is wet it loses its color and its value also. Hence it cannot be sold in the market.



To overcome this problem, Gampala Santhosh kumar thought of a system which can detect rain fall and start moving the soft cover above the grain without human intervention. He discussed with agricultural experts also regarding this idea. He used rain sensor, DC motor, driver, microcontroller, polythene cover, thread, wood, plastic, metal clamps, and wheels as raw materials to develop the system. Rain sensor helps to detect early rain and covers the grain dried in sunlight to protect it from germinating and losing the produce value.



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Idea/Innovation : Plant – A Power Plant

Awardee : Birru Lavanya

Reference No. : 18TE1437905

Class : 7th

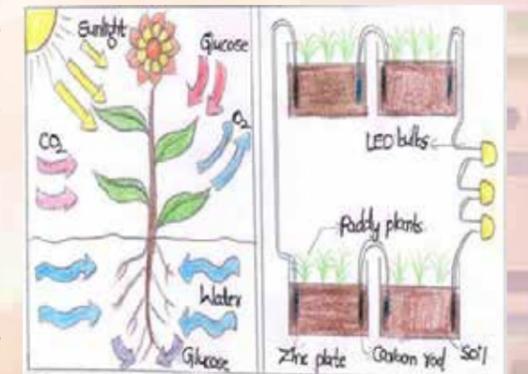
School Name & Address : Sri Aurobindo High School

District & State : Jangaon, Telangana

Guide Teacher : P. Anil Kumar



Birru Lavanya thought of a sustainable as well as renewable energy sources for generation of electricity. The soil contains of beneficial bacteria those bacteria that protect the plants against pathogens and sometimes forms as a layer around the roots. These bacteria such as Geobacter, Clostridium and Deltaproteobacteria feed on sugar and nutrients released by the plants after photosynthesis as a result they excrete electrons out of their consumption. By submerging the electrodes in the soil eventually the electrons are being attracted to electrodes these electrons can be harvested as electricity.





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Idea/Innovation : Ramp Door
 Awardee : Vadlakonda Sai Charan
 Reference No. : 18TE1437919
 Class : 7th
 School Name & Address : ZPSS Ashok Nagar
 District & State : Warangal, Telangana
 Guide Teacher : Vanga Raju



The Indian Railways has a distinguished place in the world railways. Although, it has provided the best amenities to the passenger, but, no special facilities are provided to physically challenged people so far. Taking this into consideration, Vadlakonda Sai Cheran came up with an idea to provide special amenities to the physically challenged passengers.



He designed that, as soon as the train reaches the platform the intact ramp to the coach, which is under driver control, will automatically be opened at the platform and immediately green light will appear on the ramp. Similarly, red light will appear at the driver's area, soon after the passengers enter the coach. Once the ramp closes, red light will be switched off. Then train will be ready to move. As it is a permanent device, it can be used in all the stations. The disable person can easily access through the wheel chair in the coach

He claims that, it will be highly useful for physically challenged persons, using this they can easily get into the train independently.



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Idea/Innovation : Winnowing Machine
 Awardee : K. Mukesh
 Reference No. : 18TE1438050
 Class : 7th
 School Name & Address : ZPHS Model Narsampet
 District & State : Warangal Rural, Telangana
 Guide Teacher : B. Ramesh

Winnowing Machine is used to separate the wastage from paddy. For developing this machine, K. Mukesh took materials like ply wood, glass, fan and 12V battery.

The ply wood is taken and arranged. Glass is kept in front of ply wood. A Battery is attached and two wires are connected to the fan. When the fan is switched on, it will rotate with retesting of air with high pressure and thus the husks and the paddy grains will be separated. It is very much cost-effective. The winnowing machine separate the wastage from paddy and other seeds by the pressure of air.





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Idea/Innovation : Seed Ball
 Awardee : G. Ganesh
 Reference No. : 18TE1438101
 Class : 7th
 School Name & Address : GHS Nellikudure
 District & State : Mahabubabad, Telangana
 Guide Teacher : D Srinivas



Telangana state has 22 % of green coverage. The State Government has taken an innovative program to develop green coverage. Government has initiated people to plant saplings as a movement. But social forests are not real alternate to Natural forests. To maintain Natural balance, G. Ganesh thought to develop natural forests by using seed balls, as seeds collection, pitting, planting, watering in that area is very laborious work.

This method does not need tilling, pitting, planting, watering. Stages involved in this procedure includes collection of seeds of forest plants, collection of sieved red clay, and preparation of vermicompost. After that, with the wet mixture clay balls are prepared by keeping seed inside. After drying those seed balls in sunlight, the seed balls will be dispersed in the proposed area from helicopter before arrival of monsoons.

According to G. Ganesh, this method is suitable to grow vegetation in the far and remote forest areas and surroundings of deserts.



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Idea/Innovation : Find the Values of Trigonometric Ratios by Using Hexagon
 Awardee : Salendra Kishor
 Reference No. : 18TE1438252
 Class : 10th
 School Name & Address : ZPHS Gatlakaniparthly
 District & State : Warangal Rural, Telangana
 Guide Teacher : Bandari Madhu

Salendra Kishor thought of the application of mathematics in daily life to make life simpler and easier. His idea deals with the measurement of the angles of the triangle. The pupils feel difficulty in remembering or by hearting the formulae of the chapter Trigonometry which is very essential for the students of class X. He found out the techniques which will help them to remember the trigonometry formulas. Each vertex of hexagon is named with trigonometry ratio in order sin, cos, cot, sec, tan serially as we move in close wise direction. He used product identities, quotient identities, pythagorean identities.





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Idea/Innovation : Life Saving Stick for Old People
 Awardee : K. Shravani
 Reference No. : 18TE1436707
 Class : 7th
 School Name & Address : Z.P.H.S., Bibinagar (V&M)
 District & State : Nalgonda, Telangana
 Guide Teacher : V Srinivasulu



The idea of this project is to make some mechanical changes in the common hand stick used by the farmers and old people in order to solve the above said problems. In this device the vibrator arranged at the base of the stick produces vibrations which travel through the ground and reaches the snakes and makes them alert and thus prevents snake bites. The buzzer arranged the base produces different sounds while using this stick and alerts the animals and thus saves the crop of the farmers. The light arranged at the base of the stick provide lighting during nights for old and farmers and makes them free hand for using torchlight and thus prevents accidents and injuries to these people due to lack of light. The tool kit arranged in this device is useful for the farmers during their field work and thus prevents deaths due to electric shocks. The first-aid kit arranged in this device provides first-aid for these people in emergency and saves the lives of these people when they are alone.



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Idea/Innovation : Blind Helper Machine
 Awardee : Kamera Sreeja
 Reference No. : 18TE1472183
 Class : 9th
 School Name & Address : Krishnaveni Talent School
 District & State : Peddapalli, Telangana
 Guide Teacher : Thota Venkatesh



K. Sreeja thought of making a blind helper machine. She got this idea because of the frequent occurrence of accidents of the blind people. Nowadays many are having some eye problems so to make their life simpler and easier, she thought of making a blind helper machine by connecting the IC buzzer to the regulator, IC&IR sensor.

According to her, this machine will help the Blind to rescue from the accidents.





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Idea/Innovation : Suicide Protection Fan
 Awardee : B. Chandrasekhar
 Reference No. : 18TE1540005
 Class : 10th
 School Name & Address : ZPHS Yenmangandla, Nawabpet
 Mandal
 District & State : Mahabubnagar, Telangana
 Guide Teacher : T. N. Sridhar

The old school mate of B. Chandrasekhar commits suicide by hanging herself from a fan due to family problems. This incident motivated her to think about how to avoid these kinds of incidents. She came up an idea of a fan that can alert nearby people and stop the suicide incidents.

The working of the gadget is simple if the weight more than 5kg is put on the fan, which is hung from the ceiling raises the alarm that alerts neighbouring people. In addition, a dynamo is attached to the fan, which generates a small amount of electricity that can be used to recharge the alarm.



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Idea/ Innovation : White Paste Reservation in rice
 Awardee : P.Gouri
 Reference No. : 18TE1538389
 Class : 8th
 School Name & Address : AGHS Ankampalem
 District & State : Bhadradri kothagudem
 Guide Teacher : Soyam Krishna Veni



In order to prevention and control of white pest in Rice (Scientific name-Oryza sativa) without chemicals, the student has chosen a mixture of near available natural plants Seeds Pulp. For the control of white pest prevention in the rice two naturally plant sources of seeds pulp such as neem plant (Azadirachta indica) yippa (Madhuca longfolia) and Nirmali seeds (Chilla ginjalu, Strychnos sp.) are used to prevent insects causes of white pest in the rice.





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Idea/Innovation : Open Defecation Method / Swachh Vayuu
 Awardee : Krishna Kannan
 Ref. No. : 18TE1538426
 Class : 8th
 School : Bharatiya vidya Bhavan & Public School
 District & State : Hyderabad, Telangana
 Guide Teacher : V Dakshayani Devi



Swachh Bharat is one of the best Initiatives made by the Indian Government. That aim to achieve significant gains in health and overall happiness it has promoted as ODF, which is "Open Defecation Free". The best part is that this machine has given the rural women of India the divinity and honor they deserve. Now it is becoming very big problem with air pollution and environment pollution, the populated places like markets, airports, railway station can also cause low vision or irritation in eyes because of dust particles coming from polluted air.



To overcome the problem, Krishna Kannan came up with the innovative solution by which dust particles and impurities can be separated from the fog / polluted air, for this purpose Ionization Chambers to be established at different convenient places where the dust and impurities can be removed and fresh air is blown out. Mainly it helps in the airports; railway stations like Delhi cities where the environment pollution is maximum that causing to delaying of flights and trains.



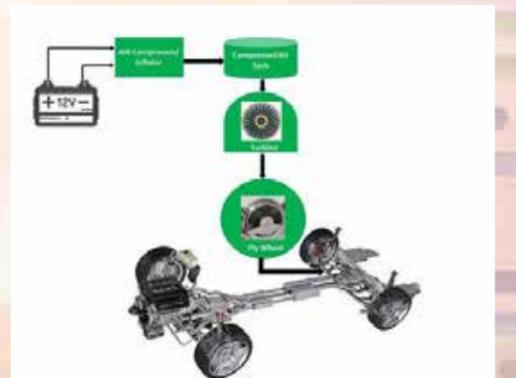
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Idea/Innovation : Air Powered Vehicles
 Awardee : Sankalp Mallela
 Reference Number : 18TE1538432
 Class : 9th
 School Name & Address : FIITJEE World School, Ameerpet
 District & State : Hyderabad, Telangana
 Guide Teacher : Rk Usharaju



As natural resources like coal, petrol and diesel are being depleted, it is important to identify and use more widely available resources and utilize them for transportation. One such resource could be air. If there is a way to produce the energy using compressed air, it can be used to move the vehicle. Such cost effective vehicles are not only affordable, but also help reduce pollution and conserve fuel as well. In order to transform this idea into a reality, student build the prototype.





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Idea/Innovation : Mechanical Swing Pump
 Awardee : Nafees Sulthana
 Ref. No. : 18TE1538734
 Class : 10th
 School : ZPHS, U/M, Polasa, Jagtial
 District & State : Jagtial, Telangana
 Guide Teacher : Rizwana Begum



Hand pumps are manually operated pumps, they use human power and mechanical advantage to move fluids or air from one place to another. They are widely used in every country in the world for a variety of industrial, marine, irrigation and leisure activities.

These pumps require manual strength or electric power to lift underground water. In order to overcome this problem Nafees Sulthana came with innovative idea of Mechanical Swing Pump based Pascal's principle which do not work on electricity or man power, it work on with the help of swing. In villages there is a risk of power problem so we can obtain underground water without electricity and it will be the time saving innovative method. If implement this mechanical swing pump all over the world, we can lift underground water without any muscle energy or electricity also we can reduce the electricity bill.



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Idea/Innovation : Clean & Green Drainage System
 Awardee : Sai Anirudh. V
 Reference No. : 18TE1542515
 Class : 9th
 School Name & Address : St.Mary's High School
 District & State : Jangaon, Telangana
 Guide Teacher : Shankara Chary



Sai Anirudh .V thought of having clean drainage canals. Generally, the water flows with a speed. Due to the speed, the brushes start rotating. It allows the water along the wastage into it. She thought of placing a gate which allows the water in order to collect the wastage. When he lifted the gate, the wastage was collected in the bucket. By using crane, he thought have to lift the bucket and place it out side which can be recycled and reused.





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Idea/Innovation : Eco Friendly Fabrics
 Awardee : M. Kavya
 Ref. No. : 18TE1538799
 Class : 9th
 School Name & Address : Zphs Padamati Keshwapur
 District & State : Jangaon, Telangana
 Guide Teacher : G. Lalitha



Manure has become one of the world's greatest environmental hazards, but one Dutch scientist is using chemistry to turn into something that is both eco-friendly and valuable. Her innovative technique turns manure into a variety of useful materials like clothing fabric, biodegradable plastic and paper. Bio Art Lab, based on Dutch Scientist method Jalila Essaïdi discovered that cow manure provided both the base for a new, biodegradable material and the chemicals required to produce it. She started by separating the waste, with the dry manure used to extract pure cellulose from the grass that cows eat. From the wet manure, she extracted acids used to create cellulose acetate, a natural liquid plastic. This was used to make fibers, which are later turned into fabric or bio-plastics, but it can also be freeze-dried to create an aerogel.



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Idea/Innovation : Low Cost Projector Used as Education Tool
 Awardee : Y. Dileep Kumar
 Reference No. : 18TE1542559
 Class : 10th
 School Name & Address : Rosa Mystica Convent H/S
 District & State : J.S.Bhupala Pally, Telangana
 Guide Teacher : J Damodar



Y. Dileep Kumar has observed that in rural places there is lack of digitalization in classrooms as well as he wanted deaf students in class to understand the interactive session in class so he designed low cost projector for educational purposes which can be made using LED Bulb, Condenser Lens, Collimator, LCD, Magnifying lens, Speakers. It is cheap and affordable system for rural India





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Idea/Innovation : Preparation of Bio Mosquito Repellent
 Awardee : M. Praharika
 Reference No. : 18TE1538879
 Class : 10th
 School Name & Address : TS Model School
 District & State : Jayashankar Bhupalpally, Telangana
 Guide Teacher : Kumar Gandu



Mosquitoes have been a constant problem in the community as they continuously transmit serious diseases. Different types of chemicals were introduced by different campiness but the excessive use of mosquito killers are very harmful, in order to overcome this problem M. Praharika has come up with the new solution in the form of mosquito repellent made up of local herb like Vitex negundo, Hyptis suaveolens & Ocimum sanctum (kapoor tulsi)

All the herbs have property of mosquito repellent without causing health disorders to the people.



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Idea/Innovation : Multipurpose Agricultural Device
 Awardee : Potla Rajani
 Reference No. : 18TE1538838
 Class : 8th
 School Name & Address : ZPHS, Jangedu
 District & State : Jayashankar Bhupalpally
 Guide Teacher : K Laxman



Agriculture is a backbone of India, the biggest challenge is to face problem how to maximize the profit, how to increase productivity and how to reduce the cost.

To overcome this problem, Potla Rajani came up with an innovative solution in the form of technology Multi-Purpose Agricultural device which Supports farmers to reduce agricultural expenditure. It reduces the cost of seed feeding, plough and removing of weeds. It is suitable for rural areas.





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Idea/Innovation : Self-controlled lift
 Awardee : P. Arshavardhan
 Reference No. : 18TE1539245
 Class : 8th
 School Name & Address : Pramitha Heritage School
 District & State : Kattarampur, Karimnagar,
 Telegana
 Guide Teacher : K.Srinivass

P. Arshavardhan came up with an innovative idea of self-controlled lift used to lift materials without electricity. The amount to be lifted should be placed on both the plates and with the help of the rope placed on pulley it can be pulled anywhere. These operations do not need any electric power.



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Idea/Innovation : Seed Drilling Machine
 Awardee : SK.Anwar Pasha
 Reference No. : 18TE1539640
 Class : 10th
 School Name & Address : TS. Model School & Jr.College,
 Karepally
 District & State : Khammam & Telangana
 Guide Teacher : K.Vinod Kumar



In order to meet the needs of end users Sk. Anwar Pasha came up with the innovative idea of seed drilling machine having diverse specifications. Seed drilling machine is a simple, portable and easy to install which helps farmers or common public for sowing seeds easily without much physical effort. The said machine having advanced techniques of ploughing the Soil, dropping of seed and then the levelling of soil for covering of soil over the seed.





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Idea/Innovation : Safety Cap for Drivers.
 Awardee : Boda Sathish
 Reference No. : 18TE1539728
 Class : 8th
 School Name & Address : ZPHS, Edulapusapally
 District & State : Mahabubabad, Telangana.
 Guide Teacher : V. Omprakash



Sleep deprived driving is the operation of a motor vehicle (lorry, bus, etc.) while being cognitively impaired by a lack of sleep. Sleep deprivation due to restlessness, sleeplessness is a major cause of motor vehicle accidents. When a person does not get an adequate amount of sleep, his ability to function (drive) is affected. Generally some accidents are allows restlessness and sleeplessness of the drivers. In order to overcome this problem Boda Sathish came up an innovative idea which can make alert the drivers of vehicles from sleep.



The device alerts the driver; at the same time it cautious to the passengers travelling in the bus, to make the driver alert. The device can be helpful in avoiding major accidents arises due to sleeplessness.



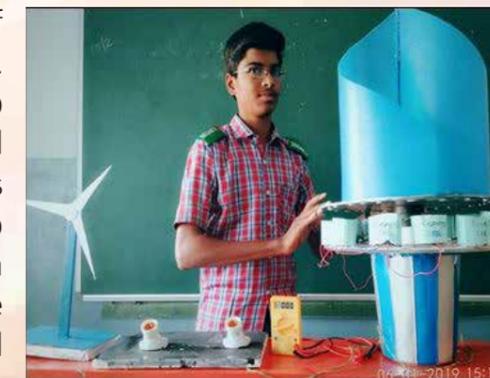
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Idea/Innovation : Electro Magnetic Levitation Windmill
 Awardee : U. Sree Vasthav Choudary
 Reference No. : 18TE1540104
 Class : 9th
 School Name & Address : Siddarth Rural High School, Machavaram.
 District & State : Medak, Telegana
 Guide Teacher : Wilson Xavier



The wind turbines are used for conversion of kinetic energy of wind into electrical energy. Many wind turbines were introduced to curb the energy crises. The student has also worked and designed a prototype, which converts wind energy into electrical energy. The Electro magnetic levitation windmill works on the idea of magnetic levitation. The basic aim of the prototype is implement a magnetically levitated vertical axis wind turbine system that has the ability to operate in both low and high wind speed conditions. The working mechanism is simple the permanent neodymium magnets are attached on the bottom of a rotating disc Just below the rotating disk instead of ball bearing or lubricants by using the idea of magnetic levitation is the light poles will repels. The amount of energy extracted from the wind depends upon the overall diameter of the blade or rotor.





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Idea/Innovation : Robotic Manhole Cleaning Machine
 Awardee : P.N. Nivedhitha
 Reference No. : 18TE1540103
 Class : 8th
 School Name & Address : Siddarth Rural High School,
 Machavaram.
 District & State : Machavaram. Telegana
 Guide Teacher : Madhavi M



Thousands of people are engaged in the work with manual scavenging facing lot of problems even many died. In order to tackle the problem arises due to conventional manhole cleaning student P.N. Nivedhitha came up with the innovative solution for cleaning of manhole.

P.N. Nivedhitha has designed Robotic Manhole Cleaning Machine performing cleaning work instead of manual cleaning with safety. The machine connected with the vehicle is going deep in the manhole with the help of crane system. By observing, the manhole through the monitor the person can control the machine and pick all the wastes outside. The waste can be disposed properly by using the machine.



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Idea/Innovation : Organic Mosquito Repellent
 Awardee : Suhana Begum
 Reference No. : 18TE1539835
 Class : 7th
 School : Deeksha High School, Suraram
 District & State : Medchal-Malkajgiri, Telangana
 Guide Teacher : J. Bhanu Teja



Organic mosquito repellent is the natural product, which protects mainly human beings from the deadly mosquitoes without causing side effects.

The mosquito repellent are made of mixture of neem leaves, cow dung, camphor and neem wood fur. Since this repellent is made of organic matter, it is free from health hazard. Neem leaves have antifungal, anti-bacterial properties which stimulates the immune system and promotes healthy respiratory system. Camphor has antioxidant properties and it treats cold and cough, it is good for asthma patients, and works as insecticide. Cow dung is a natural resource and its acts as a natural mosquito





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Idea/Innovation : Natural Filter to Eliminate Heavy Metals in Water
 Awardee : M. Mythrika
 Reference No. : 18TE1541107
 Class : 9th
 School Name & Address : Greenfields High School
 District & State : Medchal-Malkajgiri, Telangana
 Guide Teacher : P. Gopinath



This Project focuses on possible natural ways to remove heavy metal impurities in water filter container by Adsorption and Flocculation. The project water filter consisted of layers of corncob, sand, charcoal and cotton as adsorbents and filters. Porous organic matter like corncobs and its charcoal is found to adsorb some heavy metals like Arsenic, Banana peels adsorb Lead impurities, while as Prickly Pear Cactus mucilage can cause suspended particles to flocculate there by purifying water.



The student trying to modify this by further study on other organic matter and activated charcoal in filters as a health benefit remedy.

Depending on versatility of the apparatus used, solar reflecting panels can also be used to boil the water naturally.



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Idea/Innovation : Power Bin
 Awardee : Arjun Kulkarni
 Reference No. : 18TE1538700
 Class : 8th
 School Name & Address : Near Tulsi Gardens, JJ Nagar Colony
 District & State : Medchal-Malkajgiri, Telangana.
 Guide Teacher : Devi Murthy



Waste is a huge problem in the world, but new endeavours are formulating plans to use the overflowing garbage as a useful resource. This project is about how this waste can be managed. The trash bin was prepared in such a way that when the organic waste is put in the bin the lever arrangements ensured that the waste is compressed. In this way, the overflowing of the waste into the area surrounding the bin could be avoided. After a certain limit of waste in the bin the valve at the bottom would open and would be collected underground to generate Biogas, which can be used for cooking purposes.



The project showed that the Biogas generated is enough for cooking purpose. The area where the bins were placed had no waste surrounding or overflowing. The vertical windmill generated enough power to light the street lamp. Power bins can be used in gated colonies to start with and taken it ahead for the whole country.



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Idea/Innovation : Natural Fridge
 Awardee : Tanveer Begum
 Reference No. : 18TE1541148
 Class : 9th
 School Name & Address : Serenity Model High School,
 Kessara
 District & State : Medchal, Telangana
 Guide Teacher : Swapna



In rural areas, it is very difficult for community without electricity to store of food for long-term, the student came up with the innovative idea resembling with the pot-in-pot fridge. This is a simple device function as refrigerator may be helpful for farmers in warm climates who need to preserve their food for a longer time and keep the insects away



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Idea/Innovation : Technical Seat in bus
 Awardee : Sai Vara Prasad
 Reference Number : 18TE1540538
 Class : 10th
 School Name & Address : St. Alphonsus High School,
 Nalgonda
 District & State : Nalgonda, Telangana
 Guide Teacher : Rambabu



In order to tract the entry journey and boarding and de-boarding of the passenger, Sai Vara Prasad came up with an innovative idea technical seat in a bus which not only tract the passenger is boarded but also keeps the seat reserved for entire journey. The working is simple the student has designed a seat for passengers in such a way that the scanner of the seat reads the bar code on the ticket then the seat open otherwise it remains closed, if the passenger is not there in a seat it closes automatically. The odometer also fixed to find the distance, so that more than the particular distance passenger cannot travel.





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Idea/Innovation : Driver Alert Alarm
 Awardee : N. Prabhas
 Reference No. : 18TE1540312
 Class : 8th
 School Name & Address : Mpup School Ananthapet, Madal Mamada.
 District & State : Nirmal, Telegana
 Guide teacher : K Shankar



This is a driver alert alarm which is alert the vehicle driver while driving. This device is driver to sit proper position while driving. In this device the student used push buttons, pen drive, speakers, and driver seat. When he bend right side, left side , front side and back side form the seat it press push buttons and speakers will give the voice " Driver please drive the vehicle with safety (or) stop the vehicle and take rest and start the vehicle. This device may useful to avoid the accidents.



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Idea/Innovation : Multi-Purpose Plastic Collecting Machine from Rivers
 Awardee : Boppena Rahul
 Ref. No. : 18TE1540951
 Class : 8th
 School : ZPHS Ellanthakunta, Rajanna Siricilla
 District & State : Rajanna Siricilla, Telangana
 Guide Teacher : Ekamreshwari



Plastic pollution is damaging our environment rapidly. Waste plastic material is hard to dispose of and contributes to major pollution on earth. This has become a cause of global concern. The increasing use of plastic bags, utensils and furniture, the amount of plastic waste has also gone up and so has the plastic pollution.

In order to overcome this problem Boppena Rahul has come up with aforadble solution to remove waste material from the folating water. He has designed a pedal and belt driven Multi-Purpose Plastic Collecting Machine used in in rivers, lakes where there is waste debris like plastic bottles, bags etc floating on the water body which are to be removed. This machine is consists of waterwheel driven conveyer mechanism which collect & remove the wastage, garbage & plastic wastages from water bodies and drops into the storage box.





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Idea/Innovation : Paddy Filling Machine
 Awardee : M.Abhishek
 Reference No. : 18TE1541015
 Class : 8th
 School Name & Address : ZPHS Hanmajipet, Vemulawada (Rural)
 District & State : Rajanna Siricilla, Telangana
 Guide Teacher : Venkatesham



The post harvesting of crops like rice grains, beans etc undergoes a number of processes the first step which include drying, and filling in bags made from either jute or woven plastic depending on the size of storage for either storage purpose or for final processing. But the filling of grains into bags is very hectic and time consuming job needs at least two to three workers. To solve the said problem M.Abhishek has come up with an innovative solution which helps farmers in filling of grains with ease and rapidly



With help of this "Paddy Filling Machine" only one worker can do work that of four workers, within 3-4 mints. Using this machine, we can reduce number of Labors as well as their time. For example, in an IKC/IFC center to fill 100 Quintal paddy in bags, 20 workers are filled in 6 hours. If we use four machine (four workers) replace as 20 member, then they can fill 100 quintals paddy in 3 hour only. In this way, we can save of money of farmer and time of workers.



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Idea/Innovation : Wheel Spraying Pump
 Awardee : P. Sai Vardhan
 Reference No. : 18TE1541608
 Class : 10th
 School Name & Address : Adarsha Vidyalaya High School, Zaheerabad
 District & State : Zaheerabad, Telangana
 Guide Teacher : S Sangameshwar



Agriculture is the major source of income in rural areas and backbone of Indian economy. Various technology interventions were done to perform operation like weeding, reaping, sowing and spraying in order to increase the throughput of farmers. Almost all technology used to perform various task in agriculture field runs on secondary source of energy like petrol, diesel, electrical energy etc. Since majority of farming occurs in rural areas were farmers could not afford the high tech machineries. In order to overcome the problem P. Sai Vardhan came up with an innovative solution of Wheel Spraying Pump which perform the operation of spraying manually without any use of secondary source of energy. The Working Principle of said device is simple, a bicycle pump functions via hand-operated piston.





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Idea/Innovation : Smart Water Soaking Road
 Awardee : K. Veda Varshini
 Reference no. : 18TE1541436
 Class : 10th
 School Name & Address : TSMS Bollaram
 District & State : Jinnaram, Telegana
 Guide Teacher : C Manjula



Incidents of flash floods and overflowing roads inspired student to develop "Smart Water Absorbing Road". These roads have two layers. The concrete has an upper permeable layer, which is made up of large pebbles so that water can drain almost instantly. Bottom layer is attenuation layer, which pushes water into a drainage system that connects with the city's ground water reservoirs. This water is directed straight back into the system for irrigation. This project will also help in saving government funds on road replacement. It will also help in recharging ground water and rain water can be used for irrigation and other household purposes.



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Idea/Innovation : Hydraulic Pump-To-Pump Water Uphill without Electricity
 Awardee : Talari Deepaksha
 Reference No. : 18TE1541524
 Class : 8th
 School Name & Address : TSMS Velimela
 District & State : R C Puram, Telegana
 Guide Teacher : Joshi Prasuna



T. Deepaksha came up with innovative idea to pump the water to higher elevation without using electricity with renewable source water, the device pumping water to high elevation without using any external power. The water flowing from higher elevation is fed to the Ram pump through inner pipes since the waste valve is initially opened the water begins to flow outward at high speeds and it is discarded to the environment. This causes the pressure around the waste valve to drop and allows it to shut quickly.





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Idea/Innovation : Electric Vehicles Recharged On Roads
 Awardee : N. Sai Kumar Goud
 Reference No. : 18TE1541593
 Class : 10th
 School Name & Address : ZPHS Borpatla
 District & State : Hathnoora, Telangana
 Guide Teacher : M. Bhanu Prakash



In order to reduce the waiting time of charging of batteries of cars, N. Sai Kumar Goud came up with an innovative idea of Electric Vehicles Recharged on Roads. The working mechanism is same as the technology used in mobile phones to charge them wireless in 10-20m of distance.



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Idea/Innovation : Modern Weeder cum Solar Sprayer
 Awardee : Syed Imran
 Reference No. : 18TE1541439
 Class : 9th
 School Name & Address : ZPHS Gummadidala
 District & State : Gummadidala, Telangana
 Guide Teacher : A Swamy



Syed Imran came up an innovative idea of modern weeder cum solar sprayer which affordable solution for rural farmers, from the said innovation a farmer can save his crops from bacteria without causing any risk; the said innovation is feasible for all crops like wheat, rice, mango, etc.





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Idea/Innovation : Surakshya Vahanam (Safety Vehicle)
 Awardee : N. Kavya
 Reference No. : 18TE1541909
 Class : 10th
 School Name & Address : ZPHS Anthakpet
 District & State : Siddipet, Telangana
 Guide Teacher : Ch. Srinivas



Our country is progressing in all sectors, but road accidents could not be reduced. Although the government is strictly enforcing road rules, Drivers are unable to comply with various reasons. As a result, there are millions of road accidents and many passengers die. In order to overcome this problem N. Kavya came up an innovative idea of Surakshya Vahanam (Safety Vehicle) which works on the principle of "Reflection of light" in I.R. sensor. The working mechanism of the said vehicle is that we have to install an instrument near to driver in the vehicle. This instrument consists five parts i.e., power supply part, circuit with Relay part, I.R. sensor part, audio circuit part and speaker part and IR sensor (the color detector) and the receiver to be fix in the bottom of the vehicle the bottom. They should be connected to the Relay IC in the vehicle. The device will be working as soon as the power supply is sent to the device.



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Idea/Innovation : Bio Electricity Production from Vegetable Wastage
 Awardee : Sampangi Rakesh
 Reference No. : 18TE1541965
 Class : 9th
 School Name & Address : ZPHS Shanigaram
 District & State : Siddipet, Telangana
 Guide Teacher : Veldi Kumaraswamy



Today we are witnessing a global energy crisis due to huge energy demands and limited resources. Non-renewable energy sources are depleting and renewable energy sources are not properly utilized. There is an immediate need for search of alternate routes for energy generation. Microbial fuel cell (MFC) is an alternative and eco-friendly technology. It is one of the source of clean, efficient, and renewable nature. Sampangi Rakesh, came up with idea of Bio Electricity Production from Vegetable Wastage. The merits of the idea includes utilization of waste food and saving environment from pollution.





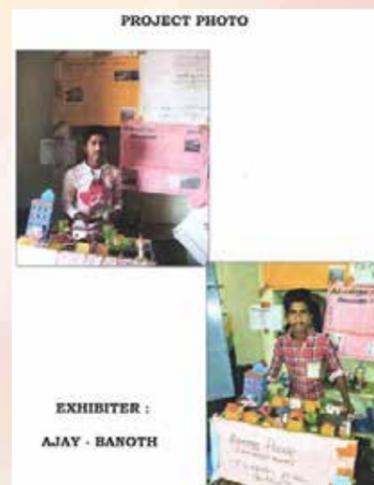
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Idea/ Innovation : Permeable Roads
 Awardee : Banoth Ajay
 Ref. Number : 18TE1542149
 Class : 10th
 School Name & Address : TSMS Gaddipally
 District & State : Suryapet, Telanagana
 Guide Teacher : C Patali Chandra



Permeable pavement (also known as pervious or porous concrete) is a specific type of pavement with a high porosity that allows rainwater to pass through it into the ground below. Permeable pavement is a best solution for problem of increased storm water runoff and decreased stream water quality. Permeable pavements are an emerging technology although not a new innovation, pervious concrete has only been implemented in the United States in the past fifty years. However, in India it is a new concept, the student Banoth Ajay has developed a pervious concrete made up of the Portland cement, coarse aggregate (19 mm – 9.5 mm) and water free from salt and dust.



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Idea/Innovation : Electricity Produced Biogas (Cow Dung)
 Awardee : Lunavath Nikith
 Ref. No. : 18TE1542107
 Class : 7th
 School Name & Address : Z.P.H.S Kandagatla
 District & State : Suryapet, Telangana
 Guide Teacher : P Kistaiah



Biogas is a combustible gas mixture produced during the anaerobic digestion of organic matter in an anaerobic biogas reactor (e.g. small-scale digester, biogas settler, digestion of organic waste, anaerobic baffled reactor, etc. Conventionally, cow dung has also been used as manure although it has serious potential to meet our energy requirements. Technological advancement has made it possible to generate electricity with this so called "Bio-Waste". Since 1998, based on the concept Lunavath Nikitha has come with an idea of generation of electricity from cow dung.





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Idea/ Innovation : Stop Traffic Accidents
 Awardee : Balaboina Poojitha
 Reference No : 18TE1542170
 Class : 10th.
 School Name & Address : ZPHS (Boys), Suryapet
 District & state : Suryapet & Telangana
 Guide Teacher : Samudrala Mallika



Balaboina Poojitha came across some situations like vehicles run very fast ignoring the traffic lights and it causes many accidents so people die or injured every year. To prevent the above accidents, injuries and save the thousands of people and their families she got ideas mainly of three types Needles System, Bargates, Raising speed breakers, Curved Roads. Firstly, the needles bar exists in the ground connected to signals with the traffic lights. When the red signals appear the needles bar raises upto the ground. If any vehicle moves forward or cross the needles bar the vehicles tyres will be punctured. Secondly to set up a bargates in the signals place. When the red signals come, the bargates closes automatically. Thirdly, raising speed breakers set up on the ground connected with the signals. Fourthly, the solution for this problem is keeping sensors based alarms and keeping a LED lights after the curve will glow at the other side of the curve.



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Idea/Innovation : Low cost water purifier using agriculture bio-waste
 Awardee : Sri Ramoju Anudeep
 Reference No. : 18TE1542441
 Class : 9th
 School Name & Address : Pragathi High School
 District & State : Warangal Rural, Telangana
 Guide Teacher : B Sai kiran



Sri Ramoju Anudeep observed the emission of harmful gases into the environment from vehicles like carbon monoxide (CO) and unburned hydrocarbons (HC) to produce carbon dioxide (CO₂) so he thought of an idea of Purification of exhaust gases of IC engine by Using catalytic converter. A catalytic converter is an exhaust emission control device that converts toxic gases and pollutants in exhaust gas from an internal combustion engine into less-toxic pollutants by catalyzing a redox reaction. He thought of this by using three way converters we can reduce oxides of nitrogen. This is because three way converters require either rich or stoichiometric combustion to successfully reduce nox.





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Idea/Innovation : Thermo Cutter
 Awardee : Sk. Javed
 Ref. No : 18TE1542602
 Class : 9th
 School Name & Address : Wisdom High School
 District & state : Warangal Rural, Telangana
 Guide Teacher : Raghupathi Reddy



Sk. Javed thought of having a system for cutting thermocol easily in a finite shape, so he designed a hot-wire thermo cutter. This tool is used to cut the polystyrene foam and similar materials. The device consists of a thin taut metal wire, often made of stainless steel or a thicker wire preformed into a desired shape. Which is heated in the passed through the material to be cut the heat from the wire preformed into a desired shape. The heat thermo cutter is very helpful to cut the thermocol sheet and the plastic items.



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Idea/Innovation : Applications of Pythagoras Theorem
 Awardee : Guguloth Suresh
 Reference No : 18TE1542363
 Class : 9th
 School Name & Address : Govt. High School, Shayampet Jageer, Kazipet
 District & State : Warangal (U), Telangana
 Guide Teacher : Thoutam Bhaskar



Guguloth Suresh thousands of application of mathematics in real life to make the corners of different playing courts perpendicularly, to construct the walls of corners perpendicularly, to estimate the length of supporting wire to erect a pole, to estimate the length the ladder to climb certain height from certain distance. Thus he aspires to use mathematics in daily life as to make life simpler and easier.



Name of the Project : APPLICATION OF PYTHAGORAS THEOREM IN REAL LIFE



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Idea/Innovation : Safety side stand for two wheelers.
 Awardee : Parshi Shashank
 Reference No : 18TE1542695
 Class : 9th
 School Name & Address : GHS, Narendranagar, Kashibugga
 Guide Teacher : S Laxmi Narayana
 District & State : Warangal (U), Telangana



Parshi Shashank thought of an idea of Safety side stand for two wheelers. According to him, major accidents occur due to forgetting of lifting side stand. To rectify this problem many advance measures have taken, but they are useless. So, by considering that it should be implemented practically in all types' bikes. The new system "Safety Side Stand for Two Wheelers" is to be designed based on the working principle of bikes. Since all bikes transmit power from engine to rear wheel by means of chain drive. Since the design set up is to be kept in between chain drive, then setup (sprocket) rotates and side stand get retrieves automatically.



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Idea/Innovation : Waste to wealth
 Awardee : M.D Zakiahmed
 Class : 8th
 Reference No. : 18TE1539140
 School Name & Address : Sri Chaitanya High School, Jagtial
 District & State : Jagtial, Telangana
 Guide Teacher : D.Kubera raju



Fuel is a vital requirement for the development of the country the fuel we obtain are called as fossil fuels, which have formed by biological process. i.e, by the decomposition of living bodies underground. Such have fuels have been becoming extinct, which is a great threat to the development. Meanwhile plastic waste and other waster have been causing land pollution, and water pollution and air pollution. These are increasing to sky high every day, killing aquatic and human life. In order to overcome with problem arising due to plastic waste, M.D Zakiahmed has designed a device, which is useful in converting plastic waste into useful fuel,



The working is simple the plastic waste in the iron box got heated and evolved a gas, which passed the copper pipe, into the water. The gas from box will react with water and on further reaction the water will form as fuel, the fuel generated can be used for fuel.



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Idea/Innovation : ION Propulsion Engine
 Awardee : G.Rajani
 Class : 10th
 Reference No. : 18TE1539412
 School Name & Address : Rao's E/M High School, Medipalli Road
 District & State : Peddapalli, Telangana
 Guide Teacher : Yagna Sai Charan



G.Rajani want to develop in-space propulsion technologies that enable space missions by significantly reducing travel times required for transit to distant bodies, increasing scientific payload capability or reducing mission costs. According to her we have to focus on the futuristic concern of the technologies related to Non-toxic propellant-based propulsion systems, Propulsion systems for orbit transfer, orbit injection, spacecraft maneuvering, landing, and ascent, Development of component technologies (igniters, exciters, injectors , combustion chambers, nozzles) for non-toxic propellants. Her area of interest is space research Cargo and crewed transportation for human missions to the Moon, NEOs and Mars.



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Idea/Innovation : Mini Drone Solar Sprayer
 Awardee : N. Sai Prakash
 Reference No. : 18TE1542070
 School Name & Address : ZPHS Yetigadda Kistapur
 District & State : Siddipet, Telangana
 Guide Teacher : Ch.Mahendar



There many disadvantages of manual spraying one of the factor is crop damage which results in reducing the crop yield. Even the labors involved in the process cause throat and nasal infections in order to overcome the problem N. Sai Prakash came up with the innovative idea of Mini Drone Solar Sprayer, which uses solar energy as source of energy for pesticide spraying. The spray is done by the mini drone so that to cover larger areas of fields while spraying pesticides in a short span of time





Tripura



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Idea/Innovation : Always Usable Umbrella
 Awardee : Debayan Das
 Reference No. : 18TR1430903
 Class : 10th
 School Name & Address : Shishu Niketan H.S
 District & State : West Tripura-Tripura
 Guide Teacher : Kishore Sutradhar



The student has developed an umbrella which has multiple functions. The umbrella developed by Debayan has lighting system and can be used during night and it can be used during rainy season. The problems faced by most of the people during rainy season to hold multiple things motivated Debayan to develop this project. Albert Einstein inspired him for amazing ideas that changed the world. Debayan has great interest in physics and mathematics. His hobbies include listening songs, reading books, solving mystical problems etc.



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Idea/Innovation : Wheel Chair with Bed Facility
 Awardee : Shilpi Debnath
 Reference No. : 18TR1430868
 Class : 9th
 School Name & Address : Chandrapur South High School
 District & State : West Tripura-Tripura
 Guide Teacher : Bimal Krishna Das



The student has developed a wheelchair which can be converted into bed for relief and rest. The distress and condition of disabled and injured people motivated Shilpi to develop the project. The gadget is suitable for physically handicapped and injured persons. Her hobbies include reading, singing, playing games etc.





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Idea/Innovation : Reduction the Air Pollution Created by the Carbon Di Oxide & Carbon Monoxide Coming Out from Chimneys of Brick Industry

Awardee : Bishal Debbarma

Reference No. : 18TR1475740

Class : 9th

School Name & Address : Srinagar Kabi Sukanta Vidyaliya, South Ananadanagar

District & State : West Tripura-Tripura

Guide Teacher : Liton Roy



The chimneys of brick Kilns produce high amount of Co₂ & Co is one of the major cause of air pollution. In order to overcome this problem the student has developed the project to provide the solution to reduce the pollution level in brick kilns areas.



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Idea/Innovation : A Fruit Plucking Instrument Using Plastic Bottle

Awardee : Puja Das

Reference No. : 18TR1475739

Class : 7th

School Name & Address : Srinagar Kabi Sukanta Vidyaliya, South Ananadanagar

District & State : West Tripura-Tripura

Guide Teacher : Goutam Chakraborty



In order to ease the work of farmer for harvesting the fruits the student has designed a prototype for plucking of fruits during fruit harvesting season. The idea to develop the gadget strikes her mind when she observed that they were unable to collect the black berry fruits from the black berry tree. As a result the ripen fruits would fall and lot of fruits would lost and none was able to climb the tall tree. This is an ideal tool to collect the fruits in an easy way.





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Idea/Innovation : Stick cum Tool
Awardee : Priya Nama
Reference No. : 18TR1430715
Class : 7th
School Name & Address : 82 Miles proper High school
District & State : Dhalai Tripura
Guide Teacher : Sajal Debnath



After observing the problems faced by elderly people the student developed a multi-purpose stick. The stick can be used as chair, table box, walking stick etc. It can also be used as TLM in educational institutions. Priya is inspired by Dr.A.P.J Abdul Kalam. She likes to develop scientific projects and scientific solutions for problems



Uttar Pradesh



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Idea/Innovation : Future Rolling Train
 Awardee : Aryandu Kumar
 Reference No. : 18UP1431981
 Class : 8th
 School Name & Address : Swami Vivekanand Saraswati Vidya Mandir
 District & State : Ghaziabad, Uttar Pradesh
 Guide Teacher : Kamalesh Patra



The idea of a future train by Aryandu aims to make travel convenient by reducing the construction cost by eliminating the need of bridges, track and engines, and by only constructing pillars. These pillars will have a slab and rollers, and the train will move from one pillar to another with the help of chains. It will also have liftable stations through which train can pass. Aryandu aims to become an entrepreneur and wants to channelize foreign money to India through his innovative approaches so that India can be economically stable.



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Idea/Innovation : Digital Crutches
 Awardee : Eshita Singh
 Reference No. : 18UP1431670
 Class : 10th
 School Name & Address : Saraswati Balika Vidya Mandir, Inter College, Bareilly
 District & State : Bareilly, Uttar Pradesh
 Guide Teacher : Aparna Mishra



Eshita came up with an idea of a Digital Baisakhi when she visited a school of physically challenged people, she observed their problem and started thinking how she can help them. She made digital crutches which work on GPS, LED lights and sensors. These crutches are easily foldable and can be simply carried anywhere. Using this, a physically challenged person can walk in the dark as he can sense the obstructions on his way ahead. Missing ones can be easily tracked through the inbuilt GPS. She is also an avid orator and has addressed many national level forums. She aspires to join the IAS and serve the country.





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Idea/Innovation : Auto Dust Lifting Machine

Awardee : Shivam Verma

Reference No. : 18UP1433094

Class : 9th

School Name & Address : Jaigurudev Balya Balak Vidyadan
H. S. School Mathur

District & State : Mathura, Uttar Pradesh

Guide Teacher : Manoj Kumar



Shivam made two observations. One, most people do not collect waste as they fear involving their hands and the other, people are usually lazy to water plants in their surroundings every day. He has come up with an Auto Dust lifting machine, which will not only lift dust but also be used for watering plants, spraying pesticides and wiping floors. It operates automatically when it is moved forwards. Shivam aspires to become an entrepreneur for which he has begun learning about.



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Idea/Innovation : Onion Conservation Chamber

Awardee : Ritwija Ratan Singh

Reference No. : 18UP1433054

Class : 9th

School Name & Address : R.C.A. Girls Inter College

District & State : Hathras, Uttar Pradesh

Guide Teacher : Manoj Kumar Yadav



Ritwija a daughter of a farmer sensed how her father was facing a problem of conserving onions as the unavailability of proper storage made him suffer huge losses. Ritwija's Onion conservation chamber with lesser input cost helps in conserving onions for a longer period of time which consecutively helps in saving farmers' labour and income. Ritwija dreams to become a scientist so that she can help the country with her new innovations.





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Idea/Innovation : Dustbin on Wheels with Remote
 Awardee : Aditya Kumar
 Reference No. : 18UP1431691
 Class : 8th
 School Name & Address : Modern Era Public School
 District & State : Bijnor, Uttar Pradesh
 Guide Teacher : Nitin Sharma



Aditya developed this idea of a dustbin on wheels controlled by remote when he saw that his grandmother could not walk till the dustbin. Dustbin on wheels with remote is the solution to the problems of elderly and physically challenged people as it works on bluetooth technology. Aditya wants to become a computer engineer.



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Idea/Innovation : Mutipurpose Domestic Cleaner
 Awardee : Shashank Shekhar Maurya
 Reference No. : 18UP1431728
 Class : 7th
 School Name & Address : UPS Amada, Chandauli
 District & State : Chandauli, Uttar Pradesh
 Guide Teacher : Manoj Kumar



Shashank thought that the women are mostly busy in doing household activities and this prompted him to make a machine to ease their work. The machine can be used automatically as well as manually. It can sweep, mop and scrub the floor, and can also be used in gardens for irrigation, weeding and other activities. Shashank wants to develop more such innovations that can ease common problems or can be used for country's development.





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Idea/Innovation : Smart Fan
 Awardee : Surbhi Gangwar
 Reference No. : 18UP1431673
 Class : 7th
 School Name & Address : Kanti Kapoor Saraswati Balika Vidya Mandir
 District & State : Bareilly, Uttar Pradesh
 Guide Teacher : Nidhi Sharma



While travelling Surbhi saw that fans at railway stations, hospitals and other public places were not clean, as cleaning them manually is difficult. Looking at the drudgery she came up with a Smart Fan. She has put foam kind of structure above the blades of fan which would simply clean the fan once you switch it on. It also has an anti-insect spray in it which would help in taking proactive measures to cure the room from insects.



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Idea/Innovation : Young Old Union Application (You App)
 Awardee : Bhumi Jain
 Reference No. : 18UP1432916
 Class : 7th
 School Name & Address : Siddhi Sagar Academy, Lalitpur
 District & State : Lalitpur, Uttar Pradesh
 Guide Teacher : Ankita Jain



Bhumi designed an application for the people above the age of 60. This app will have two portals one for the applicants (old and retired person) and other for the institutions, school, college or NGOs. Applicants can share their expertise, interest area, location preference and institutions can refer them for the vacancy based on their expertise. She thinks that this will make old people independent and provide them opportunity based on their interest area. Bhumi wants to become IAS officer and wants to contribute for betterment of the society.





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Idea/Innovation : Sliding Roof Warehouse
 Awardee : Kanhaiya Kushwaha
 Reference No. : 18UP1431921
 Class : 7th
 School Name & Address : Shri P.D Jain Inter College,
 Firozabad
 District & State : Firozabad, Uttar Pradesh
 Guide Teacher : Surya Kumar Verma



Sliding roof warehouse is an innovative solution to save grains and farmers money from the crop loss. Kanhaiya says that when the grains are stored in warehouse there are various abiotic factors like temperature, humidity moisture content etc. which may lead to contamination of various insects in crops resulting in crop loss. So, it is necessary to keep the grains in proper sunlight after every 2-3 months. In the present construction it is difficult to do that as it involves other safety handling issues to provide a solution to it, Kanhaiya proposed to have a sliding roof which can be slided as per the requirement.



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Idea/Innovation : Smart Band
 Awardee : Aditi Kadanki
 Reference No. : 18UP1432915
 Class : 6th
 School Name & Address : Siddhi Sagar Academy, Lalitpur
 District & State : Lalitpur, Uttar Pradesh
 Guide Teacher : Ankita Jain



News reports of deaths caused due to delay in ambulance services caught Aditi's attention and she vowed to think of a technical solution to this. The idea of a smart band is that when the elderly starts feeling sick, the band on their wrist will trigger the alarm and message will also be conveyed to the emergency contact as programmed in the smart band. In addition to elderly/sick people it will also help in saving kids from kidnapping, as they can easily be tracked. Aditi aims to directly serve as an officer in the state administration.





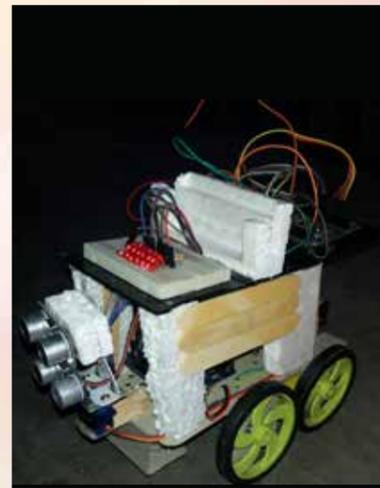
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Idea/Innovation : VCC- Suraksha Bot
 Awardee : Ashutosh Pandey
 Reference No. : 18UP1433386
 Class : 8th
 School Name & Address : Hermann Gmerner School
 District & State : Varanasi, Uttar Pradesh
 Guide Teacher : Praveen Kumar Dubey



Unexpected enemy intrusion kills many soldiers which stimulated Ashutosh to do something for the country. He developed a voice control system to control a bot, which will sense the enemy through ultrasonic sensors. These sensors will detect any hard obstacles in front and beep by receiving echoes. It works on hydro-fuel generated by HHO generator and Arduinos is programmed in such a way that it runs on the given voice commands. Other than its usage on the border, it can also be used at homes for protection against theft or for security of physically challenged people. Ashutosh aspires to join the Indian Armed Forces.



2018-19



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Idea/Innovation : RF-Based Railway Signal System
 Awardee : Kanav Sehgal
 Reference No. : 18UP1492996
 Class : 7th
 School Name & Address : Delhi Public School Greater Noida
 District & State : Gautambuddh Nagar, Uttar Pradesh
 Guide Teacher : Naqeeb Mehendi



Fog severely hampers the mobility of trains which affects their on-time running. This results into unmanageable imbalances of already saturated railway corridors. To overcome this problem, an automated RF based signal system integrated with the already existing GPS fog safety system is proposed by Kanav, which is independent of visibility conditions. It can provide information regarding signal status at a railway crossing or station, or can provide other alerts like gates closed or open at an approaching railway crossing. He likes to play keyboard and wants to become scientist.





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Idea/Innovation : Carbo-Red
 Awardee : Nootan Kushwaha
 Reference No. : 18UP1493016
 Class : 9th
 School Name & Address : Ram-Eesh International School
 Greater Noida
 District & State : Gautambudh Nagar, Uttar Pradesh
 Guide Teacher : Sammita Chatterjee



Tonnes of bio-waste including feathers, human hair and fish scales are produced annually which remain unprocessed and possess threat to environment. To eliminate the same, Nootan has presented a highly efficient method to convert this bio-waste into durable and long lasting bricks and sheets to be used in construction of roads, boundary walls etc. Her hobbies include reading books, dancing and singing songs.



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Idea/Innovation : E-Voting Cloud
 Awardee : Aayush Bhansali
 Reference No. : 18UP1492999
 Class : 8th
 School Name & Address : Delhi Public School Greater
 Noida
 District & State : Gautambudh Nagar, Uttar Pradesh
 Guide Teacher : Sonia Sehgal



To avoid the hack of electronic voting machines (EVM), Ayush has proposed the development of e-voting machine which can provide secure, effective and fearless e-voting model based on cloud computing. Such e-voting solution can be integrated with present EVM machines to ease voting method for those who have easy access to internet or is living outside their registered state or country. This will encourage and enhance voting process. Ayush loves to work on scientific projects and wants to become a scientist.





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Idea/Innovation : Life Saving Jacket
 Awardee : Muskaan Gupta
 Reference No. : 18UP1494238
 Class : 7th
 School Name & Address : Sarv Sanskriti School Bilaspur
 District & State : Rampur, Uttar Pradesh
 Guide Teacher : Sachin Rastogi



Muskaan has developed a sensor based lifesaving jacket which consists of a sender unit (fitted on life saving jacket) and receiver unit (present in control and watch tower). During emergency boat etc. capsizes in sea or river then the persons in distress can send signals to receiving tower so that rescue operation can be launched. GPS system is also incorporated in life jacket to locate exact location of the person in need. She loves singing, dancing and to make creative projects.



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Idea/Innovation : Digital Alarming Security Watch
 Awardee : Parv Kapoor
 Reference No. : 18UP1492500
 Class : 10th
 School Name & Address : Alma Mater Day & Day Boarding School Bareilly
 District & State : Bareilly, Uttar Pradesh
 Guide Teacher : Nidhi Sehgal



The hustle bustle of chaotic lifestyle makes it nearly impossible for us to take care of elderly at home. Observing this problem Parv has developed a security watch which can be used by elderly people whenever they are in any emergency situation. Many people suffer in the absence of family members at home. This watch will keep a track on smartphone. In case of any emergency they can press the button on the watch and it will notify the smartphone of the family members so that they can take necessary action for the same. Parv is inspired by DR. A.P.J Abdul Kalam.





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Idea/Innovation : Siddharth Rape Fighting Robot
 Awardee : Siddharth Kushwaha
 Reference No. : 18UP1492304
 Class : 10th
 School Name & Address : Mg Marg Allahabad
 District & State : Allahabad, Uttar Pradesh
 Guide Teacher : Neha Kesarwani



The increasing number of rape case in India is one of the biggest issue of the country. While watching one such news, Siddharth thought of developing a robot to prevent such rapes. A small button programmed is linked to a robot and police headquarters that will inform both the police and robot after being pressed. After which the robot will come to their rescue.



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Idea/Innovation : Geometry at Fun
 Awardee : Shalini Yadav
 Reference No. : 18UP1494019
 Class : 10th
 School Name & Address : Kumharawan Inter College Lucknow
 District & State : Lucknow, Uttar Pradesh
 Guide Teacher : Pawan Kumar Tiwary



Shalini faced a lot of difficulties while preparing for her maths exam so she thought of designing a project that would help students in learning geometrical properties. It is made up of protector clamped on a circular wooden ply. This project helps in verifying at least 20 properties of geometry.





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Idea/Innovation : Automatic Painting Machine
 Awardee : Keshav Hardainiya
 Reference No. : 18UP1493615
 Class : 7th
 School Name & Address : Divine Mercy School
 District & State : Jalaun
 Guide Teacher : Anil Kumar Gupta



Keshav developed an automatic painting machine which helps to paint walls, ceiling etc. Usually to operate a machine like these it needs a lot of human effort. The project by Keshav needs no human effort and is controlled through robotic system, laptop, remote etc. Tiring work of painters motivated him to develop this project.



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Idea/Innovation : ACCIVIC (Accident Victim Treatment Device)
 Awardee : Alyssa Mehrotra
 Reference No. : 18UP1492987
 Class : 6th
 School Name & Address : Delhi World Public School, Noida
 District & State : Gautam Buddha Nagar, Uttar Pradesh
 Guide Teacher : Nisha Sharma



Alysse heard of an accident where the person died because of the wrong treatment, she felt the need to solve such an issue. ACCIVIC has been designed to help accident victim where the IMA (Indian Medical Association) will create similar software which will be shared to only Authorize hospital of IMA and access will be given to IMA certified doctors across the country. It will work with fingerprint sensor through biometric system patients information can be taken to initiate treatment process. This will help doctor to get the entire record of the patients and then treatment can be done accordingly. Alyssa likes participating in debate and watching theatre.





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Idea/Innovation : Plucking Device for Lemon, Karanda (karonda) and Berries
 Awardee : Kumari Vandana
 Reference No. : 18UP1492797
 Class : 6th
 School Name & Address : U.P.S Mahuakhera, Sakeet-Etah
 District & State : Etah, Uttar Pradesh
 Guide Teacher : Pooran Singh



Vandana observed the difficulties faced by his father while plucking Karanda (natural plant) from the plants, every year during harvest the fruits he got injuries because of it. Other ways to do so affected the quality of the fruit. So, she has developed a simple mechanism using a bottle (open at bottom) and blades are fixed and has a container and a stick. The device developed by her is light in weight, affordable and protect the fruits and also the hands of a person who is plucking. Vandana likes drawing and playing outdoor games.



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Idea/Innovation : Leg Mouse for Specially Abled People
 Awardee : Mainuddin
 Reference No. : 18UP1493260
 Class : 10th
 School Name & Address : Shri PCSKJC Kotkhas Gonda
 District & State : Gonda, Uttar Pradesh
 Guide Teacher : Digvijay Singh



Mainuddin thought of developing a mouse operated with the help of foot for specially abled/ handicapped / physically disabled. This way they can operate the computer like the normal people do. Mainuddin has connected a mouse to the footwear; physically challenged person can use it by simply wearing it during working on the laptop/desktop. His idea will not only instill confidence in them but will also help in generating employment. Mainuddin likes innovating and working with electrical devices.





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Idea/Innovation : A Data Logging Robot
 Awardee : Archit Narayan
 Reference No. : 18UP1494130
 Class : 9th
 School Name & Address : St. Joseph College, Lucknow
 District & State : Lucknow, Uttar Pradesh
 Guide Teacher : Ashfaq Ahmad



The idea of developing a data logging robot clicked to Archit when he read a news on casualties of soldiers fighting at the border. In order to guard their life he developed a Dual Tone Multiple Frequency (DTMF) based data logging Robot, which will cover large area moving in all the directions, a wireless camera is inbuilt to spy on enemies in addition a landmine detector, a temperature sensor and a gas & smoke sensor is also fixed to the robot. This DTMF robot can be attached to any mobile and can be operated by just sitting at one place. Archit's likes to see and improve designed projects.



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Idea/Innovation : Manhole and Pothole Detection Device
 Awardee : Abhinav Kr. Singh
 Reference No. : 18UP1494224
 Class : 9th
 School Name & Address : KCM School, Gandhi Meston Park, Civil Lines
 District & State : Moradabad, Uttar Pradesh
 Guide Teacher : Geeta Taneja



Potholes has become one of the major reason for accidents especially during monsoon. Abhinav thought of making detection device to solve the problem caused by potholes and manholes. Abhinav's idea is to use ultrasonic sensor to examine the roads and to find out any pothole and open manhole with the help of microcontroller (Arduino UNO), which will then transfers the information to the driver with some sound and light signal and as car (vehicle) comes closer to it (manhole or pothole), the sound become louder notifying the driver to stop the car and change directions. Abhinav likes reading books, playing football and has participated in science Olympiads.





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Idea/Innovation : Thermoelectric Stove Generator
 Awardee : Pranjal Srivastava
 Reference No. : 18UP1494080
 Class : 9th
 School Name & Address : G.D Goenka Public School,
 Lucknow
 District & State : Moradabad, Uttar Pradesh
 Guide Teacher : Himanshu Jethwani



Living in rural area, Pranjal's family suffers from shortage of electricity, in absence of it at night women use kerosene lamp which has other issues associated to it, to provide more efficient alternative source of energy Pranjal developed Thermoelectric Stove Generator. This stove provide the facility to absorb the waste heat which is produced while cooking and convert thermal energy into electrical which will help in charging battery, a mobile phones or other electrical devices. Pranjal likes swimming and playing football.



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Idea/Innovation : Paper Pot Transplanter
 Awardee : Veerpal
 Reference No. : 18UP1492485
 Class : 9th
 School Name & Address : Government High School,
 Bareilly
 District & State : Bareilly, Uttar Pradesh
 Guide Teacher : Vaishali Tandon



Having a farming background, Veerpal has witnessed the amount hard work and efforts required in agriculture. He has seen his father putting a lot of labour but getting less profit especially during the bed preparation. Veerpal came up with an idea to transplant seedlings standing vertically on the bed with Paper pot transplanter. The device is manual and very easy to operate, it can be used for a variety of crops, vegetables and plants. In a minute almost around 264 plants can be transplanted. Veerpal likes exploring and learning by doing experiments.





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Idea/Innovation : Safety Roller Barrier Guard to Escape a Collision with Vehicle in Curved Road Side

Awardee : Sumit Baghel

Reference No. : 18UP1492258

Class : 10th

School Name & Address : M.D Jain Inter College, Agra

District & State : Agra, Uttar Pradesh

Guide Teacher : Nikhil Jain



Sumit came up with an innovative idea of Safety roller barrier guard. The project developed by him is a safety fixture that prevents drivers and passengers from fatal accidents by not only absorbing shock energy but also converting shock energy into rotational energy. Safety roller barrier guard will be placed in a way that 75% will be underground and 25% will be above the road. It will be installed at sites where vehicles are exposed to frequent accidents. This will bring the vehicle back on the road or stop the vehicle by absorbing shock energy. 'Safety Roller barrier guard' will effectively function to properly control vehicles with its noticeable color and self-luminescence. Sumit loves to find technical solutions to problems faced around him.



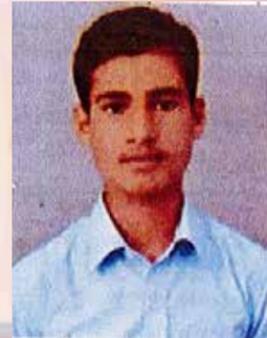
Uttarakhand



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Idea/Innovation : Mobile Signal Scanning System
 Awardee : Abhishek
 Reference No. : 18UT1433731
 Class : 9th
 School Name & Address : Govt. High School Dhoira
 District & State : Dehradun, Uttarakhand
 Guide Teacher : Ashok Singh Bafila



Illegal practice of carrying and using mobile phones in exam halls has inspired the student to take up the project of mobile signal scanning system. The device can detect the incoming and outgoing calls and messages in examination hall or areas where electronic media is prohibited. This device will also help in restricting unethical and illegal data transfer.

Abhishek aspire to become an electronics engineer.



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Idea/Innovation : CFL Bulb Connector Remover
 Awardee : Preeti
 Reference No. : 18UT1433606
 Class : 9th
 School Name & Address : GIC Bhingrada
 District & State : Champawat, Uttarakhand
 Guide Teacher : Rishu Gangwar



Changing faulty light bulbs gets difficult sometimes because of their placed location. You have to climb staircase or take a stool to replace the faulty one. The task become more difficult when you are not physically well. The student got motivated when she experienced the same when she was alone with her grandmother who was unable to replace faulty bulb because of her health. She made a light bulb connector and remover which can be used even when sitting on floor. It is made of plastic, thereby thwarting the chances of shock. The equipment is cost effective and user friendly.

Preeti wants to become an innovator.





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Idea/Innovation : Mobile Toilets in Bus Stations
 Awardee : Kajal Joshi
 Reference No. : 18UT1433555
 Class : 9th
 School Name & Address : Govt. High School, Palson
 District & State : Champawat, Uttarakhand
 Guide Teacher : Navin Chandra Pant



Going to the toilet is a universal need. Few of the transportation medium like trains and Flights provide toilets. But while travelling in bus it gets difficult to stop the bus every time as per passenger needs. Student experienced the same while travelling and made a project on moving toilets. The moving toilet uses the same components as regular toilet. The cabinet of this toilet can be attached to the body of moving bus. Kajal wants to motivate people to become a part of clean India initiative.



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Idea/Innovation : Solar Dustbin
 Awardee : Jatin Singh
 Reference No. : 18UT1433746
 Class : 10th
 School Name & Address : Govt. Inter College Baronwala Jolly
 District & State : Dehradun, Uttarakhand
 Guide Teacher : Pooja Rawat



Every household generates waste or garbage, which should not be thrown anywhere and everywhere, but only in trash bins. It was shocking to see some residents just throw the open bags with contents spilling all over the place. Throwing garbage all over the place will not only dirty our surroundings and pollute the environment, making it very unhygienic, but also causes bad odours and encourages the infestation of cockroaches, flies and other insects. There are various diseases caused due to poor maintenance of hygienic conditions. This inspire the candidate to take up the project of talking dustbin. The talking dustbin not only alert people who throw garbage outside the dustbin but also capture the photo of individual. When the dustbin will be overflowing it will send message to the concerned authority. The dustbin uses solar panel for its power requirement and glows at night. This dustbin also sucks liquid things and put in other container
 Jatin aspire to become a scientist and explore new things.





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Idea/Innovation : Light Bag
 Awardee : Akshay Pandey
 Reference No. : 18UT1478402
 Class : 9th
 School Name & Address : LCRVMIC, Tanakpur
 District & State : Champavat, Uttarakhand
 Guide Teacher : Jagdeesh Singh Bohara



Due to heavy bag, which is carried by all the school students, a special innovative stand, is created which provides support to the bag. This innovative support can be carried on the belt on the stomach. The bag rests on this wooden support and shares the heavy load of the bag. The straps of this bag is also broadened to distribute the load evenly on the shoulders. It is a simple and innovative solution for students, which will save them from backaches.



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Idea/Innovation : Ploughing Tool
 Awardee : Km. Ayushi
 Reference No. : 18UT148104
 Class : 8th
 School Name & Address : Junior High School, Jhinwali, Tehri- Garhwal
 District & State : Tehri garhwal, Uttarakhand
 Guide Teacher : Manoj Singh Kanwal



This ploughing tool can be used to plough the field or can be used in a kitchen garden. It can be used manually which is easy to handle and can be made available at low price cost, so farmer can purchase it easily. As it works by getting a less push from the leg at its base then the soil get ploughed up. Its whole body part is made of iron & contain a sharp iron rod at its base which will help to plough the field. This tool has 4 sharp edges which can be used for digging the ground even for making channels.





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Idea/Innovation : Making machine for highly inflammable fuel production through animal dung

Awardee : Chulbul Kumar

Reference No. : 18UT1478756

Class : 8th

School Name & Address : S.S.C.M. Govt. Inter College Selaqui, Dehradun

District & State : Dehradun, Uttrakhand

Guide Teacher : Pawan Kumar Sharma



This is an innovative machine to make compressed cow dung cakes. This machine presses the wet cow dung under pressure and the water is drained out from the holes provided in the platform, which is collected and can be used manure. This pressed cow dung can be dried under sun to obtain an evenly sized cow dung cake, which has higher efficiency as this has minimalistic water content when compared to the conventional cow dung cakes made by hands. These cow dung cakes can be used for cooking purposes and burning to prevent from cold temperatures.



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Idea/Innovation : Machine of Sand Filtration

Awardee : Dharmendra Singh

Reference No. : 18UT1478872

Class : 8th

School Name & Address : G.H.S.S, Bhamraikhal, Pauri Garhwal (Uttarakhand)

District, State : Pauri Garhwal, Uttarakhand

Guide Teacher : Ms. Mamta Dhyani



This innovative machine is mainly used by farmers and labours in village area. This machine works on the principle of centrifugal force and it filters any mixture of sand and gravel having two or more components in it. This machine runs on electricity. We can separate mixtures like sand, sail, pulses etc. very quickly this saves our time our work muscle work. The conventional filtration process takes time and additional man power, which this innovative machine saves.





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Idea/Innovation : Thermo plastic recycle plant
 Awardee : Harshita Devradi
 Reference No. : 18UT1480375
 Class : 8th
 School Name & Address : Rajiv Gandhi Navodaya Vidyalaya,
 Khatima, Uttarakhand
 District & State : Udham Singh Nagar, Uttarakhand
 Guide Teacher : Nirmal Kumar Neoliya



Thermo plastic recycle plant which is made up of rectangular box with an iron scale at the bottom of which a heating element was fitted so that the hot air may enter the upper part of the box. In which the waste of polythene had been kept then an iron plate with handle was fitted to the upper open corner of the box. When we force the plate downward because of the heat it compresses the polythene into a brick than it become easier for the brick to transport it for the brick to transport it for the recycle plant. If required these bricks can be used for construction work too.



To convert a huge heap of plastic into a compact mass. So that it may take minimum space and will not be scattered here and there and easy to transport and storage at collection center and recycle plant this process needed heating of polythene below its melting temperature. Therefore, there is minimum possibility of harmful gases.



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Idea/Innovation : Smart Hoe
 Awardee : Master Bhuvan Singh
 Reference No. : 18UT1478462
 Class : 8th
 School Name & Address : G.U.P.S, Chhinigoth
 District & State : Chamvapat, Uttrakhand
 Guide Teacher : Pawan Kumar



This is an innovative machine and an advanced hoe which gives better results as compared to the conventional hoe. This smart hoe can run by battery and it will plough the land to make channels on the field. The channels can be used for flowing water and also for seeding. A seed stock is kept on the machine and by the help of funnel it can be dropped to an exact location. Once the seed is dropped, the hoe can be rotated and it can be used a land leveller once the machine moves forward. Using this innovative machine, three operations can be done easily with a faster way as compared to single machine for single operations.





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Idea/Innovation : Automatic water tank
 Awardee : Neeraj kumar
 Reference No. : 18UT1478389
 Class : 8th
 School Name & Address : G.I.C., Champawat
 District & State : Champawat, Uttarakhand
 Guide Teacher : Manoj Kumar Joshi



It is an innovative tool which is beneficial for differently abled persons who cannot open taps. It has a wooden box type container which contain foot pad at its base & a water tank is fitted inside it & the tap is fitted in it. As, the water comes out from the tap when the pressure is applied on the pressure pad from the foot. It is made especially for handicapped one so they may press the pad from their foot & it does not require much cost for installing.



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Idea/Innovation : Universal Nut Bolt Opener
 Awardee : Rahul Dhiman
 Reference No. : 18UT1478586
 Class : 10th
 School Name & Address : GIC, Dudhli, Dehradun, Uttarakhand
 District & State : Dehradun, Uttarakhand
 Guide Teacher : J P Dobhal



Universal Nut Bolt Opener is a flexible set of chains that can fit any type of nut & bolt. This innovative Nut Bolt opener is made by discarded cycle chains and iron shafts. The adjustable length of chains are as per the size of the nut. The chain will fix into the nut and by applying torque, it can be opened easily. The benefit of this innovative nut bolt opener is that different sizes of nut can be opened and it will save the mechanic to keep several number of wrenches and nut/bolt openers.





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Idea/Innovation : Paddle Rice Machine
 Awardee : Ritik Chamiyal
 Reference No. : 18UT1480667
 Class : 9th
 School Name & Address : Govt. Inter College, Gadoli, Uttarkashi (Uttarakhand),
 District, State : Uttarkashi, Uttarakhand
 Guide Teacher : Chaman Singh Chauhan



Paddle Rice Machine is a basic and low cost method for the rural areas. This machine is used to remove the husk from paddy with minimum effort and without electricity. The machine possesses the cycle paddle and a remover box, while paddling the rice was stored in box and removes the husk from paddy very smoothly. This machine is used for grinding and to make rice powder. The cycle pedal can be operated either manually or by electricity. This innovative machine is very efficient in usage.



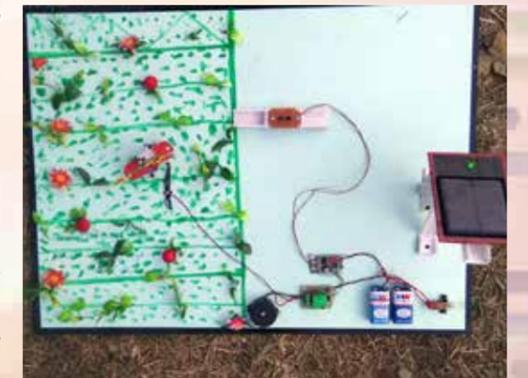
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Idea/Innovation : Bird Dispenser with sound & reviving dummy (Putla)
 Awardee : Sanjali Bhatt
 Reference No. : 18UT1480007
 Class : 10th
 School Name & Address : G.H.S.S, Kodarna, Tehri Uttarakhand
 District, State : Tehri Garhwal, Uttarakhand
 Guide Teacher : Sukesh Sayana



Generally we see that birds come and destroy the crop and farmer bear sever loss. To overcome this critical problem this innovative prototype Bird Dispenser with sound & reviving dummy (Putla) is easy and low cost method. An automatic audio signaling system is made which the application of proximity sensors which will detect the birds and the motor will revolve the dummy (scarecrow). This will keep bird away from crops. The basic idea is to transmit the Infrared light through an IR LED, which is then reflected by any obstacle ahead and sensed by receiving LED.





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Idea/Innovation : Small Grass Cutter
 Awardee : Shubham
 Reference No. : 18UT1479959
 Class : 7th
 School Name & Address : Govt. Upper Primary School, Diyuli, Narendranagar
 District & State : Tehri Garhwal, Uttarakhand
 Guide Teacher : Om Prakash



Small grass cutter which may be used in lawn or garden to cut out the unwanted grasses. It is easy to operate & runs electrically. It consists of blades which is connected at the both edges of handle & one central long handle which will help to use the cutter & will help for holding it properly. Its handle is made of plastic & its blade by iron. The cutter is easy to carry & cut the grasses very fast & cheaper at cost so anyone can buy it. It can be charged through solar panel so there is no loss of electricity.



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Idea/Innovation : Reducing fog polluted air through the electric pole
 Awardee : Shubham Sharma
 Reference No. : 18UT1478757
 Class : 9th
 School Name & Address : S.S.C.M. Govt. Inter College Selaqui, Dehradun
 District & State : Dehradun, Uttarakhand
 Guide Teacher : Pawan Kumar Sharma



This is an innovative method, which can make use of the electric poles, and the electric poles alongside the roads can be modified to become an air filter using an exhaust fan. The electric pole can be modified to act as a chimney and using an exhaust fan, the smoke from cars and air pollution can be transferred to a treatment chamber, where using special filters the polluted air can be cleaned and the clean air can be released into the atmosphere. This innovation would help in clearing the polluted air and it will also reduce the particulate matter.





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Idea/Innovation : Electronic Voter Identifier

Awardee : Arti

Reference No : 18UT1433510

Class : 10th

School Name & Address : Govt High Senior Secondary School
Lanji Pokhani

District & State : Chamoli, Uttarakhand

Guide Teacher : Anoop Singh



Student has developed an “Electronic Voter Identifier” which will help in identifying frauds while voting. It will also save time while registration of voters. It uses biometric information to the iris, finger prints and match it will Aadhar card details. Using this, we can verify whether the candidates detail is authentic or not.

Arti likes dancing and reading books. She aspires to become a scientist.

West Bengal



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Idea/Innovation : The Rain Alarm and Water Harvesting
 Awardee : Koushik Roy
 Reference No. : 18WB1428083
 Class : 7th
 School Name & Address : Rather Hat High School
 District & State : Jalpaiguri, West Bengal
 Guide Teacher : Satyaki Dey



Koushik has come up with a solution to the age-old problem of fresh water wastage by devising a simple model of rain alarm and water harvesting, which can be installed on rooftops and hilly areas. The arrangement has a tank, an alarm and a circuit system. The alarm rings whenever there is a sudden rainfall to create alert and the tank stores water for future use. Koushik is curious to learn new ideas, inventions and technologies, and wants to contribute to the nation through his work in the field of science.



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Idea/Innovation : Solar Harvester
 Awardee : Mamun Molla
 Reference No. : 18WB1428040
 Class : 7th
 School Name & Address : Deor Pana Ulla High School
 District & State : Dakshin Dinajpore, West Bengal
 Guide Teacher : Dipendra Nath Pal



Mamun's idea comprises a combined harvester to be operated by a solar panel which would make it cost-effective and great for a farmer with smaller landholdings. He aspires to be a mechanical engineer, owing to his love for machines and innovations.





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Idea/Innovation : Water Level Alarm
 Awardee : Nusrat Jahan
 Reference No. : 18WB1428061
 Class : 7th
 School Name & Address : Prasanna Kumari Balika
 Sikshalaya, Shibpur. Howrah
 District & State : Howrah, West Bengal
 Guide Teacher : Soumi Sarbajna



Nusrat, concerned with the regular problem of drinking water wastage due to tap overflow, has addressed this by devising a water level alarm. This alarm rings as soon as it senses the overflow. It can be used at all places such as homes, offices, crop fields, bridges, rooftops etc. Nusrat is always interested in discovering and learning about new concepts.

Water level alarm in roof top water tanks



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Idea/Innovation : Bioplastic from Banana Peels
 Awardee : Sukanya Kolay
 Reference No. : 18WB1428089
 Class : 8th
 School Name & Address : Ariadaha Sarb. Balika Vidyalaya
 District & State : North 24 Paraganas, West Bengal
 Guide Teacher : Moumita Ghatak



For reduction of non-biodegradable wastes and carbon footprint for a better environment, Sukanya has developed a kind of bioplastic. Bio plastics are equally strong as traditional plastics and are already in use in agriculture, textile, medicines industries, particularly for wrapping and packaging. Sukanya developed this bio plastic from banana peels. Banana peels are very rich in starch and consist of two different types of polymer chains called amylose and amylopectin that are bonded together to form a plastic which is 100% biodegradable.





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Idea/Innovation : Multi-Purpose Exercise Apparatus
 Awardee : Sumana Bhandary
 Reference No. : 18WB1428013
 Class : 10th
 School Name & Address : Sukanta Smriti Vidyamandir
 District & State : Bankura, West Bengal
 Guide Teacher : Gautam Kishore Jana.



Many of us lead incredibly busy lives. The hectic lifestyle makes it difficult to make time for any kind of exercise. Sumana witnessed the same at her home which inspired her to develop a multi-purpose exercise machine. Different types of gears and pinions have been used in designing this machine at low cost. It can be used for multiple purposes such as a mixer-grinder for household use; or a power generator to charge a storage cell or light up set of LEDs at night. Sumana loves to participate in declamation contests.



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Idea/Innovation : Auto Control Water Pump
 Awardee : Tapas Kundu
 Reference No. : 18WB1428118
 Class : 8th
 School Name & Address : Kustore Junior High School,
 Purulia
 District & State : Purulia, West Bengal
 Guide Teacher : Susanta Bera



Tapas has identified a very common problem of wastage of drinking water and electricity and devised a simple solution for this. His pump has been designed such that it disconnects water and power supply itself once the tank is full. Tapas is a firm believer in hard work and wants to serve the nation by joining defence services in future.



