

fireflies of creativity



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National Innovation Foundation - India

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Dr APJ Abdul Kalam IGNITE 2015

Curiosity | Compassion | Creativity

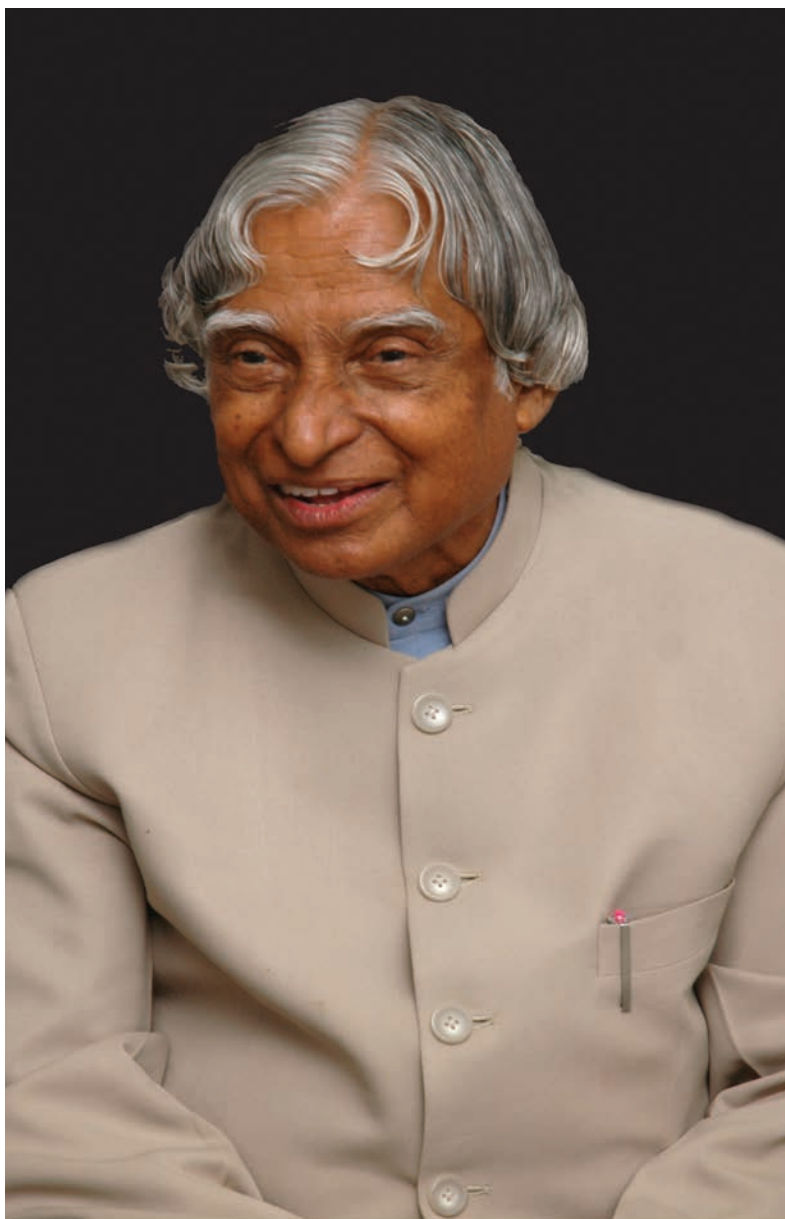
November 2015

Ahmedabad



First Dr. APJ Abdul Kalam IGNITE Awards at the hands
of the Hon'ble President Shri Pranab Mukherjee

November 30, 2015



Remembering Dr. APJ Abdul Kalam
1931 - 2015

Dr. APJ Abdul Kalam

IGNITE

Awards 2015

fireflies of creativity

Foreword



I am very happy to write this note for the Dr. APJ Abdul Kalam IG-NITE award book of the National Innovation Foundation – India (NIF) featuring few of the most creative and innovative children of our country. The range of ideas as I see is remarkable, and equally noteworthy is the fact that these ideas have been received from different parts of the country, as far as from Jammu and Kashmir,

Nagaland, and Andaman and Nicobar. I am also happy to note that NIF has been able to reach all the States and Union Territories of the country for this campaign. I congratulate all the award winners and hope that they will continue to seek solutions for persistent problems.

In the last few years, NIF has emerged as one organization of the DST, which has not only furthered its own mandate but also contributed significantly to the furtherance of inclusive innovation movement in the country by partnering with a number of institutions, both public and private sector. I am told that NIF has been able to mobilize over 1000 ideas of school children over six days in Jammu and Kashmir as part of the platform and outreach program of the DST's Science Express. This is the first time NIF has been invited to be a part of the Science Express and I am hopeful, in future, NIF should be able to take larger responsibility in promoting a culture of innovation among people. I believe NIF can make strategic contributions in various other schemes of the DST as well.

Once again I congratulate all the award winners and urge them to motivate other children around them

also to think creatively. Once the children of our country start thinking well, an inclusive future for the country can be ensured.

A handwritten signature in black ink, appearing to read 'A.S.' or 'Ashutosh Sharma', is positioned above a horizontal line.

Prof. Ashutosh Sharma
Secretary,
Department of Science and Technology,
Govt. of India

Preface



Let me begin by thanking our Hon'ble President Shri Pranab Mukherjee ji for kindly consenting to give away the Dr APJ Abdul Kalam IGNITE Awards. I am sure the award winners would be hugely motivated, and that too for all their life, having received these awards at our most revered President's hands.

I gratefully acknowledge the generous support that has been received by NIF and the Honey Bee Network from the Rashtrapati Bhavan for serving and championing the cause of inclusive innovations.

I heartily compliment all the student participants of the IGNITE 2015 campaign, whose enthusiastic contributions ensured that NIF could mobilise over 28000 student ideas and innovations from all the States and Union Territories of the country.

Deriving motivation from Dr. APJ Abdul Kalam, NIF initiated the IGNITE competition nationally in 2008. NIF had been blessed to have Dr Kalam's continued guidance and advice since 2002, when as the President of the country, he started the tradition of Presidential Awards for grassroots innovators in NIF's Second National Awards, 2002. He had been closely associated ever since and gave away the Third and Fourth National biennial awards in 2005 and 2007 respectively.

Beyond NIF events also, at different fora, Dr Kalam used to propagate the ideas of common people and urge academia, policy makers and industry to support them. He continued to motivate the young and old alike, giving away the IGNITE student national awards since its inception in 2008 till the last awards in 2014. Dr Kalam used to meet all

the award winners in the award exhibition and address the gathering, mostly comprising students from various schools, urging them to be creative, compassionate and knowledgeable while retaining humility.

It is, therefore, absolutely fitting that NIF renamed the IGNITE Awards as Dr APJ Abdul Kalam IGNITE Awards so that our children can continue to draw inspiration from him. In the twenty fifth year of the Honey Bee Network, it is only befitting that the President of India, Shri Pranab Mukherjee honours not only the grassroots innovators but also the creative children of our country. A strong message is being given to the future leaders of our country that the country cares for their creative and compassionate contributions to make India a developed country with a society that is both sharing and caring.

I congratulate the NIF team for continuing to expand the reach of the IGNITE competition. Having reached all parts of the country, I am now hoping that Team NIF will focus on spotting the ideas and innovations of children, who have dropped out of school, those living in slums and all other such underprivileged children. Inclusion cannot be achieved unless we reach out to such children. My congratulations to all the award winners with the hope that this award will stimulate their creative thinking even further.

I heartily extend my very best wishes and my choicest blessings to one and all.



Dr. RA Mashelkar, F.R.S.
Chairperson,

National Innovation Foundation-India

Introduction



Impatience with Inertia: Indian children refuse to live with problems unsolved indefinitely

Creative, impatient and imaginative children are one of the most precious assets of a nation. Inculcating the spirit of *samvedana* (empathy), *srijiansheelta* (creativity) and *sahyog* (cooperation) will make them worthy citizens of not just India but the

world. Remembering Dr A P J Abdul Kalam, National Innovation Foundation and Honey Bee Network decided to name the IGNITE awards after him. It is only a small tribute to his legacy. He used to give these awards every year and refer to the ideas of creative children in his talks around the world.

We feel extremely privileged and blessed that The Honourable President of India, Shri Pranab Mukherjee is giving away the first Dr. APJ Abdul Kalam IGNITE awards on November 30, 2015 at IIM-Ahmedabad. President Mukherjee has taken the inclusive innovation movement to a new high in India. His office not only hosts Festival of Innovation at Rashtrapati Bhavan in March every year, but selected creative children, students and grassroots innovators stay at Rashtrapati Bhavan for two weeks as Innovation Scholar in Residence.

He has advised Innovation Clubs in leading technology institutions to search, spread, celebrate innovations and also sense or identify unmet social needs.

A collaborative culture will be reinforced through a two day creativity workshop being organised in collaboration with Honey Bee Network partners like SRISTI and GIAN at IIMA (Nov 29-30, 2015). During the workshop IGNITE winners will work in team with less privileged children from

urban slums and various Shodhyatras and other villages. They will visit some of the disadvantaged communities, identify their unmet social, technological and institutional needs, come back, brainstorm and then develop ideas/solution to address these. Fabricators will be invited to convert some of these ideas into products and services. This experience is likely to infuse or reinforce all the three values mentioned above. NIF will help in converting some of the worthy ideas through its own Fablab at Amrapur campus.

Creative ideas of children can expand our social imagination. To illustrate, Mohammad Tawseef from Jammu & Kashmir could not attend school regularly during the last academic session due to the 15 surgeries that he had to undergo. His pain did not deter him from thinking about how he could change the lives of people and to begin with, he chose the problem his mother faced persistently. He came up with the idea of a rice cooker that can detect insects or other impurities in rice when it is being cooked.

Tarna Joy from Tripura used to see that his classmates would struggle to fit under an umbrella and got drenched by the time they reached school. He has suggested a large umbrella which can accommodate more people and can be held by two students from the sides. Pests and germs in stored grains could be a thing of the past if Dipti from Odisha's seed container with an indicator for temperature, sees the light of the day.

As it turns out, children are born with a very compassionate heart fuelled by an unbounded imagination; an undaunted determination and most importantly an immense sense of servitude. They naturally identify with the pain of the lesser privileged and they go out of their way to help them. Ayush and Arnov from Haridwar, were so pained by the plight of physically challenged poor people that they created a bionic body suit inspired by an animated superhero. Diva Sharma from Delhi has created an alert for injured or sick animals to identify the most serious case of injury or sickness among all other ailing animals so that can get immediate attention from the veterinary doctor. Others like sisters Pavithra and Elakkiya from Tamil Nadu wanted to help their elderly

neighbour and created a special handloom, replacing the pedal with a motor and gearbox. Similarly, Siddhant from Delhi, Navjot from Punjab and Vaishnavi from Odisha, have suggested ideas that can help the elderly take their medication on time. While Navjot and Vaishnavi have suggested the idea of a smart watch that can store and deliver medicines on time like a medicated patch, Siddhant has suggested a walking stick, which not only reminds the medication time but also aids in walking and prevents fall.

Most of these students look up to the life lived by Dr Kalam as an inspiration and would like to walk in his footsteps in making India an empathetic, imaginative and entrepreneurial start-up nation. To begin with, the children have tried to bring about a change in their surroundings. When Senthur from Tamil Nadu was travelling by train, he used a toilet at one of the railway stations. The toilet door had a broken latch but instead of blaming the railway authorities, he came up with the idea of a portable latch, which can be carried anywhere.

Hadasha from Nagaland did not hesitate in thinking odd. She developed a microscope that can be worn as a spectacle. Simran saw that benches in public parks became wet and dirty during rains and thought of benches that could be flipped. Adi Kumar drew out of his own life experience of wearing a cast and a sling to develop an appendage to rest the fractured arm. Many of us have had fractures but did not think of such a simple design improvement in the system of sling and hand rest. Janmejaya from Karnataka and Jaspreet from Punjab thought of how conventional thermometers are so uncomfortable and decided to change the way the temperature is read!

Lipsa from Odisha and Bharat from Chhattisgarh wanted to help their families cut down on the monotonous task of collecting Mahua flowers and Tendu leaves, respectively. Dipankar from Andaman & Nicobar Islands, Sourav Dey from Jharkhand and Subhash Chandra Bose from Tamil Nadu, Sapir and Klshan from Tripura have developed innovations to help farmers reduce laborious agricultural work.

Children have an inbuilt drive for exploration, discovery and trying things out and this is apparent in the innovations they have developed for everyday life, common to the rural and urban areas. Aravind and Ram from Tamil Nadu, Nimisha from Jharkhand, Neha from Punjab, Nilesh and Rahul from Bihar, Nim from Sikkim and Pradyumna from Odisha, Rishab and Prithwish from West Bengal have all developed innovations that are

likely to have a significant influence in our everyday life. Jayprakash from Gujarat, along with Tanmay of Maharashtra understand that door handles are a route for transmitting virus.

In a step against the irresponsible behaviour of adults, Shivani, Ankush and Prem from Diu have developed a system for timely and effective removal of garbage. Ideally, we should get clean drinking water in our homes, offices, schools and all public places but clean water is a luxury that many are unable to afford. Soring and Subash from Sikkim have suggested the idea of free access to clean drinking water to all without installing expensive water filters in every house. This happens in many developed nations but to conceive the idea from a far flung area which does not have much mobile phone connectivity, forget about internet, is definitely commendable.

What is one thing, all these ideas have in common? Impatience with Inertia. It is this attribute that the Honey Bee Network wishes to leverage in the years to come. We are also going to mobilise ideas from over 8000 ITI (Industrial Training Institutes) students from this year. The competition for ideas is going to be tougher from next year. We hope that our children will continue to surprise us with their empathetic ideas and innovations every year.

Wishing all the winners and others who participated in the contest a very bright future full of hope and faith in Indian capabilities for becoming a creative, compassionate, caring and entrepreneurial society. I compliment NIF and Honey Bee Network team for working closely to bring the talent of such children to fore.

We once again express our gratitude to The Honourable President of India for gracing the function and igniting the minds of creative children of our country. We are grateful to Prof Ashutosh Sharma, Secretary, DST for his support and encouragement. Chairperson, Dr R A Mashelkar deserves special thanks for inspiring NIF team to push the frontiers of experimentation and try new ideas every year with zeal and commitment.

Jai hind!!



Prof Anil K Gupta
Executive Vice Chairperson,
National Innovation Foundation - India

A word from the Director



The children of the country gave a befitting tribute to the former President Bharat Ratna Dr APJ Abdul Kalam, by enthusiastically participating in the IGNITE 2015 competition. As a result, NIF could receive over 28,000 submissions of children from all States and Union Territories of the country. As a mark of respect to Dr Kalam, NIF also decided to rename the IGNITE Awards as Dr. APJ Abdul

Kalam IGNITE Awards. This year, a total 31 ideas by 41 students of 27 districts from 18 states are being awarded for their ideas or innovations. The IGNITE awards have been non-monetary awards however, with a generous grant from Shri Hari Om Ashram, Surat, Poojya Mota Prerit awards have been constituted for best ideas for everyday use and for children coming from tribal and far-flung areas.

I am happy to mention that most of the prototypes of the student ideas have been developed in the Fab Lab of NIF setup with support of MIT Boston and I must compliment our Engineering team for putting in all the efforts. Other colleagues at NIF and extended family, SRISTI, GIAN and HBN also deserve appreciation for their support to the campaign.

NIF has been trying to pursue what DR R A Mashelkar calls, 'Mind to Market' journey for creative children. First such licensing of a student, Shalini, Patna, then in class eight was recently accomplished by NIF team. The modified walker was licensed to a company and the license fee and royalty is shared with the innovator. Similarly, NIF showcased the assistive technologies for physically challenged people at international conference by UNICEF on the subject at Copenha-



gen. NIF and the Honeybee Network is trying to overcome all barriers to add wings to the ideas of creative children.

I also wish to extend my sincere gratitude to Prof Anil K Gupta, Executive Vice Chairperson NIF, Prof Ashutosh Sharma, Secretary, DST, Dr RA Mashelkar, Chairperson NIF, and Governing Board Members for their continued motivation, guidance and support. Central Board of Secondary Education (CBSE), Board of School Education Haryana, Na-

galand Board of School Education, Goa Board of Secondary and Higher Education, Directorate of Higher Education, Himachal Pradesh, West Bengal Board of Secondary Education, Madhya Pradesh Board of Secondary Education, Rajiv Gandhi Shiksha Mission, Dept. of School Education, Govt. of Chhattisgarh and Directorate of School Education, Govt. of Puducherry also deserve our deep appreciation for supporting the IGNITE campaign actively.

My heartiest congratulations to all the award winners with the hope that this award will further motivate them to continue thinking creatively.

Dr. Vipin Kumar
Director and Chief Innovation Officer
National Innovation Foundation-India

Knowledge and
innovation are the twin
pillars around which
nations will compete,
grow and prosper in the
21st century

- Shri Pranab Mukherjee,
the Hon'ble President



Dipankar Das, class 12, Government Senior Secondary School, Diglipur, Andaman & Nicobar Islands

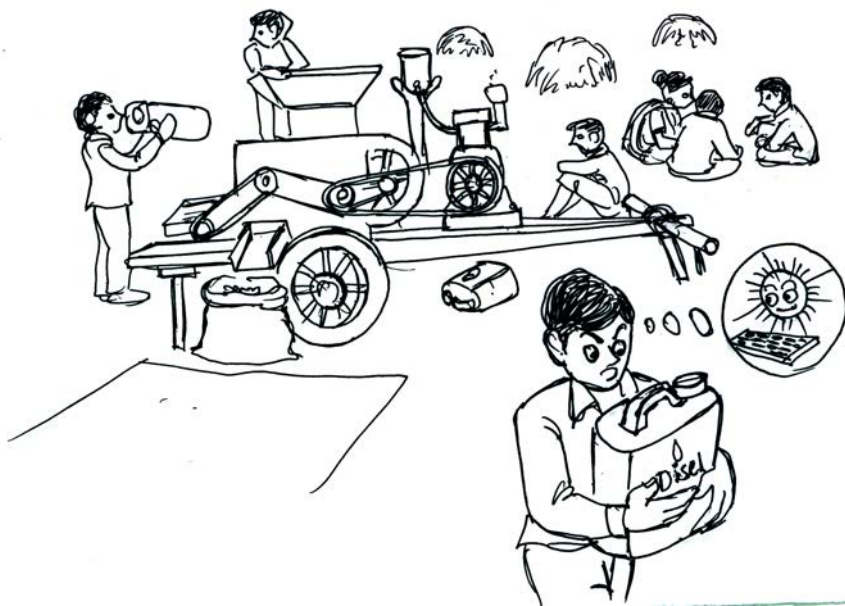
Dipankar's main subject in school is Physical Education. When he is not studying, he helps his parents in the farm or prefers making different science models. "One thing that I fondly remember during making the

machine was when my mother used to wake up at around 3 am and find me working on the model. She would insist that I should eat something and get some sleep. Today, she is extremely happy that all my hard work paid off," says Dipankar, who wants to become a mechanical engineer or a designer of low cost machines.

A solar thresher to end harvesting woes

Dipankar Das, class 12, Government Senior Secondary
School, Diglipur, Andaman & Nicobar Islands

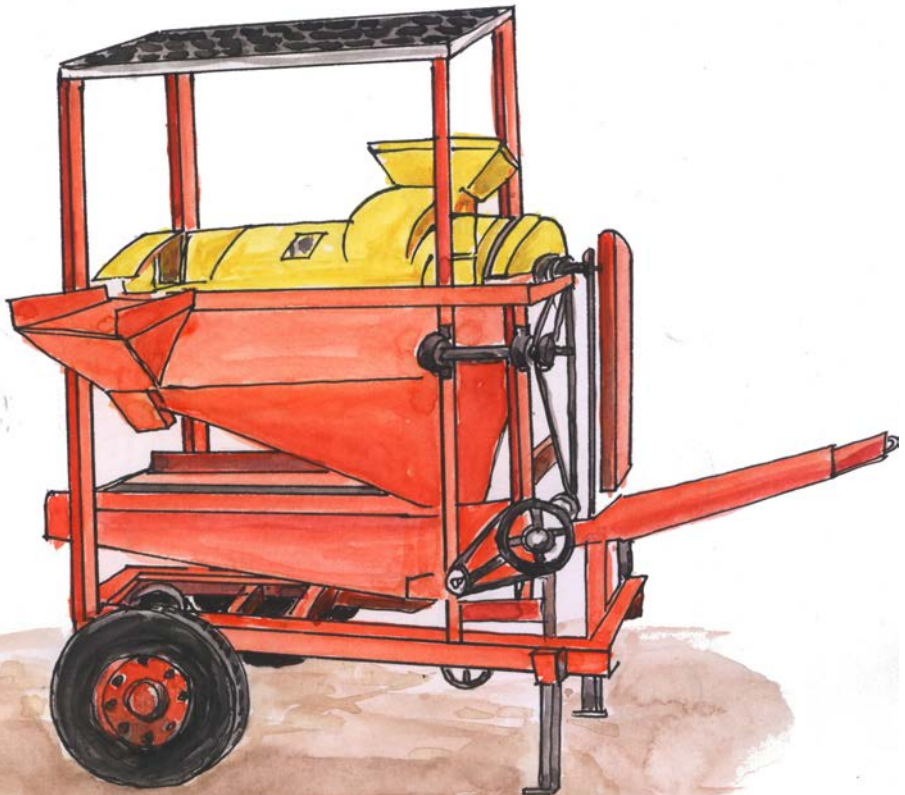
Dipankar used to watch
his parents, who are
farmers, struggle while
harvesting the pulses
manually



They could not afford a threshing machine or channel electricity to the fields for a rented one. This inspired him to create a solar thresher for efficiently threshing pulses and grains such as green gram, black gram, pigeon pea and horse gram, without using electricity or fossil fuels.

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In 2013, he had developed a low cost paddy dryer, which was selected for a state level exhibition. "I have been working on the prototype for the solar thresher for a year. I want to make more farming equipment for my family to make their life easier. We must learn how to channelise our knowledge to real life application," says the 18-year-old who used to study from 7 pm to 11 pm and then work on his prototype till early in the morning.



Excellence is a continuous
process and not an
accident

- Dr. APJ Abdul Kalam



Neha, class 12, Government Model Senior Secondary School, PAP campus, Jalandhar, Punjab

Neha looks up to her chemistry teacher, Mrs. Monia Jain, as her role model and wants to grow up to be a chemical engineer. "I plan to work in India and for the people of my country. I hope my experiments will make a difference," says Neha, whose father is an

electrician and mother is a homemaker. She has two younger brothers.

Fruits - natural or poisoned?

Neha, class 12, Government Model Senior Secondary School, PAP campus, Jalandhar, Punjab

Markets are full of fruits,
artificially ripened, using
harmful chemicals



During a chemistry class, Neha was using pH strips or litmus paper to distinguish between acids and bases. It then struck her that she could do the same experiment with fruits to determine whether they are naturally or artificially ripened.

Neha then made a paper, which looked like a litmus paper, to distinguish between artificial sugar and natural sugar.

"This test can be done when you buy fruits from the market. Initially, I did not share my idea with anyone but when my teachers came to know, they encouraged me a lot. I want to develop this idea further," says Neha, who calls chemical experiments in her school laboratory as her hobby and loves listening to music in her free time.



The indian dream should
not be about 'some
Indians' doing well, but
'India' doing well

- Dr. R A Mashelkar



**Janmejay Singh Rathore, class 12,
CMR National PU College, Bangalore,
Karnataka**

Janmejay loves physics and has made many theories that try to disprove contemporary theories. When he grows up, Janmejay wants to become a scientist as well as an entrepreneur. He is the captain of the basketball team in school and plays tennis in his free time. He dreams of affordable health-care for all Indians.



**Jaspreet Kaur, class 10, Police DAV
Public School, Jalandhar, Punjab**

Jaspreet's father is an Assistant Sub-Inspector in Punjab Police and her mother is a homemaker. She has four sisters—one set of elder twins in class 12 and another set of younger twins studying in class 4.

Jaspreet scores high in all subjects. Her hobbies include painting, singing and listening to patriotic songs.

"In life, whenever I get rejected for something good, I am actually being redirected towards something better," says Jaspreet.

She is passionate about space settlement and had won the second prize in NASA's annual contest for space settlement designs, last year. Quoting Dr APJ Abdul Kalam, she says, "Don't take rest after your first victory because if you fail in second, more lips are waiting to say that your first victory was just luck," says Jaspreet, who wants to become a pilot.

A colour-coded thermometer

Janmejay Singh Rathore, class 12, CMR National PU College, Bangalore, Karnataka and Jaspreet Kaur, class 10, Police DAV Public School, Jalandhar, Punjab

Reading a conventional thermometer is sometimes difficult for children and people with little or no education



Janmejay has suggested a colour-coded thermometer, which not only gives out the temperature—red for emergency, orange for intermediate temperature and green for normal — but also gives out precautionary measures and even dials an ambulance in case of an emergency! The thermometer also has a speaker that can read out the temperature through a voice message for those who are partially or completely visually challenged.

“This is not limited to only humans but can also be used for dairy and poultry animals. I am also working on connecting the thermometer from the nerves under the tongue to the cardiac nerves to know about the heart condition,” says Janmejay.

A few months ago, Jaspreet’s father was suffering from typhoid and used to get fever, frequently. When Jaspreet tried to measure his temperature, she could not determine the exact temperature through a conventional thermometer. This led the young girl to develop the idea of a thermometer with three lights—red for high temperature, blue for low temperature and green for normal temperature.



Minds on the margins are
not marginal minds

- Prof. Anil K Gupta



Diva Sharma, class 12, GD Goenka Public School, Vasant Kunj, New Delhi

Diva's mother works as a preschool teacher at the American Embassy in Delhi while her father has a business in the real estate industry. She has a sister, who studies in class VIII. Diva holds a Grade 8 Music Diploma from Rock School London and currently sings at local concerts. The School Student Council keeps her involved. In future, Diva wants to

work in the field of technology and economics.

Alert system for injured animals

Diva Sharma, class 12, GD Goenka Public School,
Vasant Kunj, New Delhi

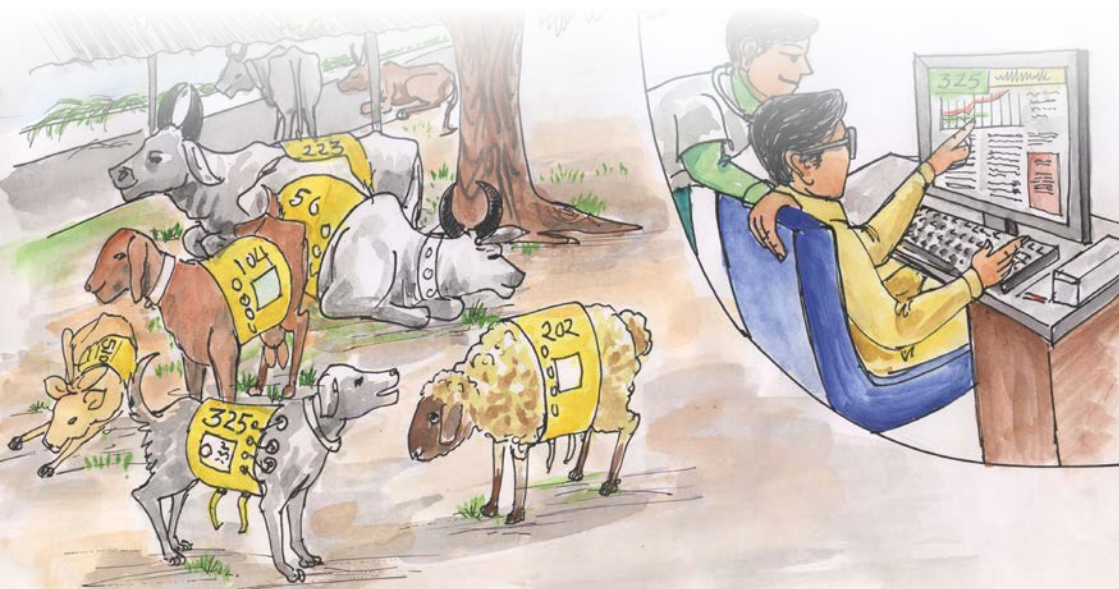
Sometimes, even when injured or ill street animals are taken to animal hospitals on time, the treatment gets delayed due to the large number of cases and limited number of vets



Diva has developed an application, which records the respiratory rate, temperature, pulse rate, heart beat rate of animals, through sensors attached to their bodies, making it easier for doctors to detect an emergency.

The system is an economic way to alert doctors about emergencies, as soon as an animal is brought into a hospital. The system includes a sensor— attached to the bodies of the animals — that will monitor the heartbeat, check pulse rate and also help in checking blood loss. The sensor is connected to an app that can be downloaded by the vets on their smartphones.

“My device seeks to remove any callousness and negligence in monitoring sick animals and speed up the pace of medical aid provided to them. I wanted to use my knowledge to create something useful. Even pet owners who leave their pets alone at home all day can use this app,” says Diva, who likes to feed stray dogs in her neighbourhood and has had many pets.



Strengthening the
country's knowledge and
innovation ecosystem
is critical to ensure a
brighter future for our
young and to enhance
competitive advantage
in an increasingly
globalised world

- Shri Pranab Mukherjee,
the Hon'ble President



**Jayprakash B Rathava, class 12,
Shree Gram Shala Grambharti, Gan-
dhinagar, Gujarat**

Jayprakash likes to play kabbaddi and loves to travel. He makes sure never to miss school picnics and tours.

“When I grow up, I want to make a lot of money and then travel the world,” says Jayprakash, whose father is a farmer and mother is a homemaker. He has a brother and two sisters. Whenever he is back in his village, he helps his father in farming.



**Tanmay Takale, class 12, Shri Mhalsa-
kant Vidyalya, Pune, Maharashtra**

Tanmay’s hobbies include playing football, sketching and reading books. “I want to keep innovating things to make the lives of people easier. I believe that one should dream big and work hard. Hard work pays off,” says Tanmay, who used to spend sleepless nights working on his innovations.

Tanmay’s father works with a manufacturing company while his mother is an insurance agent. He has a younger sister and shares that when the IGNITE 2015 awards were announced, it was his grandmother who was the happiest.

Foot-operated door opening mechanism

Jayprakash B Rathava, class 12, Shree Gram Shala
Grambharti, Gandhinagar, Gujarat | Tanmay Takale, class
12, Shri Mhalsakant Vidyalya, Pune, Maharashtra

Opening a door with hands
full is inconvenient. Also,
touching the door knob of a
public restroom may not be
hygienic



The two students have given an idea of a mechanism through which a door can be opened by activating a sensor using a leg. While this mechanism is most useful in public toilets, it can also be used elsewhere and may be useful for the physically challenged or someone carrying load in both hands.

Jayprakash was travelling from his hometown in Bamroli village to Gandhinagar in a bus when he saw a man with no arms, trying to board the bus. However, he could not open the door of the bus in time and missed the bus. This incident left a huge impression on Jayprakash's mind. Tanmay and his friends had gone for a movie and while using the washroom, they saw that there were many people who left the washroom without washing their hands. These incidents made the students to develop the idea of a hands-free door mechanism.



A punching machine with hole-reinforcement mechanism

Tanmay Takale, class 12, Shri Mhalsakant Vidyalaya,
Pune, Maharashtra

The holes punched on a paper
get torn if the filed paper is
frequently taken out and put
back in the file



To solve this problem, Tanmay has proposed a punching machine with a hole reinforcement mechanism so that the punched holes last longer and do not tear off from inside. The machine not only punches holes in the paper but also attaches a ring-like sticker on the hole to keep the paper from tearing.

When he was in class 10, Tanmay had to file a lot of study materials before exams. He realized that it took a long time to punch the papers and most of the papers tore as soon as he filed them.

That is how the idea was born.



Man needs his
difficulties because
they are necessary
to enjoy success

- Dr APJ Abdul Kalam



Ayush Gupta, class 12, Delhi Public School Haridwar, Uttarakhand

Ayush has set his eyes on robotics. "I want to make different types of robots to make human life easier. I like everything related to robotics. As a toddler, I used to break open my toys out of curiosity about how the parts operated. My parents were concerned initially but now understand me," says Ayush, who had earlier developed a

robot soldier out of waste material to be used in wars to prevent bloodshed.

Ayush's father works with a PSU while his mother is a home-maker. His elder brother is pursuing mechanical engineer and is very supportive of Ayush's innovations.



Arnov Sharma, class 12, Delhi Public School, Haridwar, Uttarakhand

Arnov wants to become a mechanical engineer and an inventor. He likes to make cartoons and paint in his free time. He also writes songs and loves gadgets.

His father owns a workshop of motor repair while his mother is a homemaker. He has a younger brother.

Ayush likes to watch animated movies and his favourite superhero, like his friend

Ayush, is Iron Man.

Bionic Body Suit

Ayush Gupta, class 12, Delhi Public School

Haridwar, Uttarakhand | Arnov Sharma, class 12, Delhi
Public School, Haridwar, Uttarakhand

When Ayush and Arnov
used to visit Har-ki-Pauri in
Haridwar for Ganga aarti, they
would see a lot of physically
handicapped beggars, mostly
those without arms



Later, while watching a Hollywood movie, Iron Man, the students came up with the idea of developing an Iron Man-like robotic suit, which would help the beggars lead lives like normal people and become independent.

The duo has designed a mechanical body suit that can provide support to a physically challenged person or aid orthopaedic patients. The suit supplements the movement of the upper skeleton system.

The students used recycled materials, motor parts and other scrap to make the prototype.

"In our innovation, the upper and lower arm is connected with a lever, which is connected to a pulley that rotates the arm. It is a very simple mechanism but hopefully, will be useful to people," says Arnov, who developed the cost-effective model with his classmate Ayush during their vacation.



Creativity counts,
knowledge matters,
innovations transform,
incentives inspire

- Honey Bee Network



Sapir Debbarma, class 12, Bharat Sardar H. S. School, Champahour, Tripura

“I want to develop as many models of science as possible. I want to help people with my innovations and keep on thinking about how new products can be created to make people’s lives easier,” says Sapir, whose mother is a daily wage labourer and father is a farmer. He has a brother who is studying.



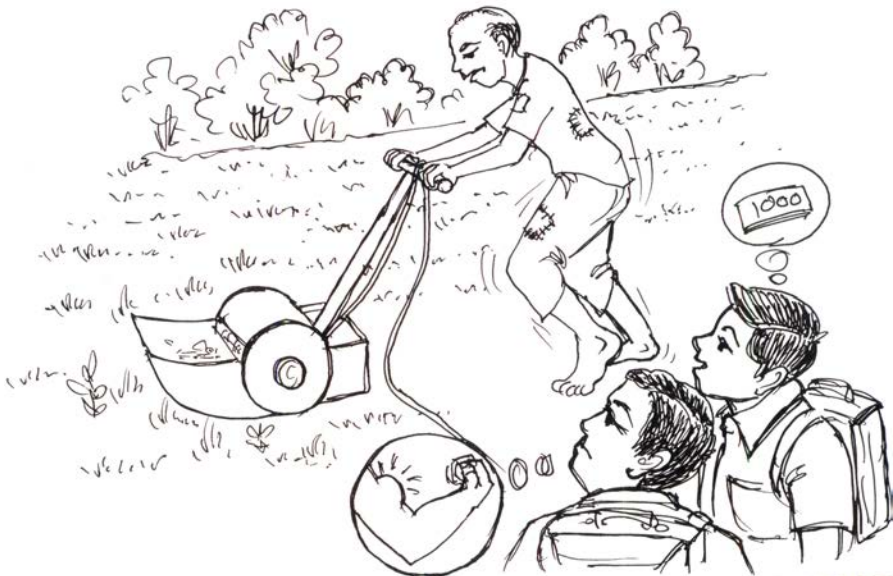
Klishan Debbarma, class 12, Bharat Sardar H. S. School, Champahour, Tripura

“We do not have many facilities or laboratories in our village to carry out experiments. But I want to become a scientist when I grow up and create more innovations in future,” says Klishan, who has two sisters.

Low cost grass and leaf cutting machine

Sapir Debbarma and Klishan Debbarma, class 12, Bharat
Sardar H. S. School, Champahour, Tripura

Cutting grass and leaves
manually or with hand-held
tools like sickle can be a time-
consuming strenuous



Sapir and Klishan have proposed a hand-held cutting machine for grass and leaves. This machine can be carried easily and used anywhere.

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When Klishan was in class XII, he was cutting grass with a friend when he thought of the idea of a hand-held grass cutting device. When the duo is not studying, they are thinking about innovation. Both Sapir and Klishan spend all of their time making unique products.



Innovation is the key
for future

- Shri N R Narayana Murthy



**Siddhant Khanna, class 11,
Sanskriti School, New Delhi**

When he is not studying, Siddhant keeps himself occupied with activities like playing the piano, taking Taekwondo classes, photography, building robots and other science projects.

“Technology can significantly improve the quality of life of the masses. My role model is Bill Gates, whose concept

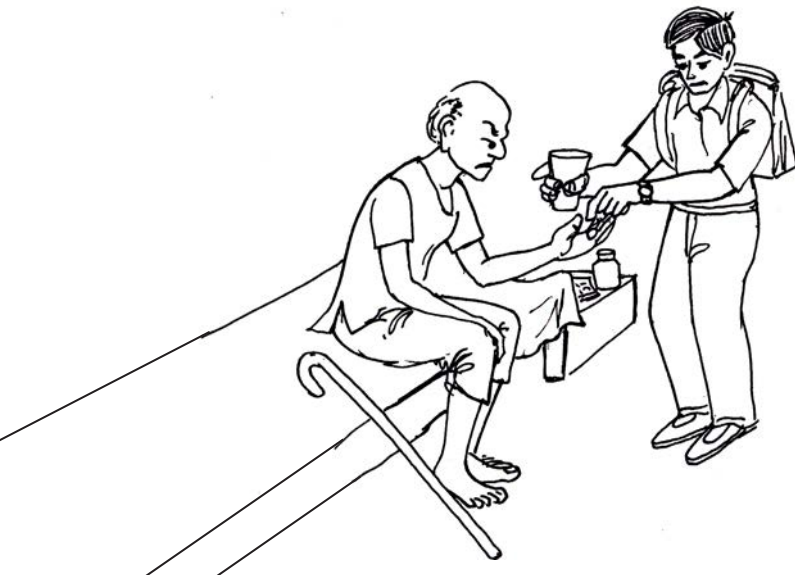
of graphical interface based software helped common masses reap benefits of computer due to lower prices and easy access. Having won the IGNITE award, I want to continue making more innovations that could be helpful to mankind,” says Siddhant, whose father is the additional commissioner in the Indian Revenue Services and his mother is a pathologist-entrepreneur. He has a younger sister, studying in class 8.

Smart walking stick

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Siddhant Khanna, class 11, Sanskriti School, New Delhi

The visually challenged and
some elderly people who
live alone may not be able to
inform someone in case
they fall





Siddhant has developed a walking stick with many features like counting of steps, fall detector, emergency alarm, automatic torch and even medicine reminder and locator. Siddhant got this idea earlier this year when his 76-year-old maternal grandfather mentioned how it was difficult for him to walk around the house without support. He also said that he fell often, after which he was barely able to shout out for help. "This inspired me to think of a stick that could aid the elderly or spastic, in walking. After that, I asked my paternal grandparents about their daily problems. My grandmother told how she would forget the exact time and order of her medication, sometimes she would forget where her purse was. My maternal grandmother told me that she kept a torch beside her pillow every night, in case the electricity went out. So I decided to add even more features to my walking stick, trying to get as many parts as possible and learning online how they worked," says Siddhant, who wants to become a techno-entrepreneur.



All the time we are trying
to get value for money.
What we don't look for is
value for many

- Dr R A Mashelkar



**P.S. Senthur Balaji, class 12,
Maharishi International Resi-
dential School, Erode, Tamil
Nadu**

At school, subjects that come with a practical application, instead of formulae, appeal to Senthur. A foodie, Senthur likes to surprise his mother with his culinary skills. He plays football and badminton and reads a lot on concepts of technology.

Unlike most children his age, Senthur has his future plans sorted.

“When I complete studies, I want to work first in an international company like Google or Microsoft and then lend my expertise and exposure to an Indian company. Later, I will start my own company and once I hand it over to the next generation, I will join a technology magazine, where I can share my expertise on technology,” says the 18-year-old, who believes that India will become a powerful force in creating tech innovations. He wants to make India fully developed and independent in its use of technology.

“The things we do for ourselves are gone when we are gone. But the things we do for others remain our legacy,” says Senthur.

Now, you can carry your own door latch while travelling!

P.S. Senthur Balaji, class 12, Maharishi International Residential School, Erode, Tamil Nadu

Public restrooms or other
places sometimes have
broken or no latch on
the doors

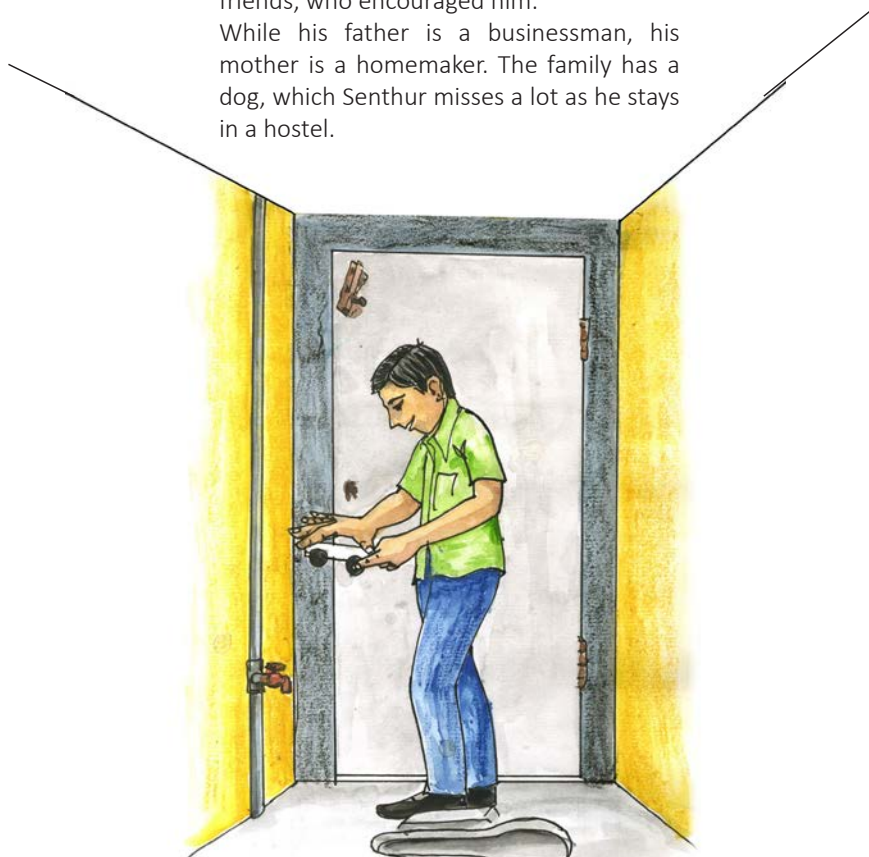


Senthur has come up with the idea of a portable latch, which can be carried by people travelling frequently.

“Once when I had to travel to a far off place by train, the train I had to board was an hour late. While waiting, I suddenly heard my stomach rumble and realized it was upset. I rushed to the toilet at the railway station and was surprised to see that there was no latch on the door. I somehow relieved myself but the whole experience was embarrassing. When I came out, I wondered about the plight of women travellers. This made me think of a portable latch,” says Senthur, who is the only child of his parents.

Once the idea was developed, he created a lot of drawings and showed them to his friends, who encouraged him.

While his father is a businessman, his mother is a homemaker. The family has a dog, which Senthur misses a lot as he stays in a hostel.



Experience is like a rear
view mirror. It tells us the
road we have travelled
so far, but not where we
should go

- Prof Anil K Gupta



Prithwish Dutta, class 12, Don Bosco School, Liluah, Howrah, West Bengal

Pritwish takes deep interest in science and technology. While his favourite subject in school is economics, he likes reading books on science, especially the ones authored by Stephen Hawking.

His hobbies include playing games like cricket and football, for which he has won many prizes. His mother is a homemaker while his elder sister is

pursuing media science. He wants to follow his father's footsteps and become a businessman. "My role model is Steve Jobs, who had famously said, 'The ones who are crazy enough to think that they can change the world are the ones who do'," says Prithwish.

Soundproof Hammer

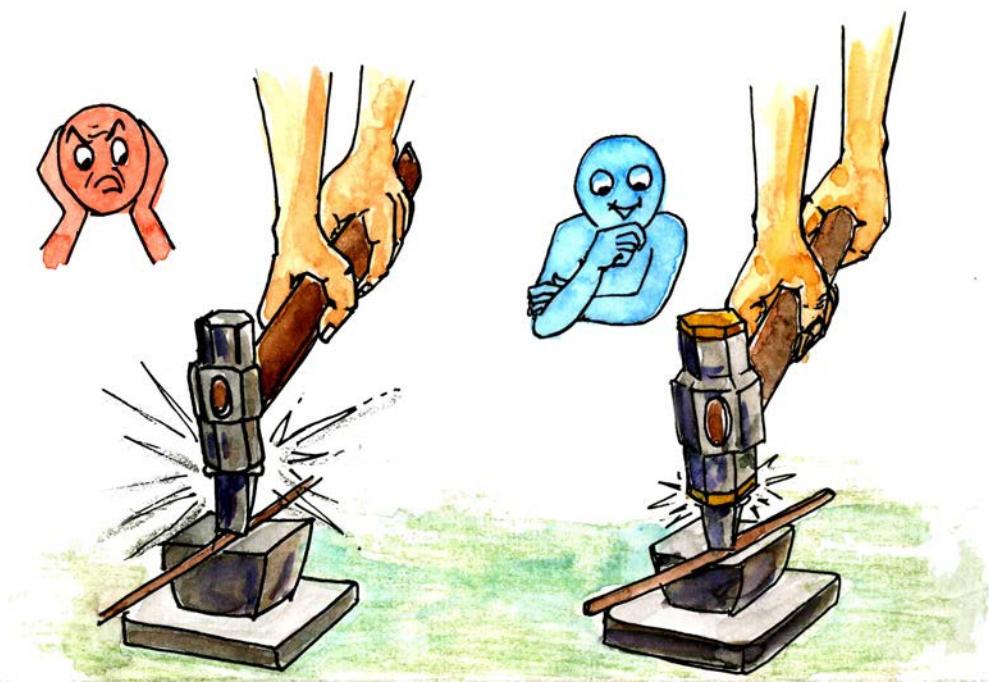
Prithwish Dutta, class 12, Don Bosco School, Liluah,
Howrah, West Bengal

Noise from renovations and
residential constructions
can be very annoying,
especially when a hammer
is used constantly



Having gone through this situation, Prithwish came up with the idea of a soundproof hammer, through which the noise level of a hammer can be reduced to its minimum. The sound proof hammer would be covered with a foam-like substance, which would absorb the impact when struck against any object.

“My house was being renovated some time ago. The workers were using hammers to break the floor tiles and all the noise was driving me up the wall. And it was not just me who was annoyed but my neighbours, too, had a tough time. In a construction area, the noise generated from a hammer can reach upto 110 decibel, which exposed for more than 10 minutes can cause serious deafness. So I thought of this idea of a soundproof hammer,” says Prithwish.



Science, education,
research and innovation are
the four pillars on which
the development as well
as the work culture of a
nation rests

- Shri Pranab Mukherjee,
the Hon'ble President



Soring Lepcha, class 6, St Joseph School, Pentok, North Sikkim

Soring aspires to become a police officer when he grows up. His parents run a grocery store and he has a younger brother. His favourite subject is history and in his free time, Soring likes to play football.



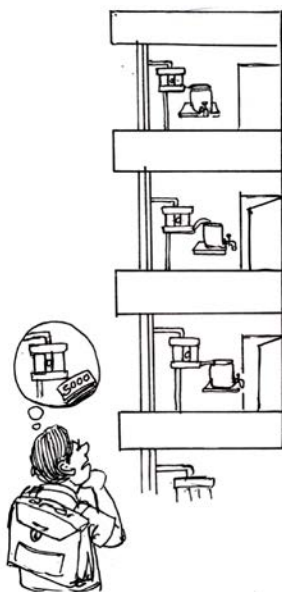
Subash Prodhan, class 6, Lingzya Junior High School North Sikkim, Sikkim

"I want to become a pilot when I grow up," says Subhash, who lives with his grandparents and a younger sister. His mother is a beautician. "When I am not studying, I like to play football and also help my grandparents and my mother in housework," says Subhash.

Water filter/purifier at source

Soring Lepcha, class 6, St Joseph School, Pentok, North Sikkim | Subash Prodhan, class 6, Lingzya Junior High School, North Sikkim, Sikkim

Installing expensive water filters and purifiers at home for clean water has become a necessity today



Both the children have given idea to have filter/purifier at the source of water so that everyone has access to clean water without having to make an investment in purchasing a filter/purifier.

Soring's idea is to have a centralised purification system at the point of distribution, like water tank. Whenever Soring opened the tap of drinking water at his school, dirty water would flow. He encountered the same problem at other places he went. This made him think of a solution in the form of a filter that can be installed in the water tank or at the main source of the water so that people do not have to install water filters inside their homes--which is an expensive deal.

Subash's idea is to have water purifiers attached to public taps for free access to safe drinking water.



An innovator is one who
does not know it
cannot be done

- DR R A Mashelkar



Navjot Kaur, class 12, Senior Secondary Model School, SAS Nagar, Chandigarh, Punjab

The daughter of a serviceman, Navjot aims to acquire different qualities of her role models. She looks up to Swami Vivekananda for motivation, learns how to fly with her roots grounded from the life of Dr APJ Abdul Kalam, wants to imbibe how to be passionate and patriotic from Bhagat Singh and is inspired by the qualities of determination from Thomas Edison and Napoleon Bonaparte. Navjot has a younger brother and her mother is a homemaker. "I am fascinated by chemistry and aspire to become a research analyst," says Navjot.



Vaishnavi Patra, class 9, Odisha Demonstrated Multipurpose Public School, Khor-da, Odisha

Vaishnavi lives with her father, an assistant general manager at a company, mother, who is an entrepreneur and a younger sister. She enjoys performing contemporary dance and likes to play basketball. "I want to become a psychiatrist and help teenagers and adolescents facing a difficult time," says Vaishnavi.

Watch with medicine delivery system

Navjot Kaur, class 12, Senior Secondary Model School,
SAS Nagar, Punjab | Vaishnavi Patra, class 9, Odisha
Demonstrated Multipurpose Public School, Khorda,
Odisha

Many people, who are
prescribed medication, forget
to take them on time



Two students—Navjot and Vaishnavi—have individually suggested the idea of a watch, which can store and timely deliver the appropriate dose of medicine to the person. Navjot came up with the idea after seeing her friend, an asthma patient, forget her inhaler and suffer an attack.

For Vaishnavi Patra, it was her own experience of forgetting to take medicines whenever she was unwell, which inspired her to innovate. She has suggested a computerised wristwatch with slots on the strap. Rectangular-shaped pockets will hold the tablets and the screen on the dial will show the time to take these medicines. The watch will alert the user through beeps when it is time to take the medication and also when the slots need to be refilled.



Boredom is not possible if
you are engaged with life;
the feeling of boredom is a
sign that you have lost grip
of your purpose

- Prof Anil K Gupta



Sourav Dey, class 10, Government High School Barajamda, Jharkhand

Sourav is pursuing a diploma in electrical engineering from KIIT University, Bhubaneswar after which he aims for a B.Tech. His favourite subject is physics.

“I want to become an electrical engineer like my father, who works with the Jharkhand State Electricity Board. My mother, who is a homemaker, is my role model and supports me in everything I do,” says Sourav. His sister is pursuing a medical degree from Bhubaneswar.

Lac extraction machine

Sourav Dey, class 10, Government High School Barajamda, Jharkhand

The conventional process for lac extraction is to cut the lac-coated branches of host trees manually, crush and sieve the lac to remove impurities

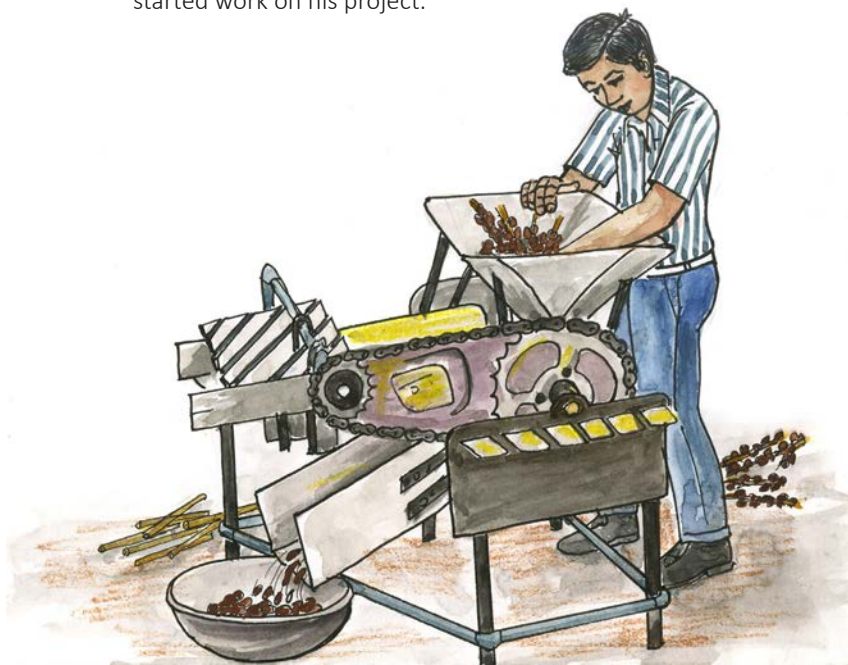


Sourav has created a machine that peels lac from branches of trees and plants without breaking them. As a result, the amount of impurities is lesser in the extracted lac and it takes lesser effort to clean it.

The machine is attached with a rotator and works on the principle of a sugar cane juice extracting machine.

The idea occurred to Sourav when his father asked him to remove some unwanted grass and plants surrounding their house. While removing the plants, Sourav saw that there was lac (the resinous secretion of lac insects). When he tried removing it by hand, he realized that the lac was running till the roots of the plants. He then thought of a machine that could easily remove lac from plants and trees but did not have a reference.

That is when he spotted a sugarcane juice extracting machine and decided to work on his lac processing machine based on that model. He collected some raw materials—mainly scraps of automobile parts— and started work on his project.



Progress is often equal to
the difference between
mind and the mindset

- Shri N R Narayana Murthy



Rishab Mallick, class 10, Kendriya Vidyalaya Fort William, Kolkata, West Bengal

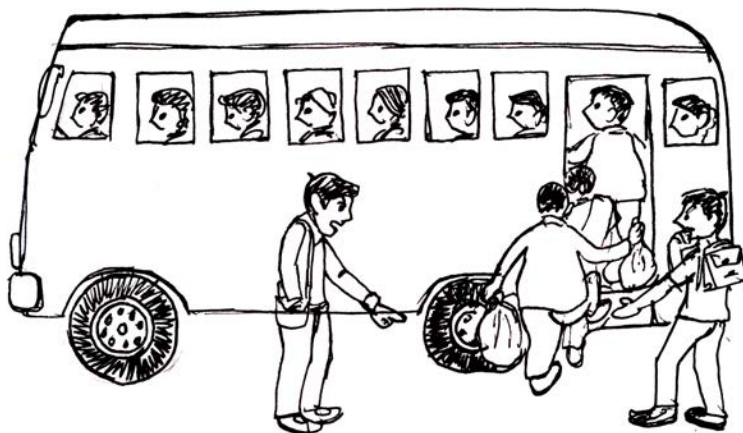
When he is not studying or doing projects for school, Rishab immerses himself in the books by Roald Dahl. Rishab's father is a government employee while his mother is a homemaker.

Pay as you weigh

58

Rishab Mallick, class 10, Kendriya Vidyalaya Fort William,
Kolkata, West Bengal

Changing lifestyle and food
habits are contributing to the
rise in numbers of overweight
and obese persons



“With this system, one needs to pay only as much as one weighs. The benefit of this system is that people will carry less luggage while travelling. At present, I have kept this idea limited to private air-conditioned buses but it can be applied to public buses and other modes of commuting, as well,” says Rishab, whose favourite subject is Maths.

“When I shared this idea with friends, some of them discouraged me saying that the system may not work as people who want to carry more luggage, will have to pay more. But I am positive that this idea will motivate people to stay fit and travel light. My tuition teacher supported me a lot and my parents are really excited about the idea,” says Rishab.

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You have to dream
before your dreams
can come true

Dr. APJ Abdul Kalam



R. Pavithra, class 10, SRC Memorial Matriculation, Erode, Tamil Nadu

Pavithra's favourite subjects are Maths and Science. She wants to become an eye specialist while her sister wants to be a scientist. Both the girls idolize Dr APJ Abdul Kalam.

"Dr Kalam's quote 'Yaathum Oore Yaavarum Kelir' (every country is your own and all the people are your own) inspires me. I had met Dr. Kalam for IGNITE 2013 awards, during which he had mentioned my modified hand cart steering mechanism brake in his speech," says Pavithra, who is a trained Bharatnatyam dancer and likes to read and think about innovations when she is not studying. She has participated and won awards at several science exhibitions around the country.



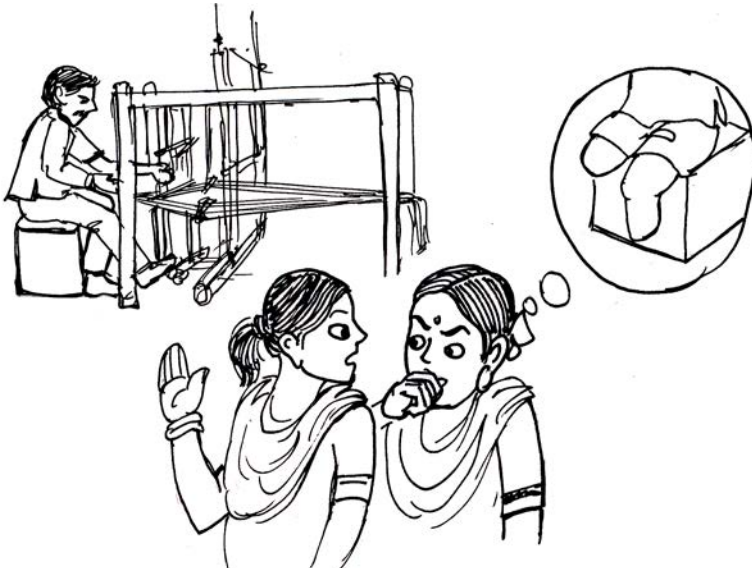
R. Elakkiya, class 8, SRC Memorial Matriculation, Erode, Tamil Nadu

Elakkiya is a chess player and a dancer. "Our mother has supported and encouraged us a lot in developing innovations," says Elakkiya. Both the sisters want to fulfill their father's dream of setting up a science and innovation centre in their district to encourage more innovators.

Loom for physically challenged

R. Elakkiya, class 8 and R. Pavithra, class 10, SRC Memorial Matriculation, Erode, Tamil Nadu

A physically challenged person may not be able to operate the conventional handloom

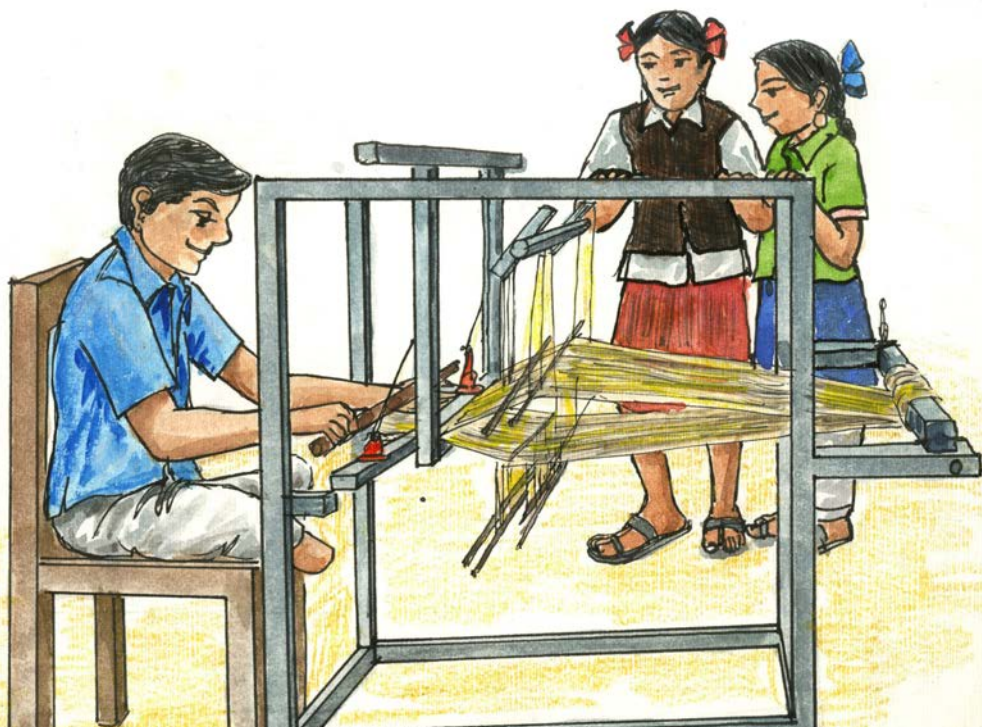


The two sisters have come up with a loom for lower limb physically challenged. In their loom, they have replaced the pedal operated system with a motor and a gear-box attached to a pulley mechanism.

Erode is well known for its handloom weaving. A neighbour of Pavithra and Elakkiya had been a handloom weaver for close to 30 years but, due to severe leg pain, he could not work on the loom as efficiently as he used to. This made the sisters design this new weaving technology.

With help from their neighbour, the sisters gathered raw materials from a workshop and began work on their idea. The two faced many hurdles before they could successfully make a loom that they had imagined.

"Our innovation will help those who are disabled to be self-employed and independent," says the elder one, Pavithra.



Inclusive growth should
not be a meagre slogan
but a fundamental driving
force for sustainable
development

- Shri Pranab Mukherjee,
the Hon'ble President



**Bharat, class 11, Government
Higher Secondary School,
Bachel Dantewada, Chhattis-
garh**

Bharat takes a keen interest in studying biology and wants to become a doctor. "I feel that there is a lack of medical facility in the area where I stay. I want to become a doctor and serve the people in my area and other tribal regions," says Bharat, who likes to paint in his free time and has won appreciation and certificates

from his school for the same.

His principal, teachers and school mates have named him 'junior scientist' since the IGNITE awards were announced. "A lot of the credit for the award goes to my teachers, who encouraged me to participate," says the 17-year-old.

Machine to pluck Tendu leaves

Bharat, class 11, Government Higher Secondary School,
Bacheli, Dantewada, Chhattisgarh

Plucking or collecting the leaves of Tendu tree is one of the important sources of income for people living in the tribal regions of India. This is done manually and is a tedious procedure



Bharat's idea is to develop a Tendu leaf plucking machine, which can cut the leaves and collect them in a container. He also suggests a sorter, which can separate leaves according to their sizes.

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Bharat belongs to a farming family and has three brothers and a sister. Since childhood, Bharat has been watching the locals pluck and store Tendu leaves, which have many anti-microbial properties. While the work was laborious, it did not fetch enough money.



Frugality is not just about
affordability, it is also
about circularity

- Prof. Anil K Gupta



Lipsa Pradhan, class 10, Govt. High School, Kamgaon, Odisha

Lipsa secures excellent grades in all her exams and wants to become a doctor to help people living in villages. She looks up to her school headmaster for inspiration. “She is very inspiring in whatever she says and does,” says Lipsa, who likes to sing and paint. Her favourite pastime is to observe the surroundings in her village, its trees and ponds.

A device to collect Mahua flower from ground

Lipsa Pradhan, class 10, Govt. High School, Kamgaon, Odisha

Lipsa used to observe that the women had to stay bent down for a long time to collect a decent amount of flowers



Lipsa lives in a remote village of western Odisha with her parents, a brother and a sister. There are many Mahua (*Madhuca longifolia* (J.Konig) (J.F Macbr)) trees in her village and she used to watch her mother and other women in the village pick up fallen Mahua flowers on the ground under the trees. Mahua flowers have many medicinal properties and these delicious flowers are also used to make pickles, jams, ice creams and desserts.

This made her think of a device that could eliminate the time-consuming and tiring process. The device, which looks like a lawn mower, has a handle to help pick up the flowers.



We shouldnot give up and
we should not allow the
problem to defeat us

- Dr. APJ Abdul Kalam



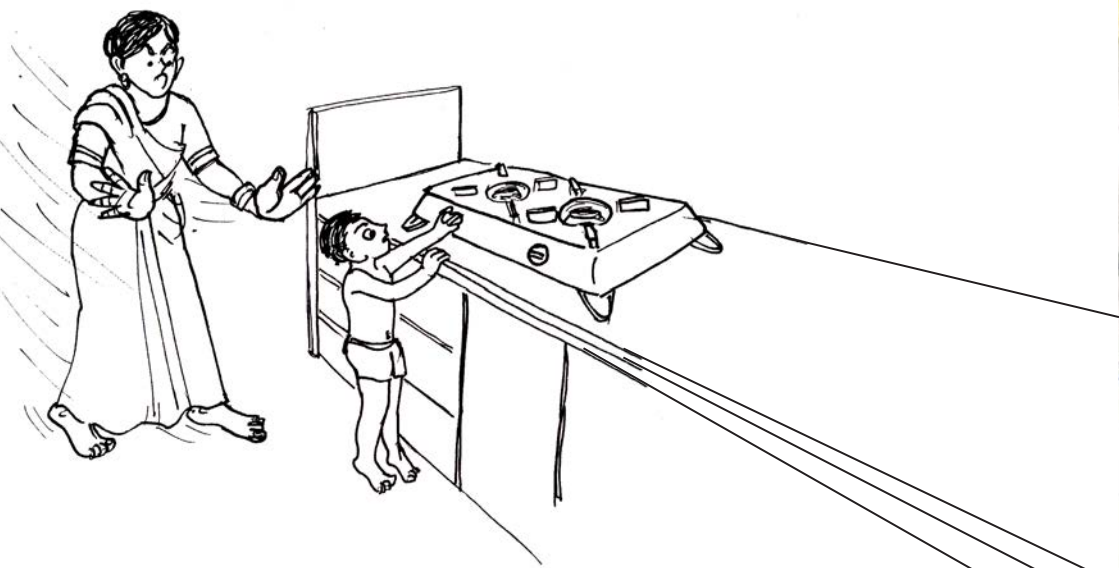
Nim Lhamu Lepcha, class 10, Gor Secondary School, North Sikkim, Sikkim

Her father is a farmer and mother is a nursery teacher. Other members of her family are her grandmother, one brother and three sisters. "I want to become a teacher when I grow up. My role model is my teacher, Sirjana, who always says kind words and speaks very well," says Nim, who likes to play badminton.

Pass code based locking system in gas stove

Nim Lhamu Lepcha, class 10, Gor Secondary School
North Sikkim, Sikkim

Children and gas stove
knobs are never a good
combination, especially when
children play with stove knobs



Nim suggests a manual or digital pass code system to switch gas stoves on, thus preventing mishaps involving children.

Six years ago, Nim's house was burned down due to an accident involving cooking gas. The family shifted to another house but Nim kept thinking about the accident and the dangers of children playing with stove knobs.

"I was very young when my house was burnt down but I wanted to prevent others from going through the same experience," says Nim, who likes to help her mother in the kitchen and around the house when she is not studying.



There is only one
ingredient for innovation
and that is the power of
the human mind

- Shri N R Narayana Murthy



**Hadasha Rongmei, class 10,
Lorna's School, Dimapur, Nagaland**

Hadasha is the youngest among four daughters in her family. Her father is in the Indian Army. "My mother is my biggest inspiration," says Hadasha who is pursuing her intermediate course in Don Bosco HS School at present. She belongs to the Rongmei tribe in the state of Nagaland, which is renowned for its multicultural, multilingual and equally diver-

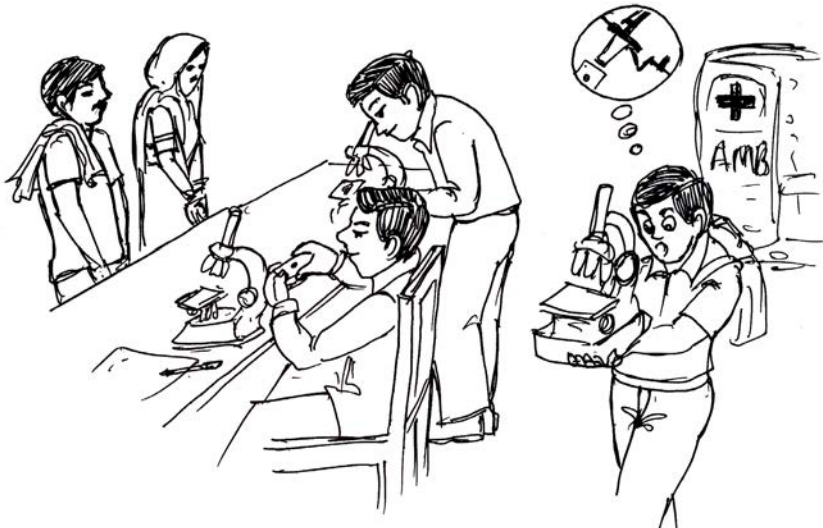
sified unique landscape, which makes it unique.

Hadasha spends about four to six hours in a day on her studies and aspires to become a lawyer. In her free time, she likes to listen to soft music and sing.

Spectacle microscope

Hadasha Rongmei, class 10, Lorna's School, Dimapur,
Nagaland

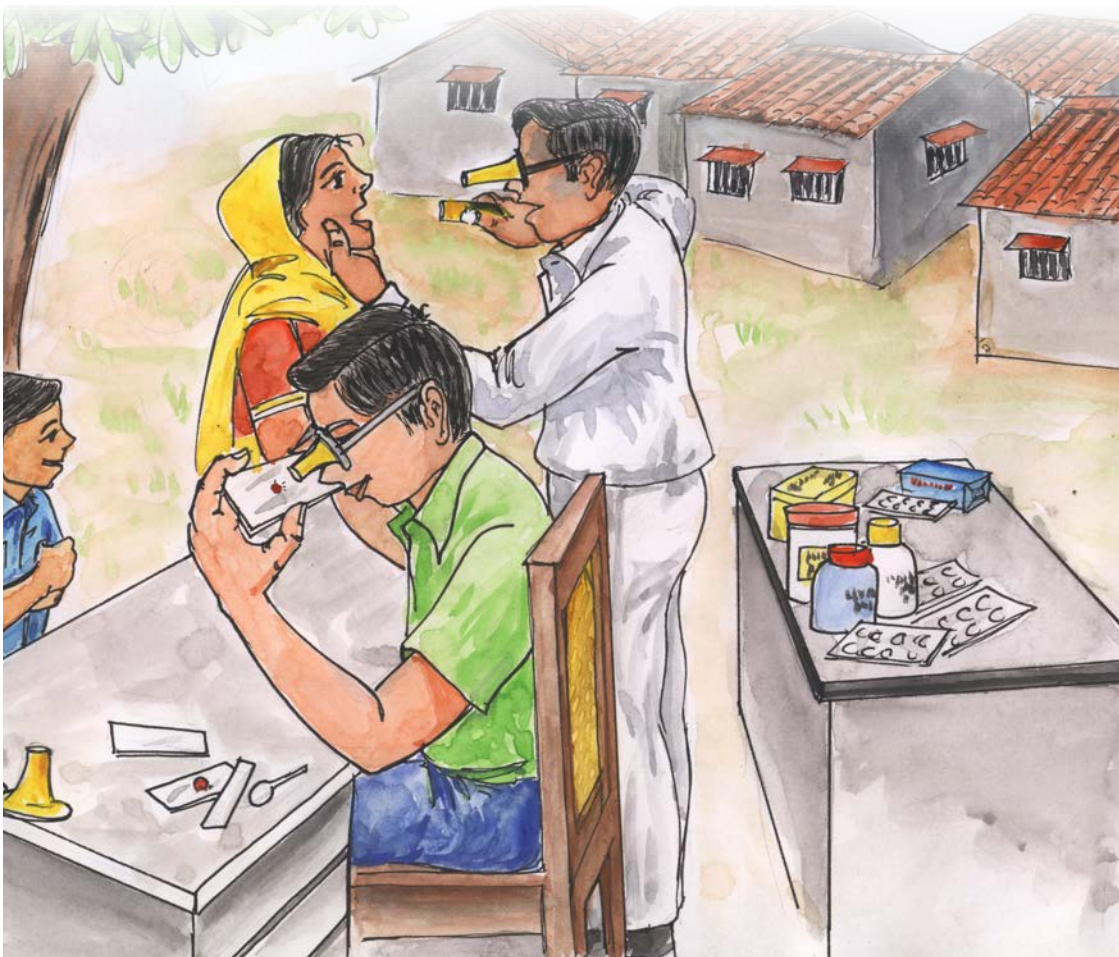
Microscopes are bulky
instrument that are
difficult to carry along



Hadasha has given an idea about a mini microscope that can be worn like a spectacle, which makes it light and portable.

While thinking about how to make life simpler, Hadasha came up with the idea of wearing a microscope as a spectacle. She watches a lot of science fiction movies, which motivated her to work on her idea.

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Instead of addressing
sickness we should turn
our focus on wellness

- Shri Narendra Modi,
the Hon'ble Prime Minister



Mohammad Tawseef Thokar,
class 10, Govt. Higher Secondary School, Kulgam, Jammu and Kashmir

Tawseef, who is 16-years-old, had to undergo 15 surgeries since an accident that badly injured his leg in 2011. He has not been able to attend school regularly because of his surgeries and had to skip the academic session this year because of one last surgery. "I miss going to school but my friends from school come home and cheer me

up. My favourite sport is cricket and I used to love bowling in a match. I also play chess and carom," says the spirited Tawseef, who wants to become a software engineer when he grows up. Tawseef's father does agriculture work while his mother is a homemaker. He has two brothers, one elder and one younger to him.

Pebble indicating system for cooking vessel

Mohammad Tawseef Thokar, class 10, Govt. Higher Secondary School, Kulgam, Jammu and Kashmir

Many times, pebbles and other impure particles get cooked with rice and other food grains in spite of being washed



Tawseef has suggested a vessel with sensors, which can indicate the presence of pebbles or similar impurities in rice or other food grains being cooked.

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“This rice cooker-like vessel can be especially helpful for students who stay away from home and have to do their own cooking. The sensors will alert if there are pebbles or insects in the food, as soon as they are heated so that they can be washed immediately,” says Tawseef, whose idea was inspired when he saw his mother complain about impurities in cooked rice.



Children invent,
engineers fabricate,
companies commercialise
- inverted model of
innovation

- Honey Bee Network



Nilesh Raj, class 9, DAV Inter High School, Patna, Bihar

Nilesh's hobbies include playing football. "I belong to a financially weak family but I am focused on studying well so that I can grow up and serve the country," says Nilesh, who is inspired by the life of Dr APJ Abdul Kalam.

Nilesh was not a bright student earlier. Recalling an incident that motivated him to study harder, Nilesh says, "Once my friends and I bunked school and went for a movie. Later when my father came to know about this, he was very angry. That day onwards, I decided that I will focus on my studies and stopped wasting time. Today, my parents are very proud of me for having won this award," says Nilesh.

Gas lighter with gas leak alarm

Nilesh Raj, class 9, DAV Inter High School
Patna, Bihar

Gas leakage, poor
handling of cooking gas
appliances are known to
cause horrific mishaps



Nilesh's idea is of a gas lighter, which can sense and indicate gas leakage before it is lighted, thereby preventing accidents. According to the idea, if there is a gas leakage, the lighter would not switch on and give out a siren, instead.

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The idea occurred to Nilesh when he got news of a neighbour being badly burnt due to cooking gas leak. "That is when I thought of a lighter, which would not light up if there is a gas leak and thus prevent accidents," says Nilesh, who wants to be a mechanical engineer and create useful, innovative products.



Learning gives creativity
Creativity leads to thinking
Thinking provides knowledge
Knowledge makes you great

- Dr. APJ Abdul Kalam



Prem Ranjan Singh, class 9, Divya Jyoti English Higher Secondary School, Daman, Daman & Diu

Prem has a dream of taking India to newer heights. "My interest is to read books, play cricket and badminton and practice karate. I also like to watch wrestling on television," says Prem, whose father works with a plastic manufacturing company while his mother is a homemaker. He has a

younger sister.

In his free time, Ankush likes to solve quizzes in Maths and Physics. He also likes to read books and play cricket, volleyball and other outdoor games.



Shivani Singh, class 9, Divya Jyoti English Higher Secondary School, Daman, Daman & Diu

"I want to become a teacher so that I can help the future generation understand and differentiate the right from the wrong. I will also work at getting more respect for women," says Shivani, who likes to learn new things like riding a bike or playing chess.

Her father is a welding technician and mother is a homemaker. She has a younger brother.



Ankush Pal, class 9, Divya Jyoti English Higher Secondary School, Daman, Daman & Diu

"I want to become a doctor because I want to help the poor with free medicine and treatment," says Ankush, whose father works in a steel company. His mother does sewing work at a company and he has an elder brother.

Innovative dustbin

90

Prem Ranjan Singh, Shivani Singh, Ankush Pal, class 9,
Divya Jyoti English Higher Secondary School, Daman,
Daman & Diu

Overflowing garbage bins and
delay in picking up garbage by
the municipal corporation



This concern led them to an idea of a dustbin with separate slots for bio-degradable and non bio-degradable waste with a message sending facility to the municipality once dustbin is filled up to a preset level.

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While walking on the streets, Shivani used to see overflowing dustbins, with waste scattered all around them. She thought of creating a dustbin with separate, yet attached slots, for different types of waste. She pitched this idea to her friends, Prem and Ankush, who too, had witnessed the same plight of dustbins many times.

The three students began work on their innovative dustbin project and divided work on the idea among them. While Shivani worked on the basic idea of a dustbin, Ankush worked on the segregation part. Prem worked on the decomposition process.



If technology is like
words, institutions are like
grammar and culture is
like thesaurus

- Prof. Anil K Gupta



**Dipti Manjari Dakua class 10,
Bahadjhole Girls, High School,
Nayagrah, Odisha**

Dipti's father is physically challenged and runs a small hotel in their village. Her mother is a homemaker and Dipti has an elder brother, who is studying.

"I want to be a banker when I grow up so that I can help my family with my income. As we are very poor, I focus only on my studies, rather than playing or keeping hobbies," says

Dipti. She has a habit of keeping newspaper cuttings on new machines and innovations.

When Dipti showed her working model to her parents, they were very happy and proud. "I believe that in spite of all odds, we should march forward. My friends and other people around us are giving us a lot of appreciation because of my innovation," says Dipti.

Seed container that indicates growth of germs

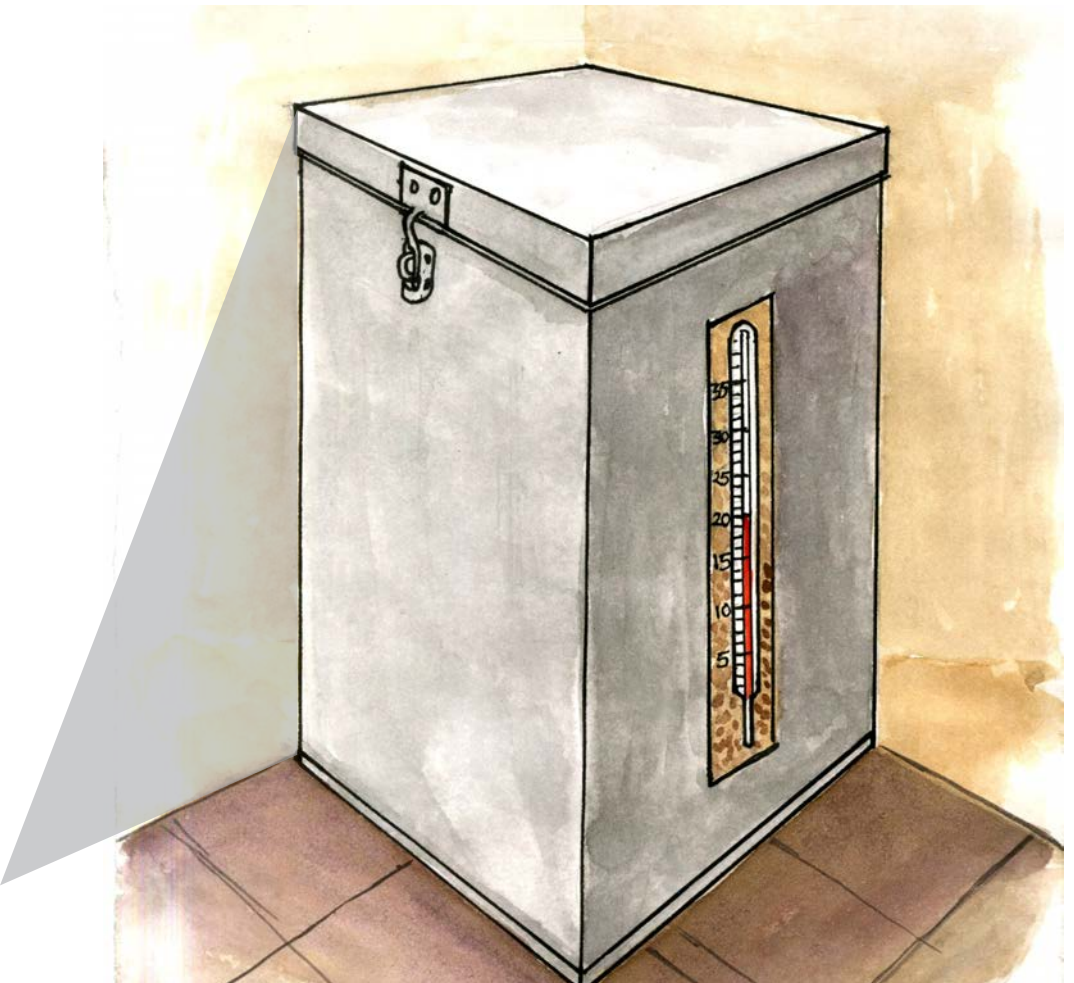
Dipti Manjari Dakua, class 10, Bahadjhole Girls,
High School, Nayagarh, Odisha

Whenever Dipti's mother
stored food grains, pests,
insects and micro-organisms
used to attack the grains,
damaging them



“We would not know if the stored grains got affected by pests. To solve this problem, I thought I should find a way to determine growth of germs in the stored grains. Then, I decided to study the activities of the germs through an increase in temperature inside the bin. Metabolism produces heat. This insight helped me to develop the idea of a seed container, which can detect the decrease in temperature of the container, thereby indicating the growth of organisms inside it, and thus, alert the user,” says Dipti.

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Golden triangle for
rewarding creativity :
Triangle of innovation,
investment and
entrepreneurship

- Honey Bee Network



Tarna Joy, class 2, Puran Dalapati School, Dalapatipara, Dhalai district, Tripura

Tarna likes to read, draw, play football and other local games in his free time. His father is a farmer and mother is a homemaker. Tarna has three sisters and four brothers.

An umbrella you can share

Tarna Joy, class 2, Puran Dalapati School, Dalapatipara,
Dhalai district, Tripura

Whenever it rained, Tarna
and his schoolmates shared
a conventional umbrella and
used to get drenched by the
time they reached school



Most students who share the conventional umbrella, while walking to school, get fully drenched by the time they reach school. Eleven-year-old Tarna has given the idea of a large umbrella, which could be held by two children from two sides under which other children can stand and go to school together without getting drenched.

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A nation's ability to
convert knowledge into
wealth and social goal
through the process of
innovation will determine
its future

- Dr. R A Mashelkar



Simran Chadha, class 8, BCM Arya Model Senior School Ludhiana, Punjab

She lives in Ludhiana with her two siblings, mother, who is a homemaker and father who runs a business.

A class monitor, Simran likes to study books on general knowledge the most. Her hobbies include playing badminton, singing and painting. "I want to become a scientist as I have a deep interest in science and technology," says Simran.

Park benches that can flip

Simran Chadha, class 8, BCM Arya Model Senior School
Ludhiana, Punjab

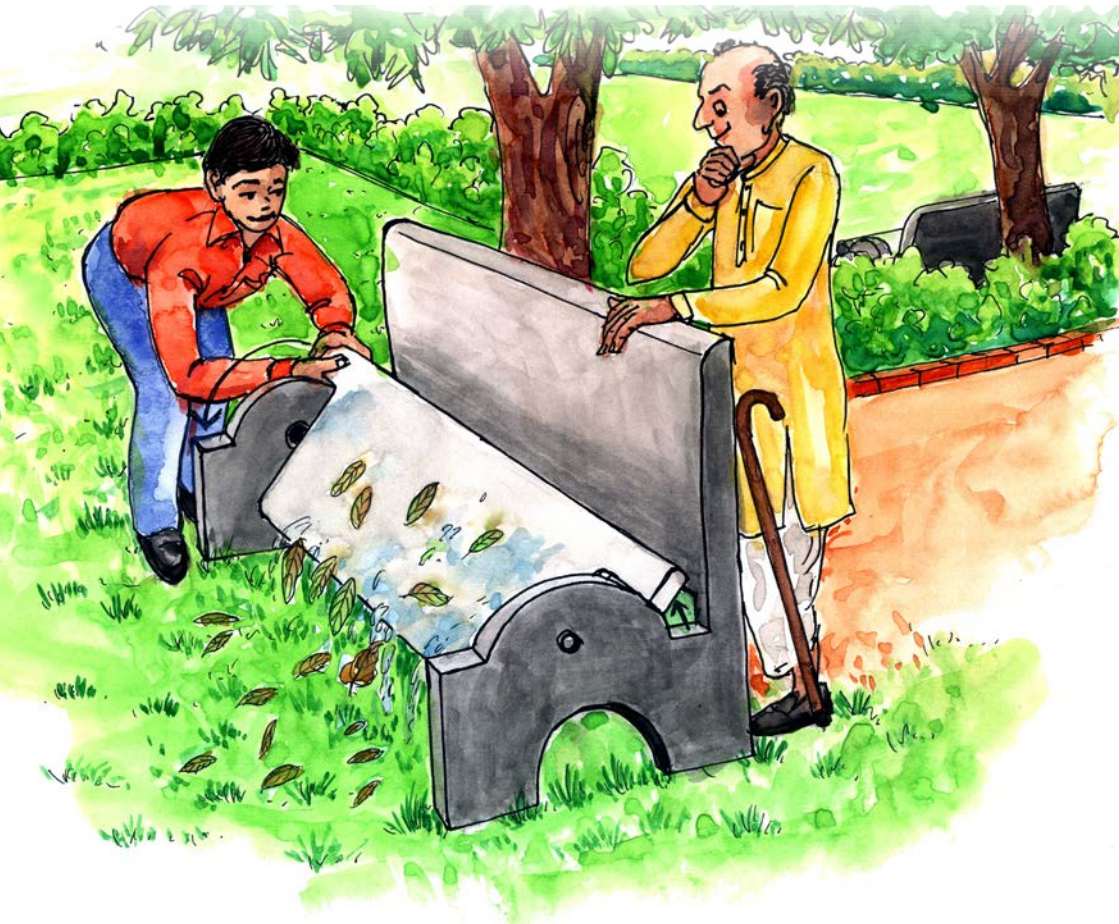
When benches on the streets
and parks get drenched
and dirty in rain, people
are unable to use them
temporarily



Simran's idea is to have reversible benches, which can be flipped using a handle so that the other side comes up.

"One day, when I was at the park, I saw that all the benches were wet because of rain. There was no place to sit. This made me think that if we had the option to rotate benches, we could overcome this problem," says Simran.

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Our higher academic
institutions have to
provide a platform where
grassroots innovations can
be mentored and moulded

- Shri Pranab Mukherjee,
the Hon'ble President



Subash Chandra Bose, class 8, St. Sebasthiyar Matriculation School, Pudukkottai, Tamil Nadu

“I want to become a scientist in the field of nature and agriculture and preserve organic farming. I would like everyone to understand the importance of nature and agriculture,” says Subash, who likes farming and reading about agriculture. He also writes poems and takes a keen interest in spreading social awareness about nature.

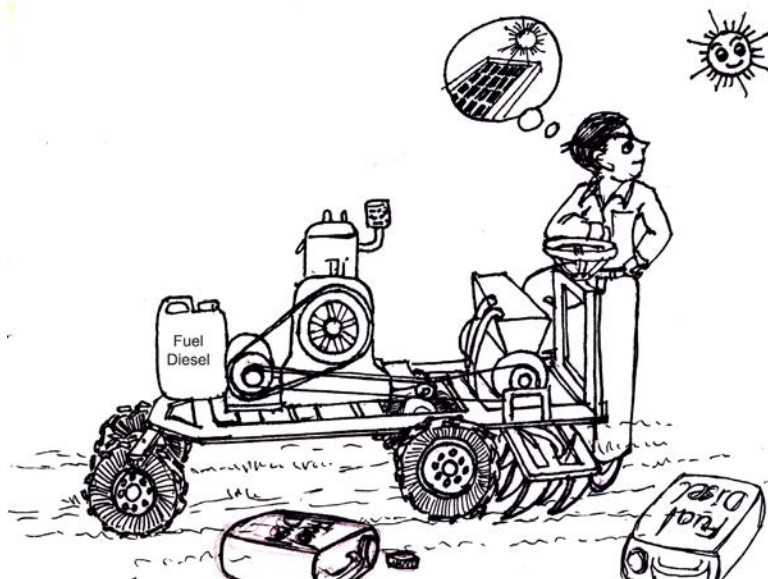
His inspiration for organic farming is Dr Sultan Ahmed— a vermi-compost specialist and Dr APJ Abdul Kalam.

Solar seeder

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Subash Chandra Bose, class 8, St. Sebasthiyar Matriculation School, Pudukkottai, Tamil Nadu

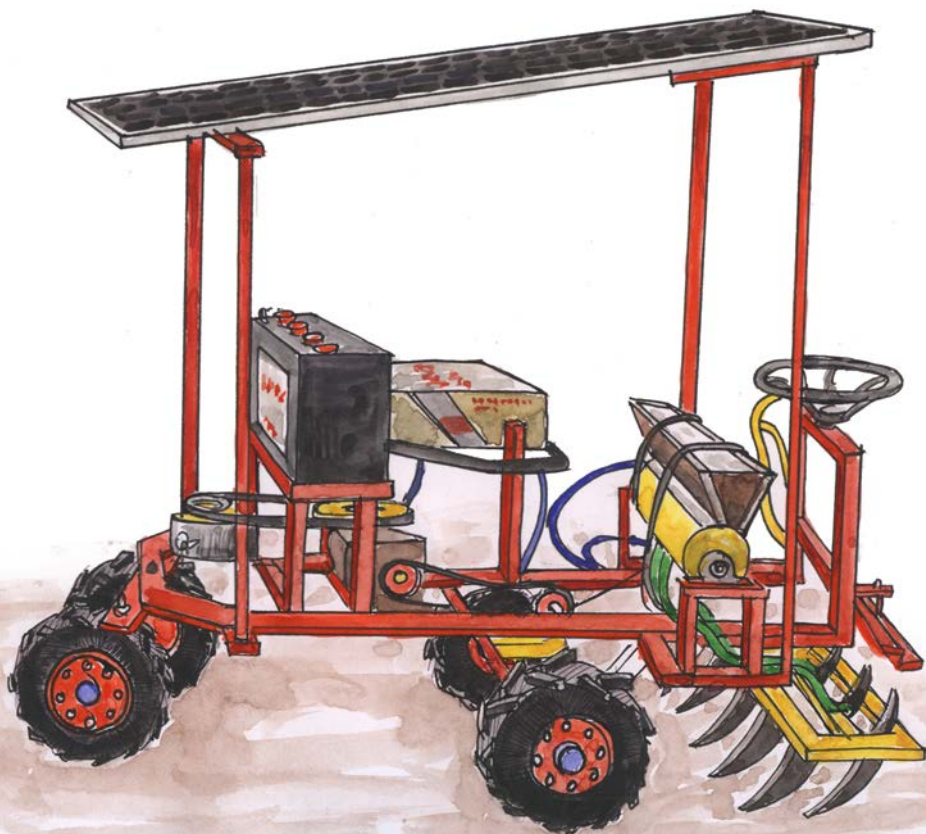
Among other challenges in
agriculture, labour
availability for ploughing,
sowing seeds and harvesting
is a major issue



Subash has developed a solar powered seed drill, which can work for different size of seeds at variable depth and space between two seeds while planting.

Born into a farming family, Subash understands the challenges faced by farmers. "One day, while I was sowing seeds, I imagined an eco-friendly seed drill, which can address the issue of labour shortage," says Subash.

The machine has a seeding unit, which has a hopper filled with seeds. There is a wooden roller on which holes are drilled. When the seeds fall from the unit in to the wooden roller, it will transfer the seeds to connected hose and transfer them to the ground.



I-ways or information
ways are as important
as highways. Progress is
incomplete without I-ways

- Shri Narendra Modi,
the Hon'ble Prime Minister



Pradyumna Pal, class 9, Saraswati Shishu Vidya Mandir, Bhubaneswar, Odisha

It is the kindness of the people around him that makes Pradyumna pass it on to the people he meets, through his innovations. "I find that people around me are always helpful. Once, when my bicycle was damaged, my friends got it repaired and even paid the bill. I am grateful to have such people around me and it keeps me motivated to do good things for others," says Pradyumna, who is the son of a driver.

Pradyumna likes to play football and keeps himself updated with daily news through newspapers. He is a vegetarian and is particularly fond of dairy products. He aspires to become a doctor when he grows up.



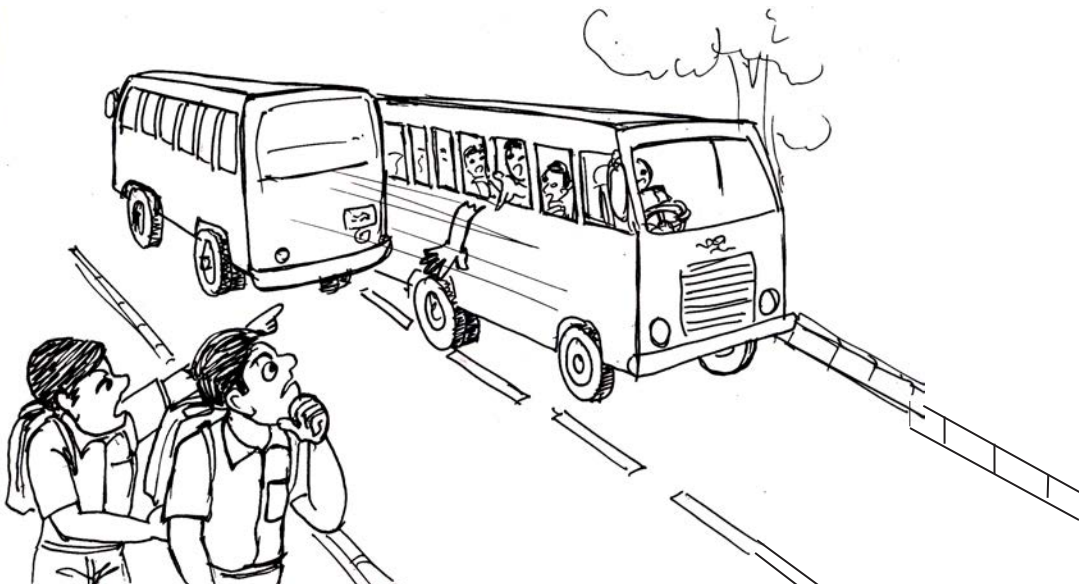
Rahul Kumar, class 9, Rajkiya Balak Uchh Madhyamik Vidyalaya, Patna, Bihar

Fascinated by how machines work, Rahul aspires to become a mechanical engineer when he grows up. "I keep thinking about ideas that are likely to help people in some way or the other. My hobby is to keep innovating," says Rahul, whose father is a vegetable vendor.

Alerting system for bus drivers

Pradyumna Pal, class 9, Saraswati Shishu Vidya Mandir,
Bhubaneswar, Odisha | Rahul Kumar, class 9, Rajkiya
Balak Uchh Madhyarnik Vidyalaya, Patna, Bihar

Accidents occur when
a passenger extends
his body outside the
bus window



Pradyumna and Rahul have independently conceived an idea of an alerting system for the bus driver, which enables him to know which passenger has put his hand or head outside the bus window.

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Pained by the number of accidents due to children putting their heads or hands outside the window of moving vehicles, Pradyumna and Rahul have suggested a solution. Their idea is to send a signal to the bus driver as soon as a passenger puts their hand or head outside the window, so that the ignition does not start and accidents may be avoided.



Great dreams of great
dreamers are always
transcended

- Dr APJ ABdul Kalam



Ram Akash, class 11, Excel Central School, Kanyakumari, Tamil Nadu

Ram likes to stay updated about the latest gadgets, watch movies and wrestling on television and play video games. "I am very motivated and would like to continue striving and achieving in my life," says the young innovator.



Nimisha Katyayan, class 12, DAV Kapil Dev Public School, Ranchi, Jharkhand

"My grandmother is no more but she would have been so happy and proud of my innovation and my achievement," says Nimisha, whose brother inspires her the most. Her father is the personal secretary of a Member of Parliament while her mother is a homemaker.

Nimisha aspires to become a civil servant when she grows up. "Becoming a civil servant would serve as an ideal platform for me to serve the nation," she says. Chemistry is her favourite subject and in her free time, she likes to dance, read and listen to music.

Her approach to life is based on Albert Einstein's quote, "Imagination is more important than knowledge".

Drawbridge door for trains

Ram Akash, class 11, Excel Central School
Kanyakumari, Tamil Nadu | Nimisha Katyayan, class 12,
DAV Kapil Dev Public School, Ranchi, Jharkhand

In India, the railway station platforms are much lower in height than the train bogie's stairs, making it uncomfortable for the elderly, children and the disabled to board the train with their luggage



Students Ram and Nimisha have suggested the idea of a drawbridge door for trains. The students have suggested that the drawbridge door, when opened onto the railway platforms, act like a ramp, making it easy for passengers to walk aboard the train with their luggage.

Ram Akash, who is from Kanyakumari, travels a lot by train, including the metro and local trains. During these journeys, he not only saw the difficulty that people faced while boarding the train but also observed that some passengers used to sit or stand on the steps of the moving train, which is quite dangerous. "This made me think of a drawbridge door that opened only at stations, thus making it safer," says Ram.

Last year, Nimisha was travelling by train with her grandmother, who had a lot of difficulty boarding the train due to her old age. This situation inspired Nimisha to think of a drawbridge door, that would open like a ramp on stations and make travel by train easier for the elderly.



WHen you exchange an
apple with your friend,
both of you can have only
one apple. But when you
exchange your ideas both
will have two ideas

- Genabhai Patel



Aravind Gopalakrishnan, class 12, Smt. Narbada Devi J. Agarwal Vivekananda Vidyalaya Jr College, Chennai, Tamil Nadu

He wants to become an automobile engineer and has won prizes for science projects, paper presentations and debate contests. His school magazine has carried many of his articles.

Aravind's hobbies include photography, writing poems and exploring new places. "My mother, who

is a teacher, is my role model. I really admire how easily she makes many friends wherever she goes," says Aravind, whose other family members are his grandparents, his father, who is an insurance agent and an elder brother who is studying engineering.

Printed paper reclaiming machine

Aravind Gopalakrishnan, class 12, Smt. Narbada Devi J.
Agarwal Vivekananda Vidyalaya Jr College, Chennai, Ta-
mil Nadu

A lot of printed papers get
wasted in offices as they
cannot be re-used for print



Aravind suggests a printer-like device, which can erase all data on a printed page fed to it, thus making it plain, and hence reusable.

One day, Aravind was trying to take print-outs from the machine in his computer lab. But the heating coil of the machine was not functional, because of which the printed toner particles did not stick to the paper. The paper came out so blank, that it could be reused.

This led Aravind to the idea of a machine, which could erase prints from a paper and make it reusable.

“Tons of papers are sent to the trash, every day, in offices, banks and schools. I thought that it would be better if a paper can be used again and again. And then I thought, why just the paper? Even the toner particles peeled off from the paper can be dissolved in some solvent and reused! If this idea is implemented, we can save many trees, reduce garbage, protect the environment and also save money,” says Aravind, who is passionate about designing a super-car for India.



Jugaad mindset can never
let a society come out of
the morass of mediocrity

- Prof Anil K Gupta



Adi Kumar, class 5, Deens Academy, Bengaluru Karnataka

He wants to become a scientist like his idols Dr APJ Abdul Kalam and Albert Einstein. He is a part of his school's soccer team and likes to read books on science and nature. The latest hobby that he has picked up is to learn photography.

"The recognition I received for my innovation has encouraged me to think outside the box. I will work to-

wards finding more creative solutions to everyday problems," says Adi. His father is a software-engineer and mother is a homemaker. He has a younger sister.

Hand rest for fractured hand

Adi Kumar, class 5, Deens Academy,
Bengaluru, Karnataka

Using shoulder arm slings to provide support to a fractured hand for a long time sometimes create discomfort to the neck and/or shoulder region



Adi's idea is to have a waist worn appendage, which can provide support to a fractured hand instead of the sling. The fractured arm would be rested comfortably on the appendage and kept in position by straps.

The idea was born earlier this year, when Adi had to wear a cast and a sling to support a fractured hand. "Wearing the sling for about 16 hours a day along with all the weight of the cast on my left shoulder caused a lot of pain on my shoulder. This is when I thought of putting an appendage around the waist to make it a little comfortable and painless," says the 10-year-old.



IGNITE 2014

CYLINDRICAL SHAPED REFRIGERATOR WITH ROTATORY TRAYS

Sarthak Shukla, Ghaziabad, UP

The idea is to have cylindrical refrigerator with rotating trays which will be helpful in picking up the things placed at the backside of tray without disturbing the things placed in front of taking out the stuff from the refrigerator.

HYGIENIC CLOTH HANGER

K.B.S Suresh, Prakasam, Andhra Pradesh & Kota, Rajasthan

The idea is to have a hanger, which would release UV or any other anti-bacterial rays that will kill bacteria of the clothes keeping our clothes always fresh & germ free.

MICROPHONE THAT ADJUSTS THE VOLUME ACCORDING TO USER'S VOICE

Sharvari Tambat, Nashik, Maharashtra

The idea is to have a microphone which catches the sound waves produced by our voice and according to our loudness/pitch, it will adjust up/down the sound output automatically to a preset decibel level.

APP FOR MUTUAL CALLING INTIMATION

Jenish Shah, Surat, Gujarat

An application which sends message that "Do not call, I am calling back", when both receiver and caller try to call each other simultaneously and the number appears to be busy.

VOICE MODULATION SYSTEM

Rinku S Rajpal, Ahmedabad, Gujarat

A voice modulation system that can be fixed near our mouth and neck so that if we speak loudly beyond a certain level in anger or shout then it pinches our ears, bringing our voice back to the normal.

PROVISION OF FOURTH (BLUE) LIGHT TO REDUCE TRAFFIC JAMS

Adarsh Barnwal, Katihar, Bihar

The idea is that in addition to the three signals in the traffic light pole, there should be provision of fourth signal in blue colour. If this signal is on people would understand that the road ahead has a traffic jam and thus take alternate ways. This will also help not congesting the jam further.

HEIGHT ADJUSTABLE WASH BASIN

Akanksha Guha, Pauri Garhwal, Uttarakhand

The idea is to move the complete set up of wash basin vertically up and down so that persons of different heights or children can use it comfortably.

INCLINED INSTALLATION OF WATER TAPS AT SCHOOLS AND OTHER PUBLIC PLACES

Chhaya Thakor, Gandhinagar, Gujarat

The idea is to have taps fitted on an inclined pipe so that they are at different heights. This will enable people of different heights to drink water easily from tap at appropriate height.

MOBILE/LAPTOP CHARGING ADAPTER WITH INBUILT POWER PACK SYSTEM

Rohit Tiwari, Bokaro, Jharkhand, Abid Khurshid, Kulgam, J & K

The idea is that the charger/adapter may have an inbuilt battery so that it may also get charged while charging the devices.

AUTOMATIC RAILINGS AT RAILWAY PLATFORM EDGE

Ram Nikash, Kanyakumari, Tamil Nadu

The idea is to have automatic railings at the edge of railway platforms so that people can be prevented from crossing the railway tracks and/or soiling them

MOVABLE SEAT FOR PHYSICALLY DISABLED IN CARS

Khushkumar Patel, Ahmedabad, Gujarat

The idea is to have movable seats in four-wheelers so that they can be rotated on their axis and pulled outside. Person can then sit on it easily, push the seat inside and rotate back to the normal position.

MODIFIED LIFE SAVING DEVICE FOR SWIMMING BEGINNERS

Yatharth Saxena, Samraddh Saxena, Pantnagar, Utrakhand,

The idea is to have a device, which can set off an alarm if the swimmer is under water after preset number of seconds, which is based on his/her breath retention capacity.

THE BIOFERTILIZER FROM COCKROACHES

Ananya Jain, Chandigarh

She has done an experiment wherein she has obtained better growth of potted plants where excreta of cockroaches was used as fertiliser.

FOOT OPERATED MANUAL PAGE TURNING MACHINE

Swapnanil Talukdar, Kamrup, Assam

This is a machine that can turn or flip the pages of book, the operation is controlled manually by foot and requires no power. It provides efficient solution to people who are unable to use hands to read book.

WRAPPER PICKER

Mukul Malviya, Diptanshu Malviya, Sirohi, Rajasthan

It is a motor operated device with brushes/ combs at the base, which helps picking up wrappers from the ground and collecting them in a bin

DETACHABLE DEVICE FOR THE BICYCLE ENABLING USER TO RIDE WITH ONE LEG

Shubh Dholakiya, Rajkot, Gujarat

One pedal is replaced by a clamp attached to a piston rod assembly. The rider has to only move half the rotation of the pedal, the rest half is rotated automatically due to the attached piston where a spring gets coiled during the first rotation.

PORTABLE WI-FI STICK WITH RECHARGEABLE BATTERIES

Hrishit Shah, Vadodara, Gujarat

The idea is to have small rechargeable batteries in wi fi dongle so that they can be used anywhere easily.

ADVANCE WIND TURBINE

Vidit Laad, Indore, Madhya Pradesh

It is a multi-directional windmill, which has a wind concentrator to create high wind speed.

MODIFICATION IN SHOE TO ALLEVIATE KNEE PAIN

Shaik Muzammil Pasha, Hyderabad, Telangana

A new kind and improved version of shoe with negative heel (by lowering down the region of the sole where heel is placed) to move the gravity line on the strong muscles behind the knee cap from the patella, which is the primary cause of knee pain.

IMPROVED BATTERIES WITH FAST CHARGING

Yash, Kolkata, West Bengal

He has experimented and developed batteries , which can be easily charged at a much faster rate than the conventional ones. He claims to have achieved this using 2D graphene.

ADVANCE HELMET FOR MINE WORKERS

Preyansh Kotecha, Karan khatri, Vadodara, Gujarat

The students suggest a helmet for mine workers, using which their location inside the mine can be identified. The same can also be used for communication purpose if required.

ALL IN ONE STAPLER (FOR ALL SIZE OF PINS)

G. Vasanth, D.Keerthivasan, Thiruvavur, Tamil Nadu

The idea is to have a stapler where pins of all sizes can be used and one does not need to change the stapler for pinning paper stack of different thickness.

IGNITE 2013

PUNCTURING MECHANISM FOR WATER BOTTLES

Shibajyoti Choudhury, Rajashree Choudhary, Jabalpur, Madhya Pradesh
A stay-tab like mechanism, like the one in juice cans, at the bottom of water bottle to puncture it. This will make the bottle unusable and prevent refilling/ misuse.

POSTURE CORRECTING CHAIR

Kulsoom Rizavi, Lucknow, Uttar Pradesh Tarun Anand, Ghaziabad, Uttar Pradesh

A chair with sensors at appropriate places, which alert if the user sits in a bad posture. Now your chair will only allow you to sit properly on it!

AIR CONDITIONING SYSTEM IN SCOOTER/ MOTORCYCLE

Masira bi Hanif Patel, Jalgaon, Maharashtra

A small modified AC connected to engine, which provides cool air circulated through tubes woven into a wearable jacket. Beat the summer heat while travelling on your two- wheeler using this cool AC jacket.

MODIFIED HAND-CART WITH STEERING MECHANISM AND BRAKES

Md. Usman Hanif Patel, Jalgaon, Maharashtra, Nidhi Kumari Gupta, Muzaffarpur, Bihar, Pavithra R, Erode, Tamil Nadu, Vidya Ramesh, Bangalore, Karnataka

Incorporating easy steering mechanism and brakes to make turning hand-carts easy and arrest slide on inclines respectively.

DEVICE TO INDICATE SUDDEN FALL OR ONSET OF CONVULSIONS/ SEIZURES

Soumya Ranjan Behera, Jagatisinghpur, Orissa

A wearable device that alerts if user falls suddenly; useful for old people, and those suffering from fits, convulsions, seizures etc. This will help keep an electronic eye (if integrated with mobile) on your loved ones and find out if they are okay or not.

AUTOMATIC SPIKE SYSTEM NEAR TRAFFIC SIGNAL

S. Siva Mahima, New Delhi and Shameet Badarla, Hyderabad, Andhra Pradesh

Retractable spikes before the zebra crossing that come out when the traffic signal is red to prevent signal jumping by vehicles. Now wait till the traffic light gets green or risk getting your vehicle tyre punctured.

SENSOR TO CORRECT BODY POSTURE/ REGULATE VIEWING DISTANCE

Sunvi Agarwal, Chandigarh

Light/touch sensors integrated in a seat. When user bends forward or moves to take an alternative posture, the sensors detects the motion and puts the TV on standby.

INDICATOR FOR 'DEAD' LANDLINE PHONES

Nidhi Gupta, Ahmedabad, Gujarat

Light/ sound alert that informs user when the phone gets 'dead' so that something could be done quickly without missing important calls.

MULTICOLOR HEADPHONE WIRES

Swetleena Zenith, Allahabad, Uttar Pradesh

The cords/wires of the headphone may be of different colors so that untangling them becomes easy. A simple solution to an everyday problem faced by many of us.

MOBILE PHONE WITH INBUILT CHARGER

Siddharthan and Karan, Vellore, Tamil Nadu

A charger pin unit built in a mobile, which can be plugged in directly or through thin extendable wires. Hence, one now does not need to remember carrying the charger and also need not worry about freak accidents cause due to talking while charging.

A TORCH WITH AN ADDITIONAL BULB

Md. Alisher, Begusarai, Bihar

Having another bulb below the main bulb so that light is available near the feet of user and for people following the user. A simple and practical idea!

HILLY TERRAIN CART

Vidya Ramesh, Bangalore, Karnataka

Three equidistant wheels on a single axle attached to two similar sets in different planes, allowing flexibility in movement with respect to each other. A compassionate idea aimed to alleviate the suffering of mountain dwellers.

PEN TO CHECK CONCENTRATION

Rudra Prasad Goswami, Ranchi, Jharkhand

A pen with pressure sensors on the grip to indicate loss of concentration when the grip loosens. Your pen will now tell everyone if you are attentive or not!

ELECTRONIC PURSE WITH PAIRED WATCH

Phamnya Konyak, Mon, Nagaland

Password protected purse and an electronically paired watch, which alerts if user gets away or someone steals the purse. Now you cannot forget your purse and no one can run away with it.

REDUCTION OF AC ENERGY WASTAGE THROUGH CLAMP METER

Aman, Mihiraan, Udai, Varun, Gurgaon, Haryana

Clamp meter connected to an AC monitors the current flow and indicates usage (range) through green, orange and red colour codes.

REMINDING THE OWNER IF KEYS ARE FORGOTTEN IN THE VEHICLE

Chandramouly K Kandachar, Bangalore, Karnataka

A system in vehicle, which intimates the driver through a phone call if the keys have been forgotten in the vehicle; prevents cases of theft."

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OXYGEN/ CARBON DIOXIDE LEVEL INDICATORS IN CAR

S R Valava, Kalpakam, Tamil Nadu, Pratyush Kumar Sahoo and Bikash Kumar Mallick, Khurda, Odisha

System to detect levels of oxygen/ carbon dioxide and open windows when oxygen level drops or carbon dioxide level rises, thereby preventing accidental deaths of children or pets locked inside the car.

STEP-LOCK SYSTEM IN BUS

R Santhosh, J Rajasekar, A Nivashini, K Rathna, Thiruvapur Tamil Nadu

Mechanism which would not allow the bus to move if people are standing on its stairs, thereby preventing accidents.

WHEEL CHAIR CONVERTIBLE TO CRUTCHES

S Ramakishore, Sanjay Srinivas, Tamil Selvan, Chennai, Tamil Nadu

The idea is to have a modified wheelchair that can be folded and converted into a crutch so that it is easy to take stairs as well for the user

LOW COST BRAILLE PRINTER

Y Santosh Singh, Khushwant Rai, Jalandhar, Punjab

A dot matrix printer modified at a low cost to work as a Braille printer

NEW DESIGN OF SERVING TRAY

Alok Singh, Ghazipur, Uttar Pradesh

Serving tray with a release mechanism to put cup/ glass on the table along with a coaster without touching

ADJUSTABLE ELECTRICITY EXTENSION BOARD

Tenith Adithyaa, Virudhunaga, Tamil Nadu

Electricity extension board without plug points so that one can put any type of electric plugs wherever space is available.

AUTOMATIC BLADE SWINGING CEILING FAN FOR EASY CLEANING

Gautham Praveen A, Tirunelveli, Tamil Nadu and Shweta Sharma, Jalandhar, Punjab

Hand held rod with a clutch at the grip and a clasp at the further end to hold the bulb, making is easy for anyone to change the bulb without needing a chair or a ladder for it

DEVICE TO COOL DOWN ANGER

Shweta Sharma, Jalandhar, Punjab

A head worn device that cools down our nerves within a quick time after wearing

KEEPING STUDENTS FRESH WHILE READING

Mahirah Akhter and Morifat Wani, Kupwara, Jammu & Kashmir

An ink or a paper (for books), which emits certain radiations keeping reader fresh and fatigue free

IGNITE 2012

SPRAY-ON STAY-ON GLOVES AND SOCKS

Aditya Joshi, Pune, Maharashtra

The idea is based on a fast drying, resistant, non-abrasive, water proof liquid formula, which can be filled in spray can. When socks or gloves are required, liquid can be sprayed and left to dry. This can be peeled off later when not required.

SYSTEM TO PREVENT PEOPLE WITHOUT DRIVING LICENSE TO DRIVE A VEHICLE

Ravi Ranjan, Aditya Kumar, Varsha Kumari and Shiv Ranjan Kumar, Patna, Bihar, Durgesh Kumar, Begusarai, Bihar, Jyoti Dhillon, Rewari, Haryana, G Krishna Kumar, Thiruvai, Tamil Nadu

In vehicles a slot should be provided where the driver/rider may insert his/her Driving license. The system would not allow him/her to drive if the license is not present, is invalid or has expired.

HEADPHONES WITH SENSORS TO DETECT EXTERNAL SOUNDS

Lakshya Kaura, Naman Jain, Manav Mitra, Utkarsh Hora, Amrit Dang, New Delhi

These are headphones, which pick up any external sound like horn, alarms etc so that a person using them gets alert and is not totally oblivious to his/her surroundings.

DOOR BELL WITH USER CODE

Rajashree Choudhury, Jamshedpur, Jharkhand

It is difficult to identify the visitor as the door bell gives only one sound. A numeric pad may be provided where friends and family members are given a code. When the person presses the digits of the code (eg 1-2-3), the bell (through ring or any other means) will identify the visitor

PREVENTING MOBILE USAGE WHILE DRIVING

Rajashree Choudhury, Jamshedpur, Jharkhand

A device with a place for inserting a mobile, and it is fixed on the car dashboard or handle of a two-wheeler. The vehicle moves forward only if the mobile is inserted into this device. In other words, the driver can't talk on the phone while driving.

WIND OPERATED CEILING FAN

Md. Usman Hanif Patel, Jalgaon, Maharashtra

A fan on the roof directly attached to the ceiling fan through gears and shafts

HANDPUMP FOR FLOOD AFFECTED REGIONS

Kripesh Swain and Kumar Biswajeet, Bhubaneswar, Odisha

Generally in flood prone areas, wells and hand pumps become unusable as muddy water gushes. Kripesh and Biswajeet suggest a hand pump whose upper portion may rise with the increase in the level of flood water, thus ensuring that it remains usable.

MOVABLE ROAD DIVIDERS

S Charisma, Hyderabad, Andhra Pradesh and Siddhartha Pal, Dehradun, Uttarakhand

All of us may have observed that vehicular traffic load on either side of the divider at different times during the day (specially during peak hours) varies. They suggest having movable road dividers that can be shifted to the left or right depending upon the incoming traffic from a particular side, thereby easing congestion on roads.

“

ARTIFICIAL ASSISTANCE FOR BLIND PEOPLE

B Survesh, Chennai, Tamil Nadu

Sun glass with an inbuilt camera to capture images of people and places and tagging it through voice commands and storing everything in an in-built database. The same is retrieved when a person is face-to-face by image comparison, giving a sound in the headphones.

DUAL PURPOSE HELMET

G Jeevan Siddharth, Vellore, Tamil Nadu

A helmet with a cushion support on the top for labourers at construction site

DEVICE TO MONITOR MENTAL STRESS

Ankita Arora, Jalandhar, Punjab and Parmar Himanshu Jiteshbhai, Ahmedabad, Gujarat

Device to monitor mental stress in students and others

CHARGING MOBILE FROM MOBILE

Ravi Duhan, Sanjay Raghav, Manoj Kumar

Sometimes our mobile's battery gets discharged when we need to make an urgent call. In such a situation, it may be difficult to immediately get a charger or locate an electricity point for charging. But we could always find someone with a mobile phone. Ravi, Sanjay and Manoj suggest a handy device using which a mobile can directly be charged from another mobile.

RETRACTABLE TOILET POT WITH CLEANING SYSTEM

Shweta Verma, Jhansi, Uttar Pradesh

With increasing living space constraints, mechanisms are being evolved to optimally utilize whatever space is available, including washrooms. Shweta suggests a mechanism wherein the toilet pot can be enclosed in a closet like space and taken out whenever needed; with all the cleaning being undertaken inside automatically.

MODIFIED PAINTING BRUSH

Ektapreet Kaur, Jalandhar, Punjab

For painting, brushes of different sizes are needed. Ektapreet's brush would have a slider that will move to cover the bristles, thereby limiting their movement. The brush has alphabets in different sizes on it. When the slider moves over the brush, these alphabets are visible through an open slit, thus indicating the size selected.

MULTIPURPOSE TENT

Rishabh Gupta, Jammu, Jammu & Kashmir

Keeping minimal gear is important while camping. Accordingly, Rishabh proposes a multipurpose tent that can also turn into a raft. The tent has embedded solar panels to keep it warmly lit at night. In it so that the tent can be kept warm during the nights.

RICKSHAW WITH FOLDABLE STAIR

Mansi Priya, Ranchi, Jharkhand

The pedals are placed just below the passenger seat and connected to the back-wheel. The rickshaw puller retains control over the brakes so that safety is not compromised. A simple lever is attached to make this system optional. So, when the pedals are not in use, they work as a comfortable leg rest."

CHARGING MOBILE WHILE TALKING

Gautam Kumar, Patna, Bihar

A device to charge mobile while talking on the phone

“

MACHINE TO SUGGEST WHAT TO EAT AND HOW TO COOK IT

Sharvay Harish Tiwari, Pune, Maharashtra

In his machine, you simply select a particular vegetable, and the monitor displays a list of different ways it can be cooked along with the ingredients required and their quantity.

DEVICE TO RELOCATE CLOUDS

Shweta Sharma, Jalandhar, Punjab

A device that could help relocate clouds

GLOVE WITH IN-BUILT MOBILE PHONE

Rohan Jolly, Delhi, New Delhi

In the icy region, the mobile sometimes get covered with snow and water entered inside, damaging it. He thought of solving these problems by fixing the phone within the gloves, so you can talk comfortably while remaining warm.

SHIRT THAT WAKES YOU UP

Jatin Kumar Bhoi, Sundargarh, Odisha

A special shirt with a mechanism for making sure that the person wearing it remains awake. He also wants it to have buttons that can tell time.

PORTABLE SHIFTER & LIFTER

Rishab Gupta, Jammu, Jammu & Kashmir

A portable shifter to easily move heavy things. With this device, heavy items like furniture and refrigerators can be comfortably shifted by attaching a set of wheels to slide them from point to point.

IGNITE 2011

MANUAL BEDSHEET SQUEEZER

Dhavala, Udupi, Karnataka

A simple machine, which has one fixed arm and another one with a handle. The bed sheet or any such cloth is attached to the machine, and as the handle is rotated, the water gets squeezed out of the bed sheet.

“

DEVICE TO ASSIST LOW VISION PEOPLE

Jyoti Ranjan Sahu, Bhubaneswar, Odisha

His system makes use of a zoom camera and a LCD. The camera zooms in distant images, which get displayed on the LCD present in front of the eyes. This Camera and LCD arrangement is attached to a helmet worn by the person. This aids the low vision person in perception and motion.

RICE GRAIN SEPARATING/CLEANING MACHINE

Sajid Ansari, Ranchi, Jharkhand

This automatic electric machine separates broken rice grains and other physical impurities from unbroken rice grains.

POSTER WRITER PEN WITH ADJUSTABLE STROKE TIP

Rimjhim Baruah, Jorhat, Assam

A poster writing pen, using which one can easily write in different thick and thin strokes between a certain range (mm).

MODIFIED WALKER WITH ADJUSTABLE LEGS

Shalini Kumari, Patna, Bihar

Shalini came up with the idea of the modified walker with adjustable legs. She has also thought of including a folding seat so that the user can rest for a while when required and fitted a horn and a light to it as well.

EASY CAR COVER

SR Poobesh Gowtham, Krishnagiri, Tamil Nadu

A simple idea of using covers rolled inside a rectangular frame. The frame is simply put on top of the car and the covers pulled out and down on the sides and, front and back. They are held to position by gear locks. Open zips are used to join the ends of the cover as a single piece. After unzipping, gear locks are released, which makes the covers roll back into the frame.

FOLDABLE WATER BOTTLE & HOE CUM SPADE

Ishaq Ahmad Wani and Refaz Ahmad Wani, Anantanag, Jammu & Kashmir

They have thought about a foldable water bottle where the size of the bottle can be reduced by folding-in as per the quantity of water remaining in the bottle. Carriage then becomes easier! They have also developed a spade, the scoop of which can be rotated at the hinge to be converted into a hoe.

INNOVATIVE MEDICINE PACKING

Shweta Sharma and Jaskiran Goraya, Jalandhar, Punjab

Change of colour in medicine packing to indicate expiry, Putting a layer of liquid that disintegrates the covering membrane and soils the tablet after expiry time

MEDICINE BOX WITH REMINDER FACILITY, TAPS WITH DIFFERENT TIMER SETTINGS

Mohit Singh Sidhi, Madhya Pradesh

A timer and an alarm on the medicine box, which would alert him of the time to take his medicines.

SHOES WITH DEVICE TO CALCULATE TIME SPENT IN PHYSICAL ACTIVITY AND REGULATE TV VIEW- ING TIME ACCORDINGLY

Chhavi, Jalandhar, Punjab

Idea of making shoes communicate with the TV in such a way that it regulates and monitors TV watching time to match the amount of time that has been spent outside walking or playing.

STAPLER THAT INDICATES PIN ARE FINISHING

Ankita Nagarkar, Pune, Maharashtra

It helped in indicating that the pins were coming to an end. It saved on time, is easily adaptable and easy to use at no extra cost.

HEALTHY AIR MACHINE

G Brahadees, Kalpakkam, Tamil Nadu

A portable 'Healthy Air Machine', which can be carried around in the house. This is an energy efficient, cost effective multipurpose machine, which can be used for all the air related function like cooling, heating, purification, and has air curtain and spot cooling effect, which saves energy. Additionally, it can also used for air blowing, winnowing and vacuum cleaning for domestic, commercial, industrial and agricultural purpose.

SYSTEM TO INFORM COMPUTER VISION SYNDROME

Vignesh R, Chennai, Tamil Nadu

A system to detect Computer Vision Syndrome can detect the number of eye blinks per minute. It gives an alert to consult a doctor, if the number of blinks per minute gets reduced below a medically accepted limit.

FOLDABLE & PORTABLE MULTIPURPOSE DEVICE THAT CAN BE USED AS CHAIR, HAMMOCK, TABLE, STAIRS ETC

Pankit B Gami and Ekta Patel, Tapi, Gujarat

A multipurpose device, which can be used in a number of ways like table, chair, stairs, hammock, rocking chair, relaxing chair etc. This device can foldable and portable. You can even attach your stroller to it and carry both along wherever you go.

USE OF HELMET AS AN IGNITION TO START TWO WHEELERS

SM Arthi, Lailaa and Vinotha, Thiruvur, Tamil Nadu

It effectively means that until the rider has worn the helmet, the vehicle would not start.

STROLLERS WITH FOLDABLE LUGGAGE CARRIER AND OVER 115 OTHER IDEAS

Himanshu Verma, GB Nagar, Uttar Pradesh

Stroller can be modified so that other luggage may also be loaded. also, then it would first of all reduce the number of articles to be taken care of and secondly, will make it easier to move the luggage.

PIPE CLEANING DEVICE

Bhanwar Malviya, Sirohi, Rajasthan

A small robot like device with brushes and water outlet, which could negotiate the turns and help clean out the blockages. He also thought of putting a mini drill device at the front in case there were any stones or concrete that was blocking the pipes.

BHAMA AUTO DIAGNOSIS MACHINE

Akshay Shivdas, Ghaziabad, Uttar Pradesh

Machine works is like an ATM machine. The person has to stand in front of it and it asks you certain questions like a doctor would during a consultation and then runs the required tests. This way it can diagnose the problem the patient is suffering from and prescribe medication accordingly.

ANTI MOLESTATION DEVICE FOR WOMEN WORN ON WRIST

Manu Chopra, Delhi

This is a watch like device capable of monitoring pulse rate and nerve impulse. Any significant increase in both the parameters (due to an emergency especially when someone is trying to trouble) will activate electricity in the upper portion of the device. When the person trying to molest will catch hold of the wrist, he would get a shock that would give sufficient time to the girl to run away.

SYSTEM TO PREVENT DRUNKEN DRIVERS FROM DRIVING

Satyam Agarwal, Jhansi, Priya Rawat, Dehradun, R Lakshmi, Kalpakkam and Arpna verma, Jalau, Uttar Pradesh

System to ascertain alcohol level of the driver through palm contacts on the steering/handle grip. Sensing that the driver has consumed alcohol, the onboard system is going to ask the drive some questions. If the driver is not able to answer the questions correctly, then the system will prompt for the password. If still the driver does not manage to get it correct, the system will lock the ignition. Another idea to achieve this is to use an on-board breath analyser to find out alcohol content in the breath and accordingly jam the ignition, if detected range is beyond a certain limit.

JACKET THAT SENSES BODY TEMPERATURE, BLOOD PRESSURE AND ALERTS

Sheikh Sipai Farhinbanu Makbul Ahmad, Ahmedabad, Gujarat and
Amlan Anupam, Bhubaneswar, Odisha

A jacket that could monitor some basic physiological processes like temperature, blood pressure, heart beat etc and store all the parameters in a digital device like a mobile. This device then can be programmed to send an alert signal to a doctor/hospital if there is a marked deviation in the parametric readings from the normal.

IGNITE 2010

MECHANICAL PORTER

Masha Nazeem, Namakkal, Tamil Nadu

It is a jack like device, which can help people specially women, old and children to lift and move heavy objects from one place to other. This can be hand or foot operated

MULTIPLE PHYSIOTHERAPY DEVICES

Ashok Aasrani, Jaipur, Rajasthan

He has designed many simple and low cost exercising devices that help in rehabilitaion after accidents or for people with limb disorders

WASTE WATER MANAGEMENT IN URBAN AREAS

Parth Vaidya, Indore, Madhya Pradesh

Developed a system to process waste water both domestic and industrial so that it can be used for different purposes

COMPOSITE MATERIAL FROM WASTE PLASTIC

Hetal Vaishnav, Rajkot, Gujarat

She has processed plastic to obtain composite material which can be used to make different things like moulded furniture etc

READING ASSISTANT FOR THE BLIND/LOW VISION PEOPLE

Mayank Walia, Jalandhar, Punjab

A gadget that uses sensors on the fingers that scan text and braille and convert it into audio signals for the blind /visually challenged .

SOUND/NOISELESS HORN

Manibhushan Kumar, Dhanbad, Jharkhand

Each vehicle to have signal (may be IR) emitters and sensors. When horn is pressed by the driver in the following vehicle, signals are transmitted, which are picked up by the car in front and a beep is there in the dash-board along with a light signal.

TALKING WALL MOUNTED CALENDAR WITH REMINDER FACILITY

Shruti Tyagi, Jalandhar, Punjab

Electronic calendar, which has an in-built organiser and reminder facility so that one can never miss any event or an engagement.

PEN THAT CAN RECHARGE BATTERIES WHILE WRITING

Rahul K Singh, Ranchi, Jharkhand

The pressure on the tip of the pen while writing is being used to charge a small battery.

VIBRATOR BASED OVERTAKE ALARM, LIGHT SENSITIVE TV REMOTE, TRANSPORT VEHICLE WITH ROTATORY LUGGAGE CARRIER

Aditya Parashar, Hoshangabad, Madhya Pradesh

A microphone in the side view mirror to identify horn frequencies. When door window glass is closed and music is playing, it is difficult to hear the horn. The microphone will get activated when the glass is closed, it will send signals to a vibratory pad on the steering, which will let the driver

CRUTCH WITH SPRING SHOCK ABSORBER AND AUDIO/LIGHT ALARM

Archana Konwar, Dhemaj, Assam

The idea is to have a crutch with spring shock absorber for the comfort of the user and also an audio/light alarm to alert others

VACUUM CLEANER IN SHOE

T Chris Ananth, Thirunelveli, Tamil Nadu

Small sucking device and dust bag may be fitted inside the shoe so that when a person walks his shoe can collect dust. Similar device may be connected to a cycle so that when one cycles it can collect dust.

THE CYCL-0-CLEANER

Riya Kothari, Nimran Kang, Kaamya Sharma, Mehr S. Mehta, Delhi

A cycle with two cylindrical brooms attached to the back wheel. This rotates due to the gears that connect the rods. The brushes are close together so when they rotate the dust slips through and is pushed to the sides of the road, making the walk/drive way clean. This cycle may include an extra dust

TRICYCLE FOR VISUALLY CHALLENGED

Rashmi Maruvada, Kolkata, West Bengal

Tricycle with preprogrammed routes for the visually impaired .

EUPHORBIA CONTIFOLIA AS TERMITE / TIC RE-PELLING

Varsha Singh, Jalandhar, Punjab

Use of the mentioned plant to repel termites and ticks .

SYSTEM TO PREVENT PEOPLE FROM USING MOBILE PHONES WHILE DRIVING

Divyam Gupta, Bulandshaher, Uttar Pradesh

In order to prevent use of mobile phone while driving, he has suggested to place touch sensors on gear handle and steering. This means that both the hands need to be either on the steering or on steering or gear handle. When one will use mobile phone, he will drive using one hand

PROCESS OF REELING CUT OR PIERCED MUGA COCOONS TO OBTAIN CONTINUOUS FILAMENT

Kaushik Boruah , Golaghat, Assam

This process helps to obtain continuous filaments from the cut or pierced muga cocoons, which otherwise get wasted. .

IGNITE 2009

AUTOMATIC FOOD MAKING MACHINE

Abhishek Bhagat, Bhagalpur, Bihar

Kitchen King has 12 boxes containing different ingredients, with a display screen to select options to cook different items. The required quantity of each ingredient will be fed into the machine in the sequence one has pre planned to cook the desired dish

PRESSURE DETECTOR FOR WATER PIPELINES

Himala Joshi, Nainital, Uttarakhand

She has designed a pressure detector fitted in the pipeline. It rings an alarm immediately on sensing the flow of water; thus alerting people.

FLAMELESS SEAL MAKER

Masha Nazeem, Namakkal, Tamil Nadu

The Tradition way of covers or boxes is using lac heated at a very high temperature. It is a hazardous job. It has been so used in India since the Mughal Era. The flameless seal ker eliminates the use of fire to melt lac and also ensures uniform treatment or seal imprint. Just fill the device with lac, plug it into power supply and one can then control the flow of the lac with a piston. There is little chance of getting burns too.

LAVATORIES WITH AUTO WASHING PIPE

Sasmita Nayak, Kendujhar, Odisha

A toilet fitting connected to a door by a spring mechanism, splashes water on the floor and in the toilette when a person opens the door. This way, toilets in railway bogies can be kept clean with minimal water wastage

BREATHING SENSOR APPARATUS TO ASSIST PHYSICALLY CHALLENGED

Susant Patnaik, Bhubaneswar, Odisha

"This system consists of a circuit, which uses the changes in breathing patterns to select several options such as food, water etc. It thus enables paralyzed/physically challenged people articulate their wish and be self-reliant in routine activities. The technology has a range of applications

FIRE HOSE SUPPORTER

Abhishek Srikanth, East Core Campus, Singapore

The jet of water that shoots out of a hose is very strong and the reaction force on the fire-fighter is difficult for him to handle. Hence, a foldable stand could be developed which is connected to the fire-hose by a spring mechanism. The angle of the hose is also flexible. This enables less strain and ensures a steady spraying of water jet at desired targets.

PREVENTING CLOTHES FROM GETTING DRENCHED IN RAIN

Piyush Agarwal, Hazaribagh, Jharkhand

When it rains, a motor may get triggered by salt that absorbs atmospheric moisture/sensor. It would pull the rope inside on which clothes are hung. This may save housewives, an additional chore!

BODY HEAT AND PULSE TO CHARGE CELL PHONE

Sarojini Mahajan, New Delhi

A gadget can be developed to utilize the body heat or the stimulus of pulse to charge a cell phone. Interestingly, this idea was picked up by Stanford University faculty for exploring its feasibility for charging batteries of e-book

BUS WITH APPROACH ALERT SYSTEM

Pallavi Sharma, Jalandhar, Punjab

An idea about a high tech school bus, which can give alert signal as it approaches the bus stop. No one would miss any bus this way!! Are not children so busy nowadays at they don't have even a few minutes to waste.

INTEGRATING GAIT WITH SECURITY SYSTEMS IN MOBILES

Anurag Rathore, Jalandhar, Punjab

"The idea is to intergrate gait of person with mobile. As walking style differ from person to person, the software will be able to identify the signals based on the body movements while walking. If the mobile will sense a different movement once activated, it will lock itself and send a message about its location to a predefined number.

TRIANGULAR WHEELS

Yatharth Saxena, Pantnagar, Uttarakhand

This is an arrangement of three wheels on both the side of an axle. This may be used in carrying luggage strollers on the stairs.

RAIN WATER HARVESTING UMBRELLA WITH FILTER

Saihiel Bakshi, Delhi

Integrating funnels in an umbrella, Saihiel has made a model, which can harvest rain water. The water from the funnels is led into a filter and then collected in a bottle. This can then be used later .

AMBULANCES/FIRE BRIGADES WITH INTEGRATED GPS

Meenakshi Padhi, Angul, Odisha

In order to stay clear of traffic during emergencies, Meenakshi suggests that ambulances/fire brigades fitted with GPS are integrated with traffic system so that path is cleared for them by appropriate light witching. For instance, as the ambulance comes near a traffic junction, lights will turn green for it to pass

WATER CLOCK WITH A WATER ALARM!

Airam Khatoon, West Champaner

This is a simple idea about a water clock that sprays water after a pre-set time.

SYSTEM TO PROVIDE A MIRROR WITH EXTENDED VIEW WHILE OVER-TAKING A VEHICLE

Ujjwal Jain, Bangalore, Karnataka

This device mainly shifts the area of view along the axis of the mirror. This is done in order to extend the view behind the vehicle and also to enable the driver to view what is besides him

PUTTING TO USE WASTE WATER FROM RO SYSTEMS

Ramya Ahuja, New Delhi

It is suggested to use the waste water from RO system for different domestic purposes

TRAVEL BAGS WITH FOLDING SEATS

Nisha Chaube, Noida, Uttar Pradesh

Considering the problem commuters have to face while waiting for buses/trains at stations, Nisha has suggested incorporating light-weight folding seats in traveling bags so that the same can be used when needed.

APPARATUS TO INCREASE THE LIFE OF MOSQUITO COILS

Prakhar Parashar, Hoshangabad, Uttar Pradesh

This is a tested apparatus that increases the life of a mosquito coil considerably. Without apparatus five inches of the coil burns in one hour, while with apparatus only four inches burn in the same time. Thus 20 per cent extra life helps in controlling mosquitoes for that much time extra.

IGNITE 2008

DOUBLE DOOR DUSTBIN

Amnaya Sheel Khosla, Mrudang Mathur, Shreyas Kadaba, Abhiveer Arjun, New Delhi

The upper portion of the dustbin is just like normal dustbin where we put daily waste. The lower part has a drawbridge like system wherein a side can be lowered enabling a person to sweep dust directly into the dustbin

RAIN WATER HARVESTING UMBRELLA

Ojasvi Goel, New Delhi

It is an umbrella that protects from rain and at the same time collects water falling on the umbrella and makes it available for drinking by channeling it in a bottle

AUTOMATIC GARBAGE COLLECTION

Atulya Gupta , New Delhi

The empty wrappers of eatables should have a thin layer of magnetic material. Correspondingly the public dustbins should also have a similar magnetic material. These wrappers when thrown near the dustbins or even randomly flying in the air will get attracted to the bin

PORTABLE AND SAFE COOKER

Venkatesh Jindal, Viraj Nanda, Ashrant Kohli, New Delhi

It is a small, portable wooden cooker that weighs approximately a kilogram. It is aluminium foil covered and can be put over a flame for cooking.

IPL BUSINESS TWENTY20

Siddharth Somani, Ahmedabad, Gujarat

IPL Business Twenty20 is a board game for children of 6+ years of age. This game can be played by 2 to 4 players. This game teaches a child to, a) invest-to get higher returns (b) Strategize-to save the cost, in turn running the most profitable business. The game is designed using the concept of IPL Twenty20 Cricket matches

SINGLE PUSH PIZZA CUTTER, SIDE WINDOW WIPERS FOR CARS, AND MANY OTHER IDEAS

Vishan Deepak Popat, Vadodara, Gujarat

He has come up with a pizza cutter that can cut a pizza upto 20 inch in diameter into eight equal pieces. He also a lot of other ideas, He has conceived an idea about side window wipers for cars to enable people sitting to see the sides clearly also.

AUTOMATED TRAFFIC SIGNAL SYSTEM

Girish.S and Ashwin Nagarajan, Chennai, Tamil Nadu

The normal signal- The signal lights will be set by the traffic police to glow at fixed intervals. Our Modified Signal- Now, we have modified the same to auto set the timing interval based on the traffic volume .The principle behind this is to make use of the increased weights due to additional traffic triggering a sensor. In our schematic model we have made use of weights (instead of vehicles) to trigger the switches (instead of sensor in the road signal.)

LPG EXHAUSTING INDICATOR

Ullas Keshav, Poornesh A.S., Amogh M Hooli, Vignesh D Nernekar, A k - shay Tulasigeri

An electronic device that informs the user that the LPG in the gas cylinder is going to exhaust. When the weight of the cylinder decreases beyond a certain fixed weight, the signal gets activated.

AUTOMATIC GARBAGE DISPOSAL

Riya Misra and Seerat K Dhillon, New Delhi

A dustbin/garbage can that can take garbage till a particular weight, once the weight exceeds, the bin tilts and throws the garbage into the garbage bin outside.

ACCIDENT PREVENTER

Abhin Phillip, Palakkad, Kerala

Use of reflecting mirrors at turns to enable the vehicle approaching the turn to see vehicles coming from the other sides

LOAD CONTROLLING SYSTEM

Anubhav Haldiya, Jaipur, Rajasthan

This system using sensors and weight measuring system, checks overloaded vehicles and does not allow them to cross the check point.

STREET LIGHTS - SAVING ELECTRICITY

Yashvir Surana and Dev Agnihotri, Jaipur, Rajasthan

The concept used here is the scattering of light by a convex mirror. The plan is to put 2 density lights and on the opposite put four convex mirrors as reflectors. .

SENSOR BASED AUTOMOBILES TO PREVENT ACCIDENTS

Susant Pattnaik, Bhubaneswar, Odisha

Sensor based system on automobiles to detect vehicles, obstacles and pot holes



National Innovation Foundation-India

The National Innovation Foundation – India (NIF), set up by the Department of Science and Technology, builds upon the Honey Bee philosophy of inclusive empathetic innovations. It is a national initiative to serve the knowledge-rich, economically poor people of the country. It is committed to making India innovative by documenting, adding value, protecting the intellectual property rights of the contemporary unaided technological innovators, as well as of outstanding traditional knowledge holders and disseminating them on a commercial as well as non-commercial basis by expanding the public domain of frugal extremely affordable solutions.

With major contribution from the Honey Bee Network volunteers, NIF has been able to build up a database of more than 2,25,000 technological ideas, innovations and traditional knowledge practices (not all unique, not all distinct) from over 575 districts of the country. NIF has till date recognized more than 775 grassroots innovators, communities and school students at the national level in its various award functions. Through the collaborations with various R&D and academic institutions, agricultural and veterinary Universities and others labs in public and private sector, NIF has helped in validating thousands of grassroots technologies and also adding value to them. It has also set up a Fabrication Laboratory (Fab Lab) with the help of MIT, Boston, for product development apart from strengthening in-house research and development facilities for the initial validation of herbal technologies. Pro bono arrangement with patent firms has helped NIF to file over 775 patents (including eight filed in USA and twenty seven PCT applications) on behalf of the innovators and outstanding traditional knowledge holders of which thirty eight patents have been granted in India and five in the USA. In addition thirty seven farmers' developed plant varieties are registered at the PPV&FR Authority. Micro Venture Innovation Fund (MVIF) set up at NIF with the support of SIDBI has provided risk capital to 193 projects, which are at different stages of incubation. NIF has received over six hundred product inquiries from around fifty-five countries for various technologies. It has succeeded in commercialising products across six continents. NIF has transferred 89 technologies to different licensees and setup a Joint Venture Company with BVG India Ltd. NIF has set up 37 community workshops at innovators place throughout country. It has also set up NIF Incubation and Entrepreneurship Council (NIF-ientreC), an incubator which provides in situ incubation support to innovators at their doorstep, only incubator to do away with residency requirement and supporting innovators where they live and work.

NIF has proved that Indian innovators can match and in some cases outperform anyone in the world when it comes to solving problems creatively, frugally and sustainably. The grassroots to Global (g2G) model that NIF is propagating is all set to change the way the world looks at the creativity and innovations at grassroots. That's why we don't consider poor people at the bottom of all pyramids. They are only at the bottom of economic pyramid (BoEP) but may be at the top of innovation, ethical and creativity pyramids.



the philosophy

Honey Bee is a metaphor indicating ethical as well as professional values. Cross-cultural fertilization of ideas, innovations and initiatives to build a knowledge network is one of the fundamental tenets of the Honey Bee Network. Collaborative efforts of Honey Bee Network members during the last 14 years in carrying out the documentation of people's knowledge systems have been pursued on the basis of following principles:

- Whatever is learnt from people must be shared with them in their own language so that people to people connections can be made and they can validate our understanding of their creativity.
- All practices/innovations must be identified by the names and addresses of the individuals/communities in order to acknowledge their contribution and pursue protection of IPRs of grassroots innovators.
- Whatever gains are made by those who document or add value to the local knowledge, innovations or practices should be shared with the providers of knowledge and others who have contributed to value addition in a fair and equitable manner.



Honey Bee

THE GOLDEN TRIANGLE

Technological

Institutional

Educational

Formal

Informal

Innovation

KNOWLEDGE
NETWORK

Investment

Enterprise

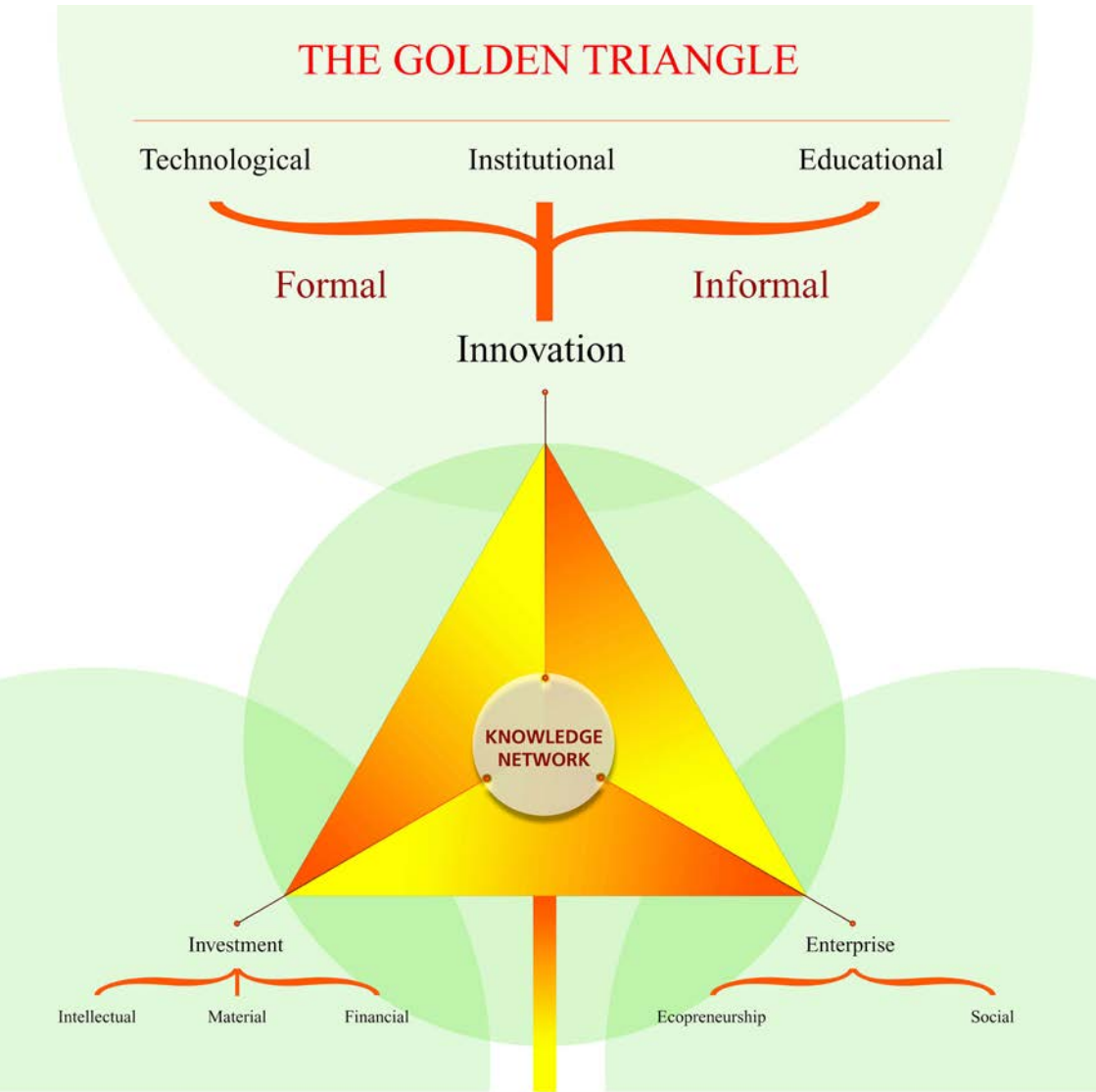
Intellectual

Material

Financial

Ecopreneurship

Social



Dr APJ Abdul Kalam IGNITE Awards 2015

The National Innovation Foundation - India has dedicated IGNITE awards in memory of Dr APJ Abdul Kalam so that creative children continue to draw inspiration from his spirit. Dr APJ Abdul Kalam IGNITE is a competition of original technological ideas and innovations by children up to class 12 or those out of school up to the age of 17 years.

The awards of the IGNITE competition are announced every year on October 15th, Dr APJ Abdul Kalam's birthday, which is celebrated as the Children's Creativity and Innovation Day by NIF.

This year, a total 31 ideas by 41 students of 27 districts from 18 states will be awarded for their ideas/ innovations. Overall 28,106 submissions of students from 425 districts of the country (from all the States & Union Territories) were received during the IGNITE 15 competition, which ran from September 1, 2014 to August 31, 2015. The awards were presented by the Hon'ble President of India, Shri Pranab Mukherjee on November 30, 2015 at IIM Ahmedabad.

NIF had been blessed to have Dr Kalam's continued guidance and advise since 2002 when, as the President of the country, he honored grassroots innovators during NIF's second National Award ceremony. He had been closely associated ever since and gave away the Third and Fourth National awards in 2005 and 2007 respectively.

He continued to motivate the young and old alike, giving away 142 IGNITE awards to 202 children since its inception in 2008 till 2014.

Why the IGNITE competition?

Creativity among children is almost in-born, every child is creative, degrees may vary, but not the basic manifestation. We want to promote originality, creativity and innovative spirit among our children so that when they become leaders of our society, they ensure an imaginative and innovative future for the country.

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