

Being a holoparasite, Rafflesia cannot complete its life-cycle without its host Tetrastigma vine.



Rafflesia facts

Smart way to Swachh Bharat

Walking Towards Better Future, Here's A Smart Technology To Maintain Cleanliness

Pro@Project

Stuti Kalra, GT Network

Inspired by the school's Youth Power 2017-18 team 'Pic Civic' that had chosen to work towards sensitising people to be responsible towards their environment, Arnab Gupta, Parth Khullar & Vasu Madan of AIS Saket, Class X, decided to do their bit.

Arnab shared, "The Swachh Bharat mission was gaining momentum. We observed that the government had put up so many bins including garbage dump points, yet people never used the bins and littered here and there. The result was an unhygienic and unpleasant street as the waste decomposed. The biggest example was the garbage dump built by Municipal Corporation of Delhi (MCD) at the corner of the road leading to our school. Every day we used to see garbage being dumped outside and not inside the marked walls." "These unhygienic areas later used to become breeding grounds for mosquitoes, which gave rise to so many hazardous diseases. All this made us think harder and we came up with the idea of a

smart bin," added Parth.

The two along with Vasu, then set out to find an automated solution to this with the help of technology. The idea was to use robotics and AI that can easily sort garbage to make its disposal ecofriendly, economic and efficient. Together with their mentor Anjana Wadhwa, the team integrated robotics & Arduino, provided by ATL lab of school, to innovate their own 'smart' bin.

Let's know a bit more about the working of this smart bin;

- An ultrasonic sensor, embedded in the smart bin, instantly detects the presence of any person standing within an area of 25 cm to 100 cm circumference.

Innovation: Smart Bin

Innovators: Arnab Gupta, Parth Khullar & Vasu Madan, AIS Saket, Class X

Mentor teacher: Anjana Wadhwa

- As soon as the person is detected, the servo motor rotates the dustbin 90 degrees clockwise and opens the smart bin so that the waste can be thrown.

- Once the person moves away and smart bin senses the waste matter, it again rotates to 90 degrees anti-clockwise and resets



Arnab Gupta & Parth Khullar with mentor Anjana Wadhwa and fellow Jaisal Kothari

itself in the original position, closing the lid of the bin.

- To test the weight load that the smart bin can hold, it was installed in the school canteen for a few days. The team found that a small smart bin can take upto 30 kgs of load while the larger bin can take up to 80 kgs of waste matter.

The road ahead

Inspired by YP and driven by 'Swachh Bharat' mission, to make living conditions for the people of this nation better, the team is now working towards enhancing the smartness of their smart bin. They aim to help the organizations to work on a large scale production of smart bin us-

ing robotic technology. The team also plans to compartmentalise the bin to collect and segregate the waste and convert green waste into compost. The team also plans to attach another sensor which notifies the authorities once the bin is filled up to 75% of its capacity so that they can come and empty the bin on time.



The Smart Bin

Achievements

- Youth Power 2017 team of AIS Saket installed smart bins in their school.

- Junior Astitva Samman Award* 2019 by the PHD Chambers was awarded to Arnab Gupta, Parth Khullar and Vasu Madan. They were selected from over 250 entries.

* The award is given by the PHD Chamber of Commerce and Industry - Women and Child Development Committee to encourage and motivate the students who have demonstrated innovations, leading to socio-economic upliftment of the society in general. The selection for the Samman is drawn from various schools within the Delhi / NCR.

The YouTube Channels Which Are Changing The Way The World Learns Science



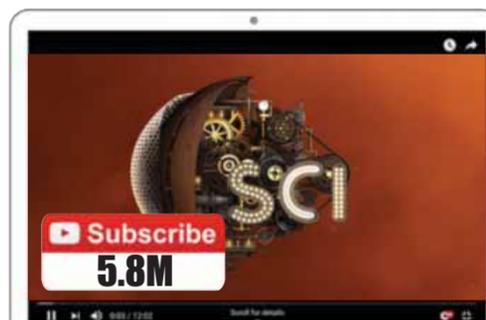
AsapSCIENCE

Why you should watch: Because it's like watching a cartoon!

What it is about: Kinetic typography and riveting animations make this channel perhaps the best there is, when it comes to learning science on YouTube. With videos like 'What if all the ice melted on earth?', 'What happens in your body when you drink coke?' and so much more, you invest your time in a light-hearted fun video that leaves you more knowledgeable than before.

Science made easy

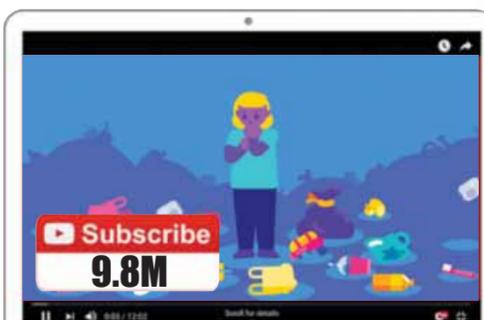
Brinda Sethi, AIS Mayur Vihar, X A



SciShow

Why you should watch: Because science can be entertaining!

What it is about: SciShow delves into various scientific subjects that we unknowingly come across in our daily lives. The channel's graphics, animations and videography are definitely worth a look and good enough to entertain the audience. Not to forget the video schedule that it offers for every day of the week.



Kurzgesagt

Why you should watch: Because learning science is easy peasy!

What it is about: If your brain feels racked after a 30 minutes lecture on periodic table, then, this channel is definitely for you. Presenting complicated scientific theories in the most simplified ways, it makes science look like a piece of a cake. Their use of advanced animation and doodles are also a big draw.



SmarterEveryDay

Why you should watch: Because science is all around us!

What it is about: We know that science is all around us, but this channel really tells us how; they show fascinating videos of things in the environment and the science behind it. Launched in 2007, this one will woo you with captivating animations and visual effects.