Makers Box -July 2019

Let's look at everything students made in the Maker Space in July

Year 1 and 2

Introduction to tools, implementation of different tools

Students were introduced to safety rules and tools that they can use. They were also informed about basic safety gear and how to operate them around the lab in a safe manner while working in teams.

Year 3 and 4

Rapid Prototyping, Science

Students were introduced to Rapid Prototyping, its application in industries and how machines like Laser cutter and 3D Printers increase efficiency.

Year 5

Machines and Finishing, Science

Students were introduced to machine processes like engraving, sanding and polishing.

Year 8

Electrons, Charge and Current

Students of year 8 were introduced to charge.

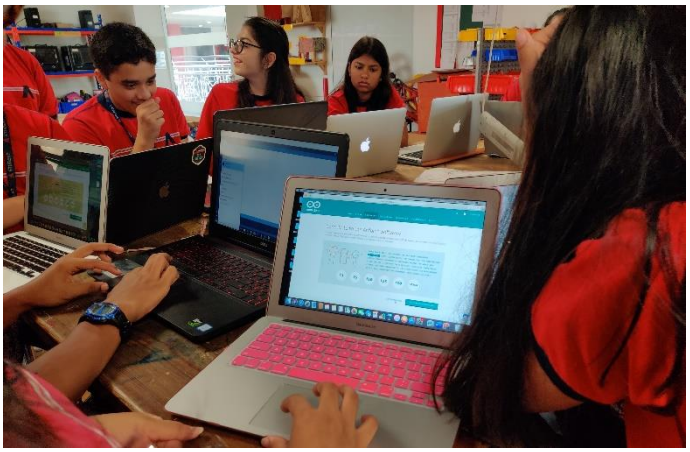
-How electrons travel from surface to surface creating current.

-Law of Conservation which states that any form of energy can only be converted from one form to another. It can neither be created, nor destroyed.

Year 9 & 10

Input and Output- RFID Devices

Students of year 9 and 10 started to work on Input and Output Devices where they understood operating blocks behind every device and analysis. Next they coded an RFID enabled lock system.



World Study: Shakespeare and Jane Austen

The session 2019-20 deals with the theme of World Literature.

Students in Primary school were introduced to King Lear by William Shakespeare whereas students of Secondary school were introduced to Emma by Jane Austen.

Students from Key Stage 1 designed masquerade masks derived from books of Shakespeare where they defined character traits and used different materials to decorate them.

Students from Key Stage 2 made a quill / ink pen using wood and learned how fluid dynamics work; why wood doesn't absorb ink and how to achieve different thickness of text while writing with ink.

Students from Key Stage 3&4 worked on a Design Challenge based on Empathy. They were assigned the following 3 topics related to women from the perspective of Jane Austen:

1. **The fashion statement:** Over the centuries, the type of clothing is always changing. One does not wish to wear the same set of clothes all the time. Contradictory to this,
the vintage fashion seems to be trending this century. However, elegant and cool that might look, the vintage clothes come with a set of challenges such as fixed sizes, structure, fabric etc. and there was a reason why we overcame these.

2. **Role reversal:** We often tend to overlook the problems faced by our friends, peers, especially the opposite gender. One of the reasons it is caused is due to lack of awareness and resources. There are times where we cannot solve our own problems by ourselves and we seek help. Can we help others and let others help us, by designing solutions around it?

3. **Taboos:** In this current world of growing technology, and growing mindsets, there are yet many social restrictions (taboos), prohibiting us from being ourselves. Traditional families taboo natural phenomenon like reproduction cycle, menstrual cycles etc. Similarly, men are prohibited from expressing themselves and showing extreme emotions such as crying. Society is almost never ready to talk about mental health, domestic and substance abuse etc. What could be the cause for these taboos to exist?

Students were asked to develop their solutions based on DESIGN THINKING IDEOLOGY which in turn translates to **EMPATHISE, DEFINE, IDEATE, PROTOTYPE & TEST**

KEY STAGE 1 & 2

Year 1, 2 & 3 using the rapid prototyping technologies and their tool skills to make masquerade masks.

After designing and cutting the masks with the help of the Laser Machine, students decorated them with art supplies and then wore them to enact characters from King Lear by Shakespeare.

Year 4 & 5 students took wood and made dowels out of them which were then trimmed down, sanded and given the shape of a pen. Next students used different techniques to create capillaries on the tip and made it waterproof so that it can hold ink.

KEY STAGE 3&4

IDEATION AND DESIGN

Students were divided in teams for all the 3 topics after which they made their own teams and appointed a team leader. They started by collecting data and preparing a list of materials followed by a discussion on steps. After that students designed the first draft of their ideas.

PRESENTATION & DISCUSSION

Students worked together and presented their solutions based on Design Thinking Ideology i.e.
EMPATHISE
DEFINE
IDEATE
PROTOTYPE
TEST

ENRICHMENT CLASS

17 students from Secondary school signed up for Makers Lab enrichment class this session and we started it by sharing an idea with students which is to build an Old-School Arcade Machine from Scratch. Students started getting training on the Table Saw to chop down wood for the cabinet.

Disclaimer: Safety is priority at MakersBox. We urge all our students to wear proper safety gear before working in the lab. Sometimes, Students take out their safety gear to get their pictures clicked.