# KNOWLEDGE AND AWARENESS MAPPING PLATFORM



**kamp**
KNOWLEDGE & AWARENESS MAPPING PLATFORM

Presents

Special Session on

**Robo Wizards**

"Explore the concepts of electronic circuits, sensors, logic, and programming"

**FOR STUDENTS OF CLASS 5TH - 12TH**

**9th JUNE 2022  04:00 PM IST**

**Learn more**

https://kamp.res.in

**KNOWLEDGE SESSION 2022: EPISODE 4**

**ORGANISED BY: KNOWLEDGE AND AWARENESS MAPPING PLATFORM**

**A KNOWLEDGE ALLIANCE OF**

**Date:** 09th June 2022

**Topic:** Robo Wizards

**Organized For:** Class 5th – 12th

**Category:** Science, Technology & Innovation

**No. of Participants:** 500+ students from different schools across India

**Speaker/Presenter:** Ms Roopali Bhragudev

**Overview:**

On 9th June 2022, KAMP conducted a particular "Robo Wizards" workshop by Ms Roopali Bhragudev. She has been working on numerous webinars across India on stem education and new trending technologies that will be helpful for students shortly. She has also contributed as a content developer for various books and published a few papers in international journals. Currently, she is working as an application engineer at STEMROBO technologies.

STEMROBO Technologies is an Indian Educational Technology company, focused on designing and making Innovative Electronic Devices, Software, and methodologies around STEAM, Robotics, CS, IoT & AI for the K-12 segment. STEMROBO has successfully helped more than half a million students across 40+ Countries through Tinkering & Innovation platforms and 2000+ schools across PAN India by setting up ATL, Tinker and Innovation Labs, and Robotics Labs which are running successfully.
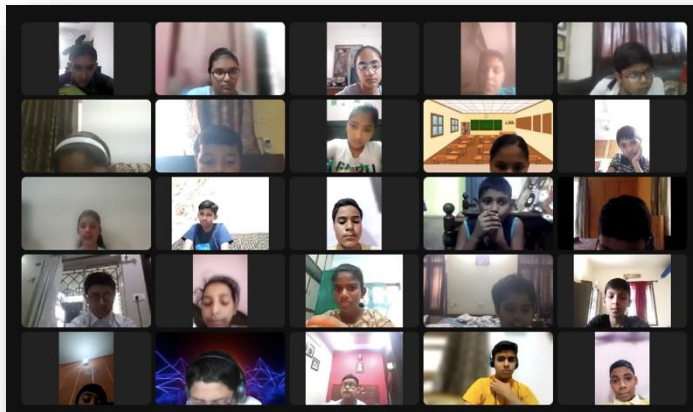


In this unique workshop, Ms Rupali engaged students by teaching them how to learn about electronic components in a fun and interactive manner. First, the students were introduced to what electronics is all about, and how it can be used to make our daily tasks easier.

The students were then presented with an analogy compared to human beings and robots to explain to students how STA as in Sense, Think and Act works. As human beings we all have sense organs that allow us to sense the information from the environment, the information is then perceived by our brain, enabling us to think and then control our actions accordingly. Similarly, in robots, there are sensors involved that allow them to receive information, and in some cases think also (especially in the case of AI) and then respond accordingly.



Just like we have Alexa at home, it allows us to do various tasks just with our voice command. It receives the information and responds accordingly. It all happens through Artificial Intelligence. Well, in many cases it is not that easy to get the desired response from the robots, we need to train them to achieve all these tasks. To do so, we need the proper hardware and software that can be programmed to make them run efficiently. Without the appropriate hardware or software, our robot is more likely to be stuck.

Apart from developing or training, we can also update our robots, just like we update our smartphones. It is totally up to us, as to how we want to update or make our robot useful, easier, or even more compatible so that each and everything is sorted in our daily life.
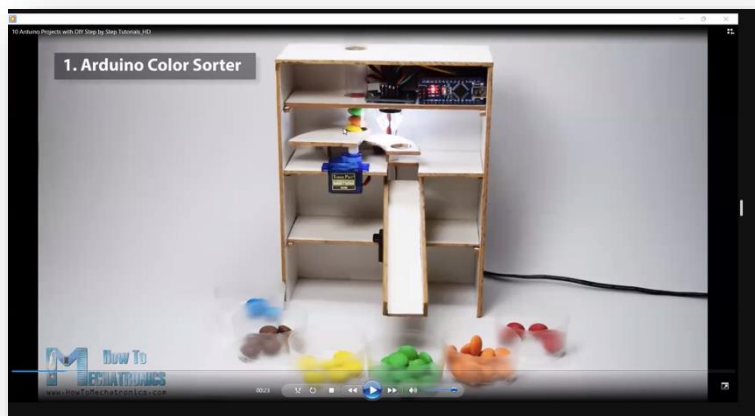


Coming towards the end of the session, Ms Roopali mentioned that for our design to be successful, we would need a better understanding of robotics, artificial intelligence, deep learning, machine learning, coding, etc. She showed various projects such as Arduino Color Sorter, Arduino Robot Car, Arduino Robot Car Wireless Control, DIY Wending Machine, Arduino Game Project, Arduino Radar (Sonar), Arduino LED Matrix Alarm System, and last but not least Arduino Music Player & Alarm clock with Touch Screen.

With such examples, she guided students on how they can covert simple fun activities into project-based learning. The students can try around with different types of conductors, make different things, and test their effectiveness. This would result in them using their creativity as well as enhancing their learning more about the things they are experimenting with.

## Questions & Answers

Q. Is there any help book for coding and electronic purpose?

Yes, you can visit www.tinkerlearning.com and seek the contents you need. You will get a variety of resources in the form of videos, quizzes, and even documents. You can even find DIY kits that can be purchased from the same website. Additionally, you can learn about artificial intelligence, python, and many more things, classwise or as per your interests.



Q. How can we sign up?
It is very easy, you just need to open the link, and enter your email id and phone number. Our website is very user-friendly, you can very easily log into the account and play around.

Q. Is tinker learning software?
The link is for the website, where you can access it anywhere with your id and password on any device with the internet. However, we also have an app on google play and IOS software that can be downloaded.

Q. How can we purchase the DIY kit?
You can purchase the DIY kits from www.tinkermart.in. You can check out the website and see which product suits you. Here you can also look for videos or purchase books.
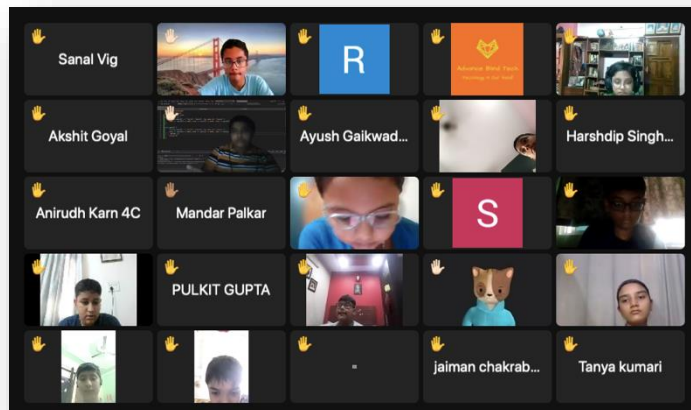
**Organized By:**
**Knowledge and Awareness Mapping Platform**
(KAMP Operations and Coordination Office)

**Moderated By:**
**Ms Arika Mathur**
(Convener KAMP and Member KPMC)

**Workshop Partner:**

**Team Credits:**
**Mr Amit Kumar Shukla**
(Head-Capacity Building Group, KAMP)

**Ms Vishakha Gola**
(Sr. Coordinator KAMP)