STEAM

Bal Bharati PUBLIC SCHOOL ROHINI

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Inside This Issue

In the present times when the world is on the screens of our devices, it is imperative for every educational institution to empower the future generation with the latest technology and integrate it as a part of everyday academic discourses. Looking forward into the state-of-the-art virtual spectacle of Metaverse, BBPS RH endeavors to create zealous participants for the reel world across various classes. Metaverse creates a surreal world that brings the dead alive in their on-screen avatars to create one happy participation for all. The 'T' of STEAM has already gained power with PIXTON avatars, hologram designing, AR & VR usages, Cyber security awareness and coding etc. becoming a part and parcel of our classrooms and a validation of our bright future.

Geeta Gangwani
Principal

"T" for Technology

Dear Readers
We bring to you our special series on STEAM stories, a display of our students' work in using multidisciplinary and experiential learning. This special series comprises of five different editions-each emphasizing on the individual element . Here is the Edition 2 which deals with Technology .

STEAM

STEAM: TECHNOLOGY

Learning is dependent on pedagogical approaches that we teach in a classroom. As computer teachers, we keep our students well informed & equally enthusiastic about the advancements of the future. Students are so much into technology that there is nothing that misses their attention. Students are mapping their way into this world, for the future, and make us really proud.

Artificial intelligence (AI) is not a new kid on the block. This field is developing at a constantly increasing pace. Pretty much every day there is a new development. We teach through AR & VR concepts in classes. We feel we need to provide a strong foundation of cognitive skills for young students to become effective in their life and career. All the computer and mobile applications that we often use are a result of coding using various programming languages. At school level, we teach coding to enhance their Cognitive skills, Critical thinking, Problem-solving skills, Math skills, Strategic Thinking skills and logic building. In our new National Education Policy 2020 the emphasis is on early exposure of students to computers and technology.

We initiate lot of programs in our school for teaching via HT CODE-A-THON, Steamrobo, learntocode.live and many others. We use various methods to teach coding via blocks, Minecraft educational version, Scratch, LOGO, Python programming, MIT App inventor and many others at different levels.

When Mark Zuckerberg announced ambitious plans to build the "**Metaverse**" — a virtual reality construct intended to supplant the Internet, merge virtual life with real life and create endless new playgrounds for everyone — he promised, "*You're going to able to do almost anything you can imagine.*"

We introduced concepts to students for the futuristic technologies like Bitcoin, RPA(Robotic Process Automation), Digital Twin, Designing 3D characters, Animation, Comic strip, App designing, Digital poster designing, Hologram etc. using Pixton, Nearpod, Code.org, Canva features, Adobe Spark, Google slides creating virtual libraries and Websites.

We would say NEP promotes holistic development of the future generation. The pandemic has been very unfortunate but it has suddenly made non tech people also aware of such technological skills.

I feel, though there would be little gaps in **what it is** and **what it should be**. But I am sure we have a bright future ahead. I would like to conclude in the words of Mr. Malcolm

"Education is our passport to the future, for tomorrow belongs to the people who prepare for it today."

Ms. Surbhi Bhardwaj
TGT Computer Science

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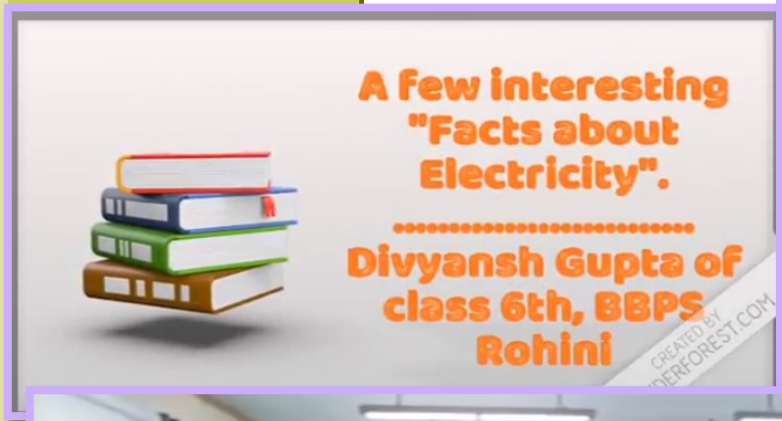
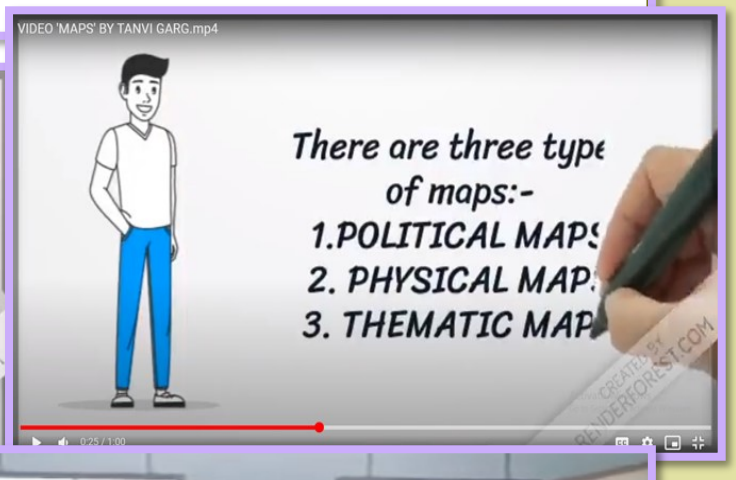
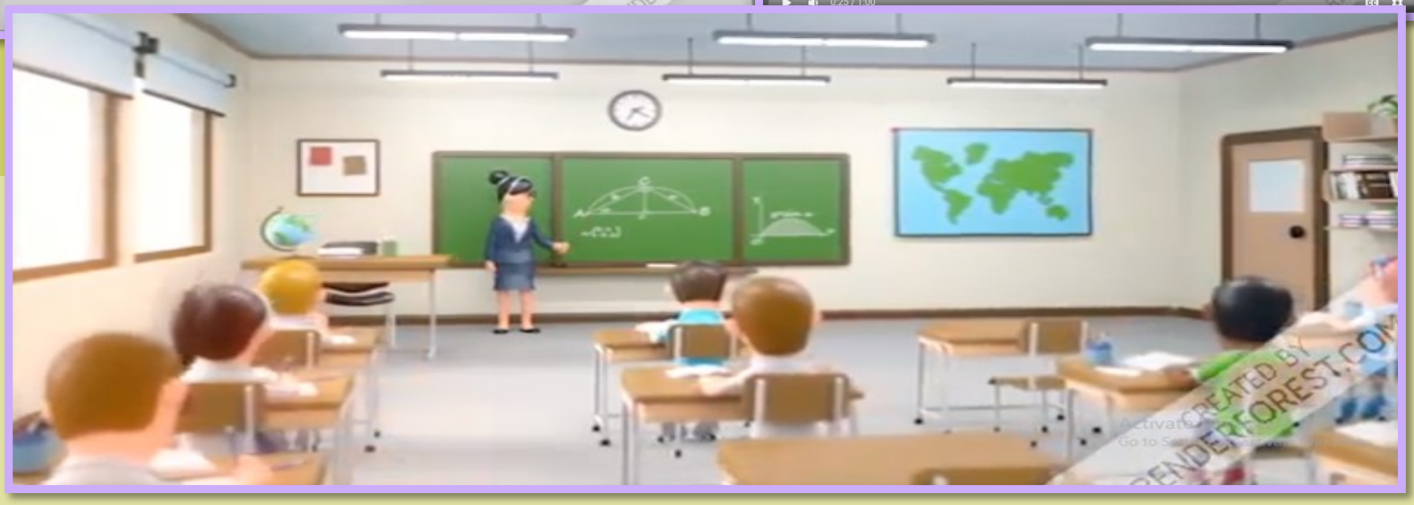
Digital Poster Designing using Software like Canva, Adobe Spark

Students created 3D animation videos on Renderforest.com on topics from other subjects like Science, Social Studies, Math etc.







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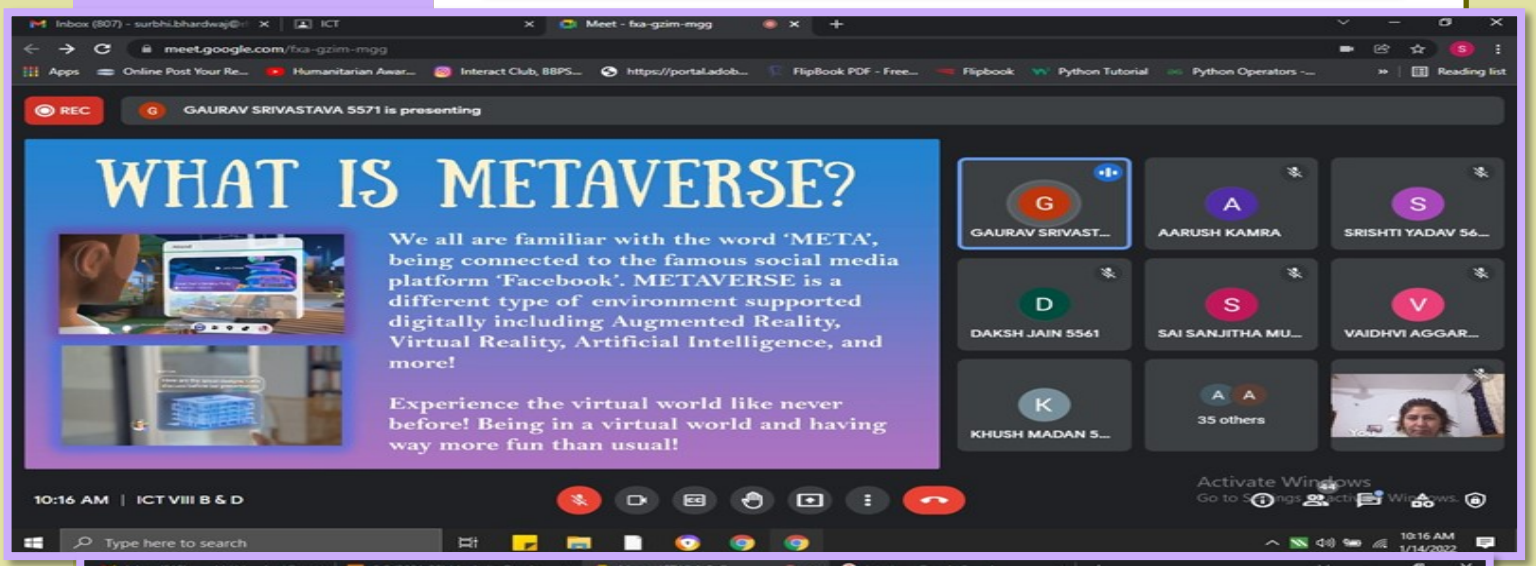
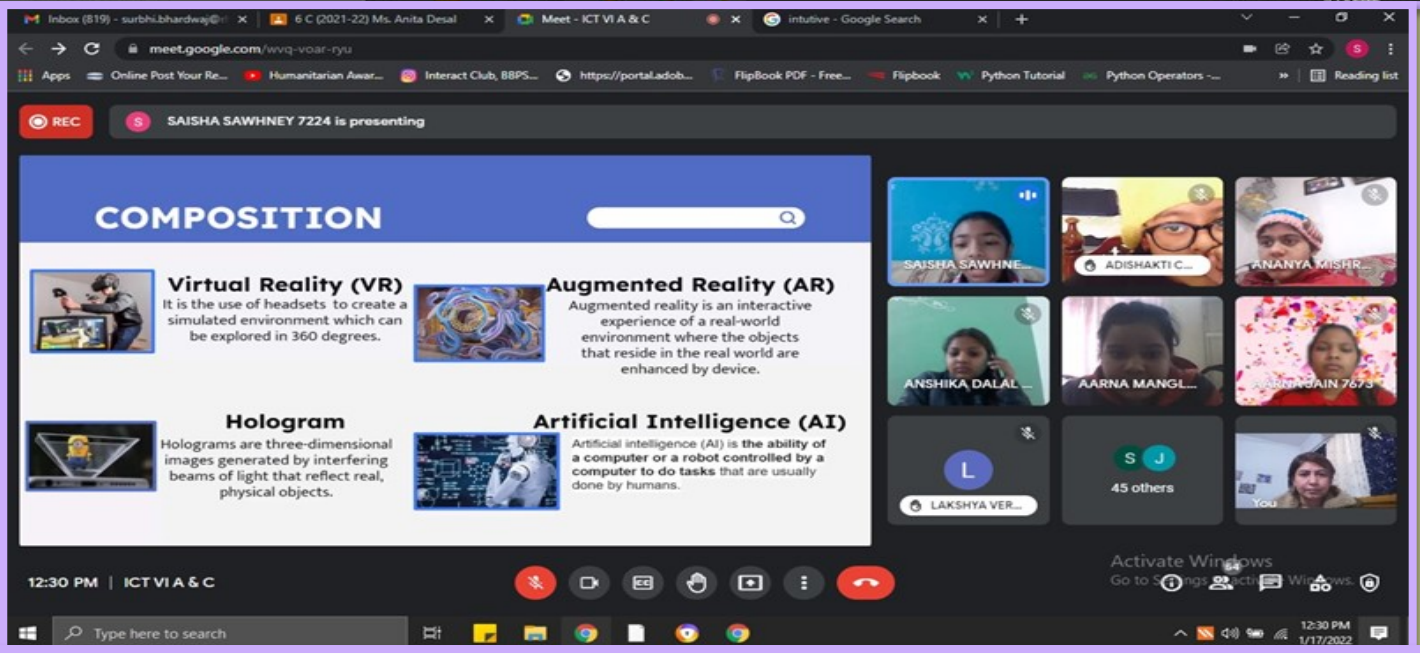
Metaverse in the classroom

Students presented PPTs and videos on Metaverse.





METAVERSE IN GAMING

The Metaverse technology would constitute an interplay between aspects of **AR** and **VR**. A Metaverse app is expected to have a semblance of space and time to the real world. Interactions in the physical world could be visual, auditory, and dynamic in nature.

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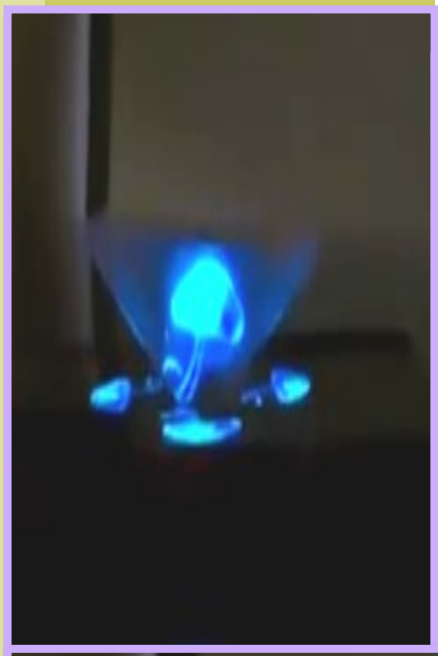
Students created DIY Holograms



Steps to build your first Hologram

1. Take a plastic CD cover (you can use any hard plastic material like transparent plastic sheet)
2. Sketch out a basic trapezoid shape on a graph paper using the dimensions 1cm x 3.5cm x 6cm.and cut it out.
3. Place the graph paper cut out on your CD cover and cut 4 pieces of the trapezoid.
4. Now tape all the pieces together and shape it into a cone.
5. The DIY holographic projector is ready. Just use this link for a holographic projection video for eg. (https://youtu.be/Y60mfBvXCj8), turn off the lights & keep your projector in the middle of the mobile phone on which the video is being played.

Building Websites/Web pages using Google Slides & Adobe Spark web page.

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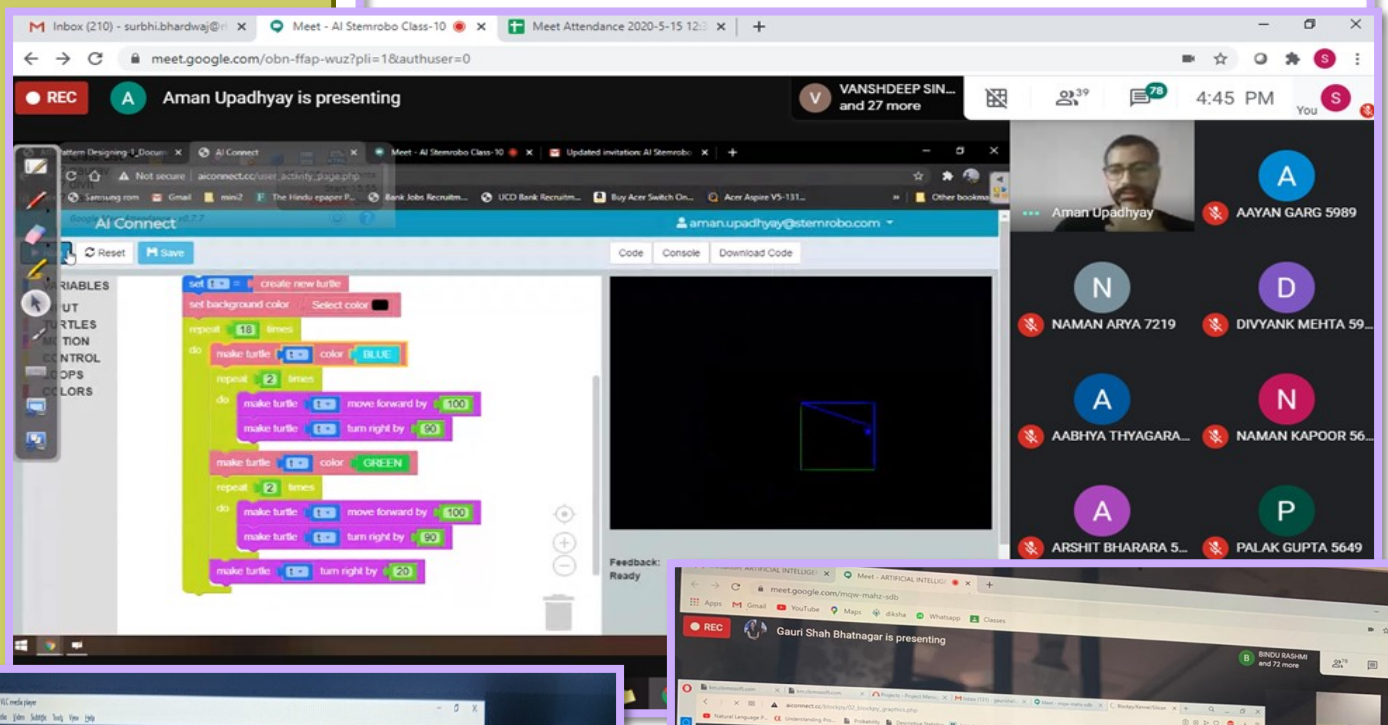
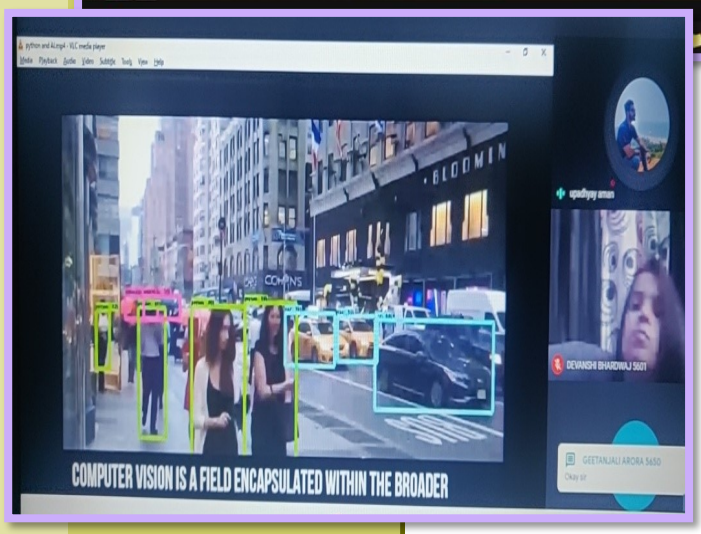
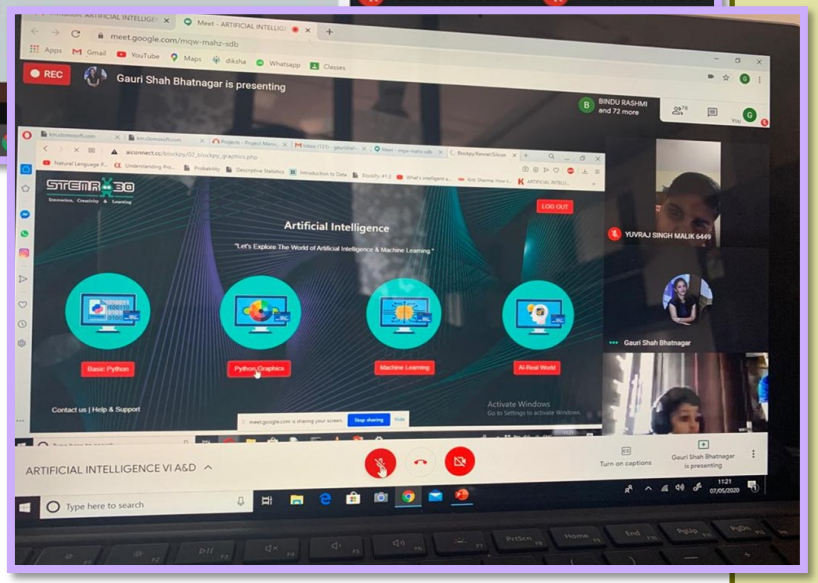
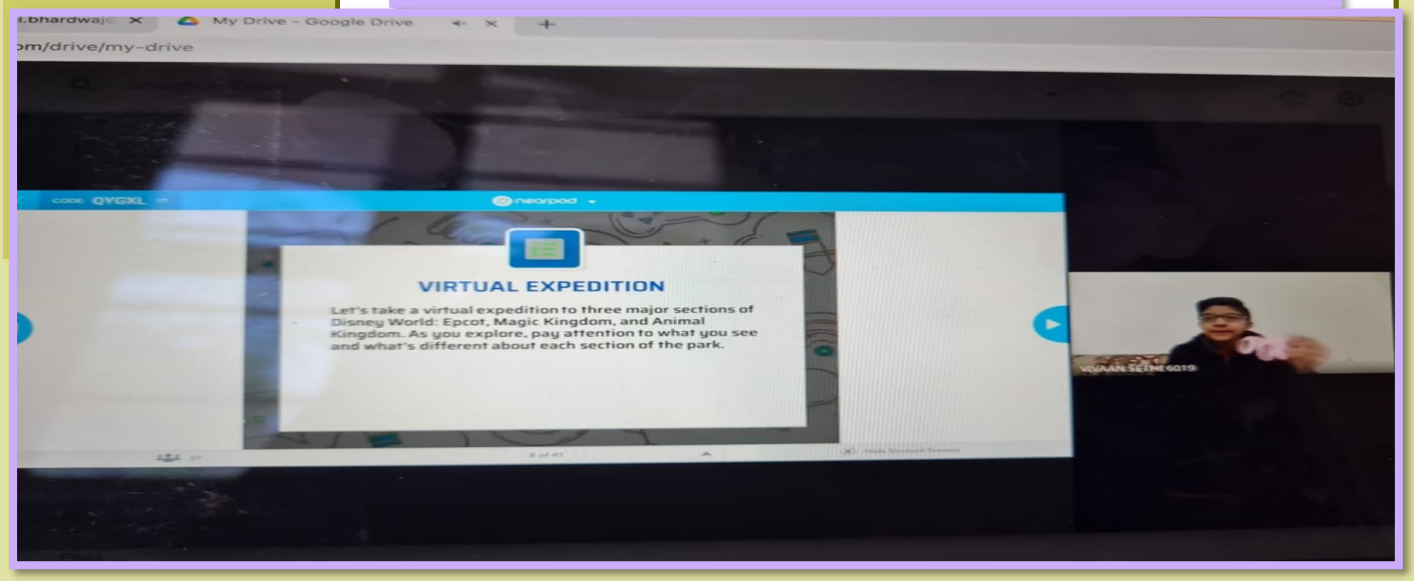
Students learning about Coding and Artificial Intelligence using Scratch Software







Students used VR Googles in an interactive lesson on Nearpod.



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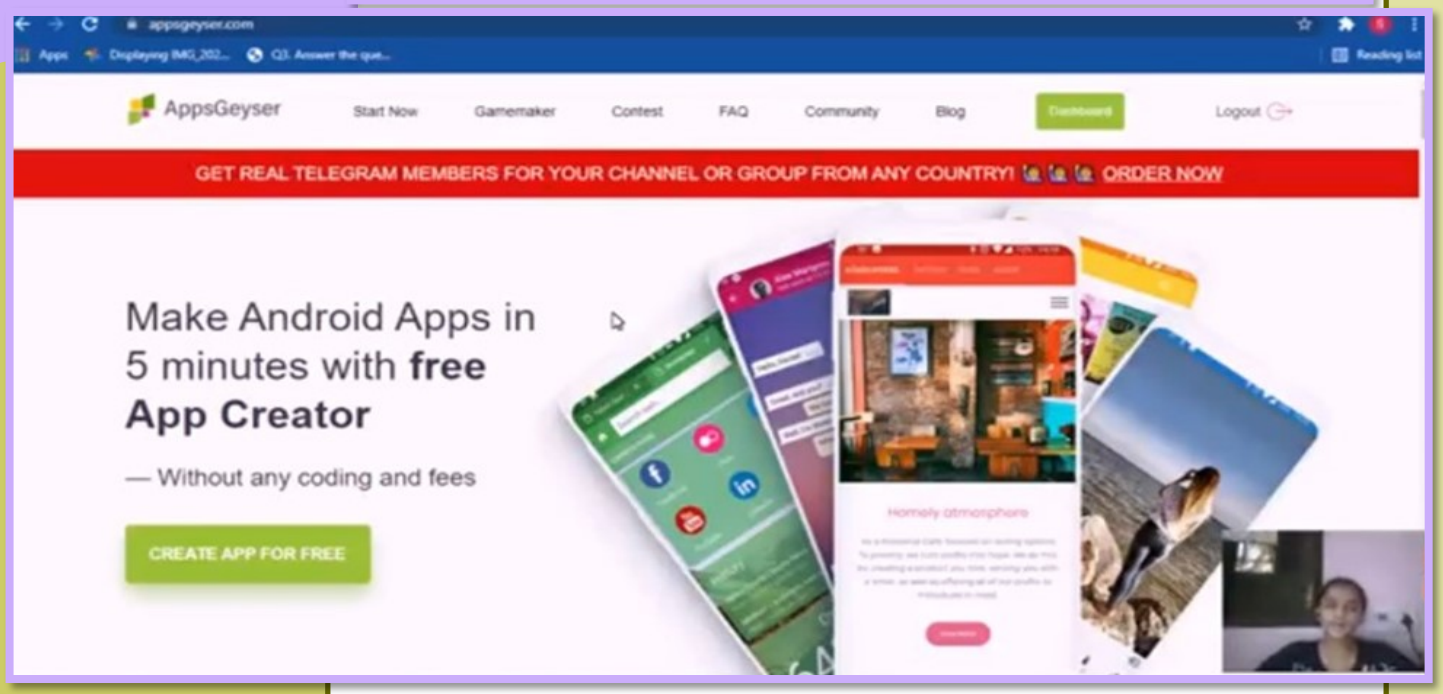
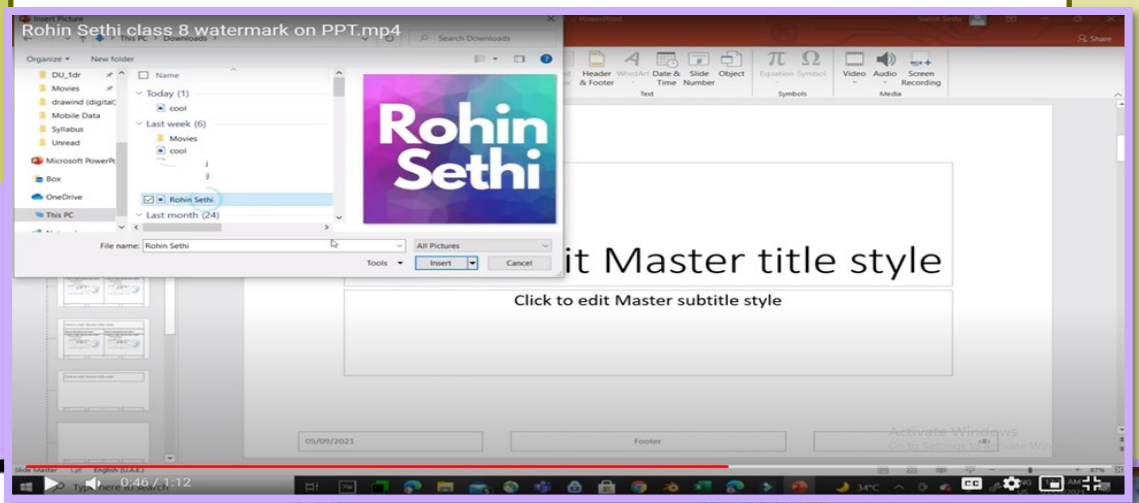
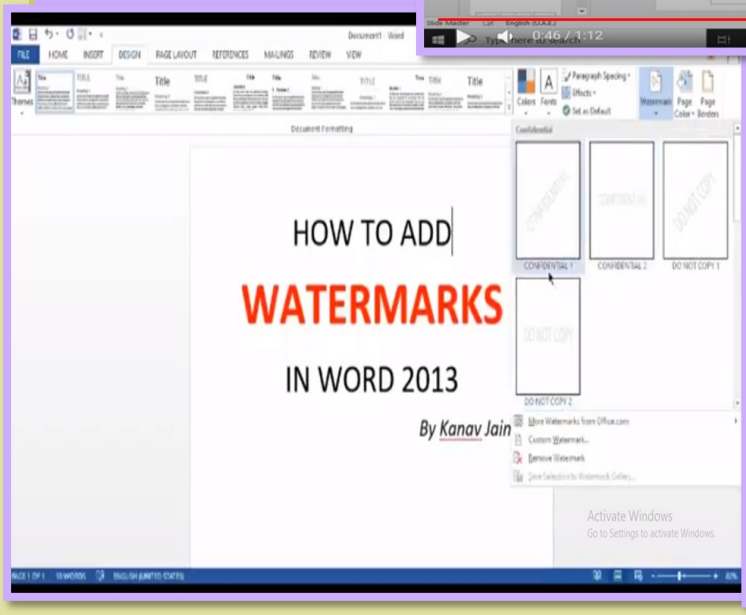
App Designing

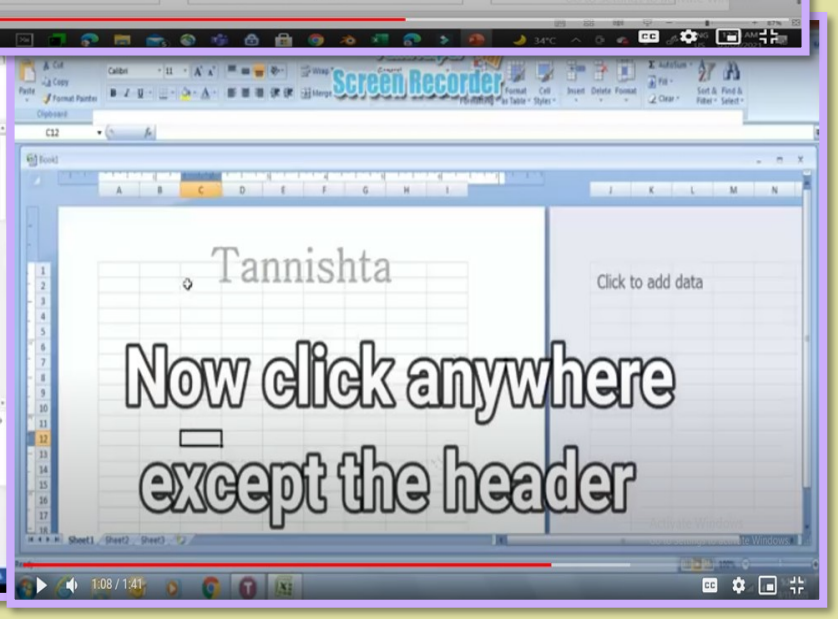
Students prepared one-minute videos on topics taught in the computer class. These videos were shared among classes VI to X.



Adding watermarks in PowerPoint, Word & Excel







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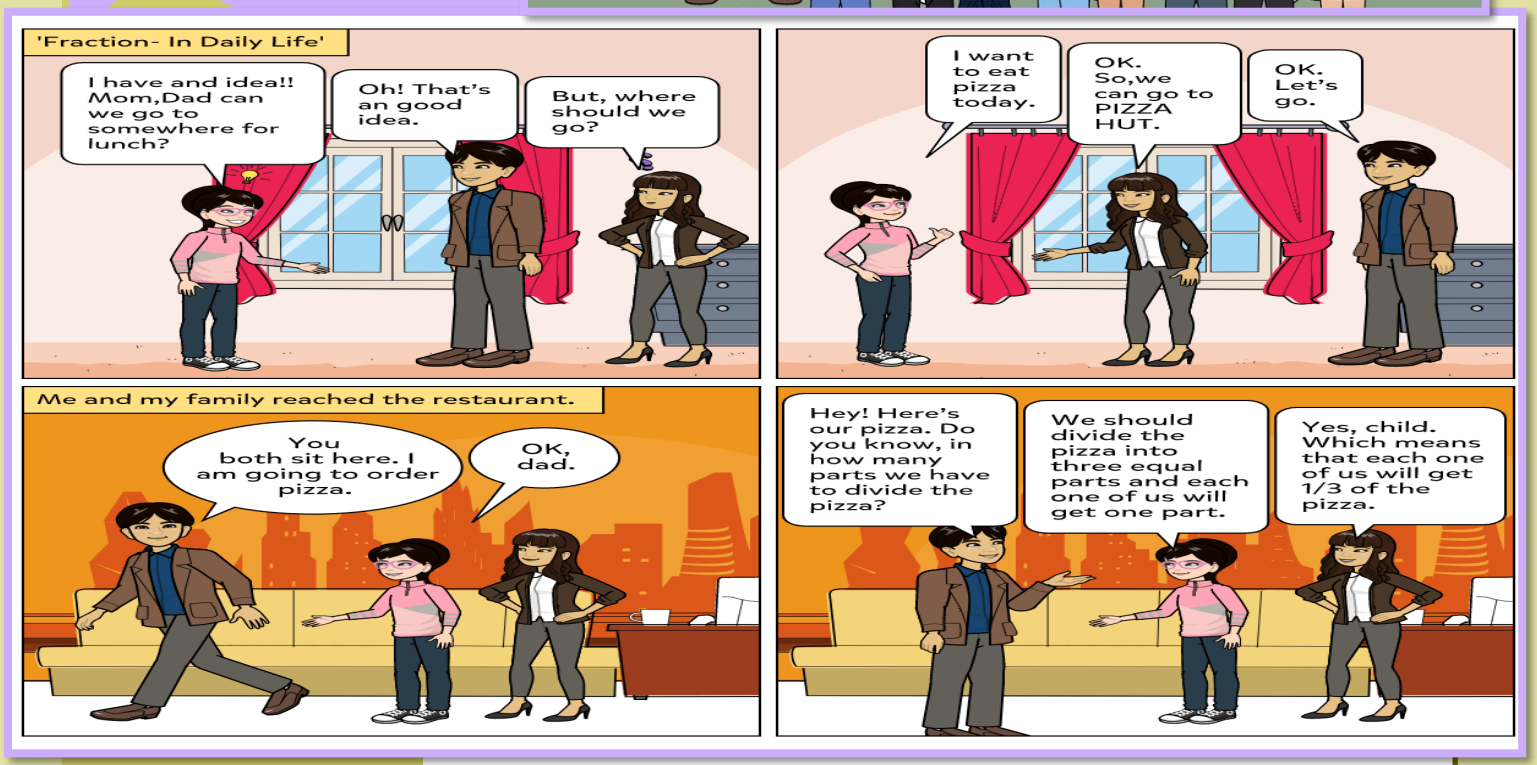
Class was created in Pixton Google workplace, where students created their own digital Avatars and designed Comic Strips using Pixton Software.



Students presented Augmented Reality enhanced visuals using various AR Apps on festivals

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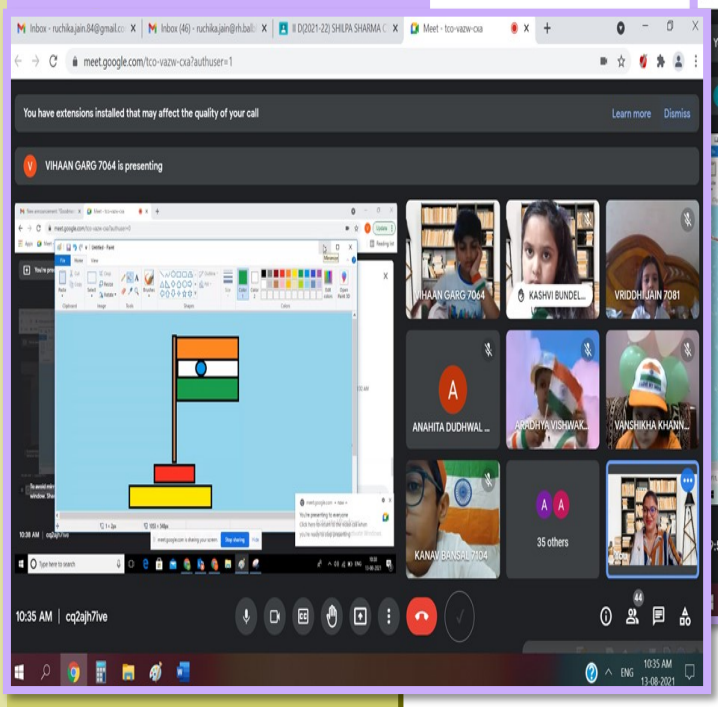
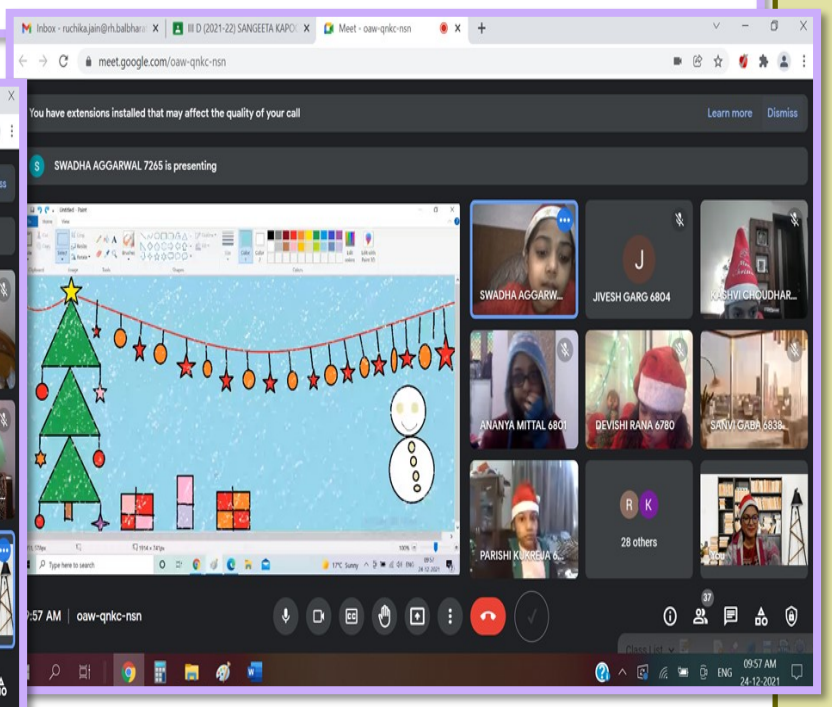
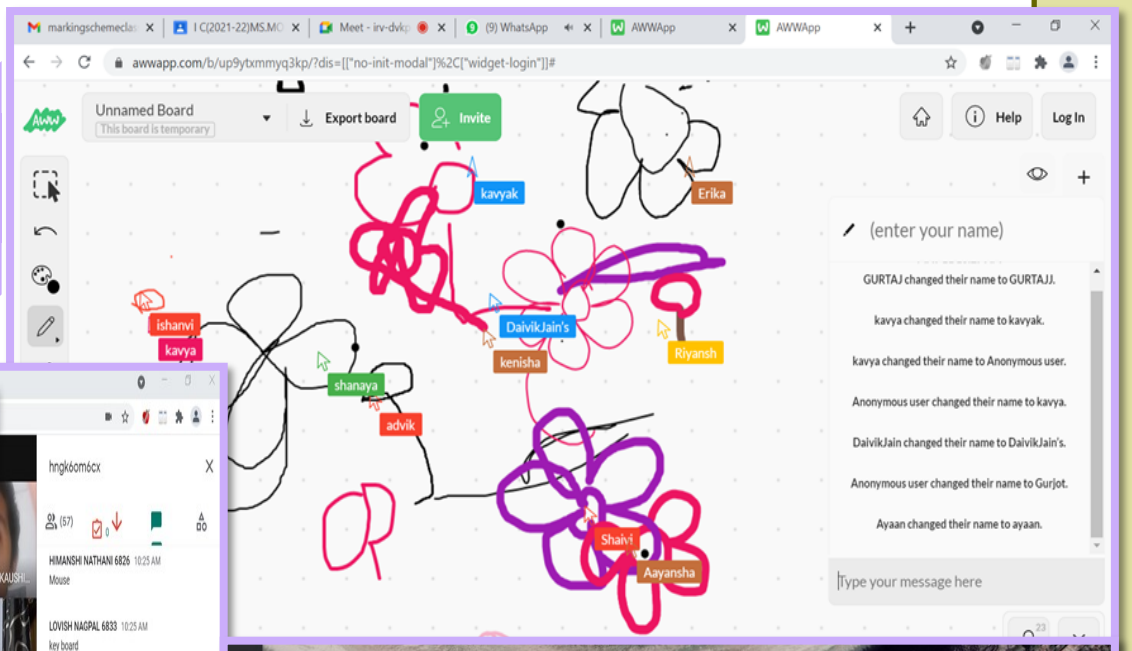
Learning By Doing

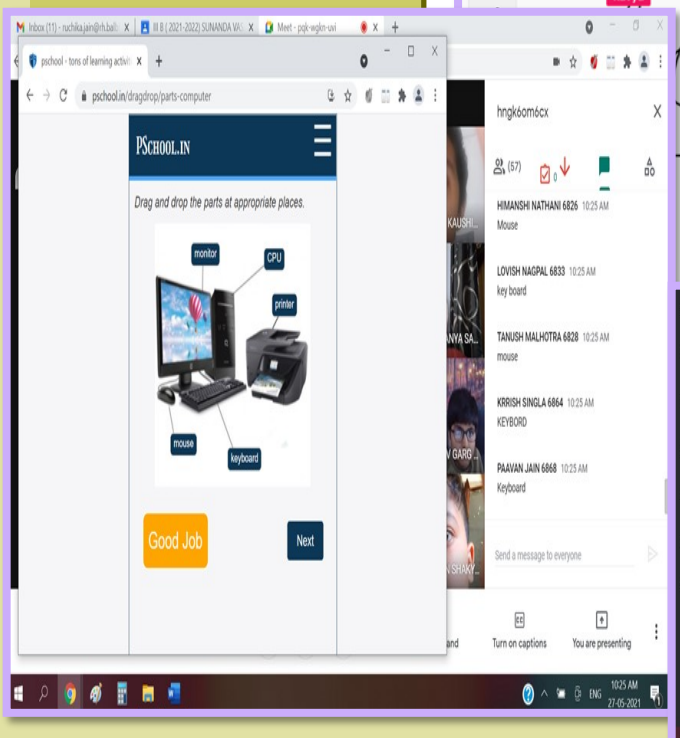
Primary students presented drawings created using MS Paint.

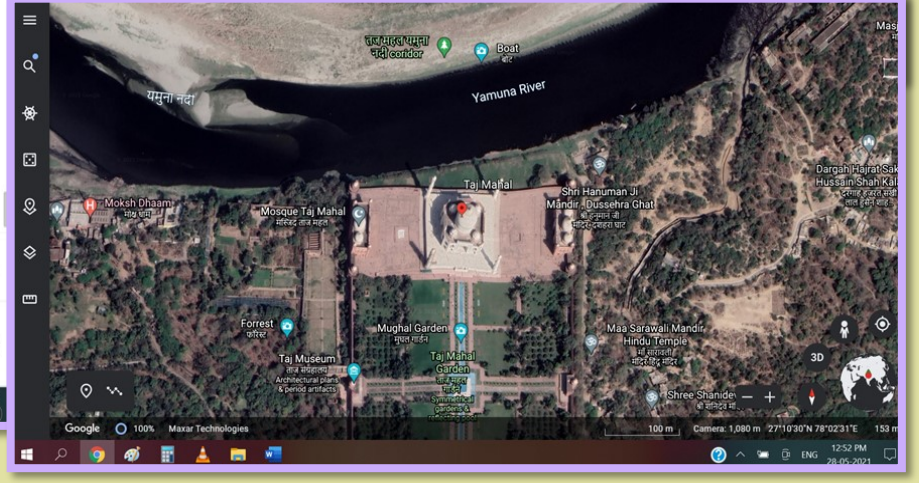




Interactive Learning using Pschool.in, Google Earth and awwapp.com







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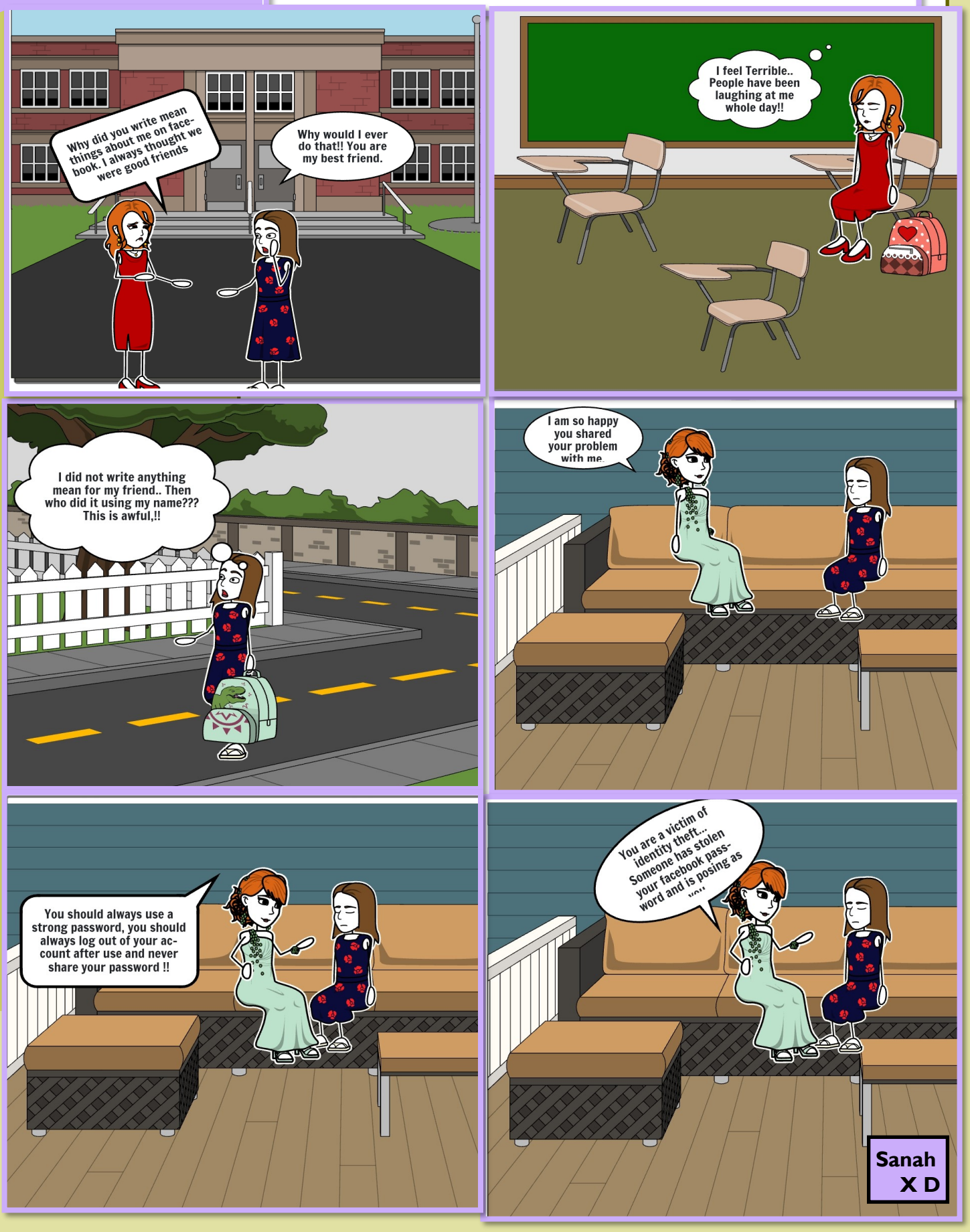
Beware: Online Identity Theft

Students were sensitized about online Identity Theft using a comic strip designed on the online tool Storyboardthat.com



Teachers' Reflections

In the present times, the use of online tools to connect with the students, has paved the path for LEARNING BY DOING as an essential teaching strategy. Young learners when introduced to a new software, explore it in their own ways. Software such as Scratch, GIMP, Inkscape and many more have helped them unleash their creativity. Group projects have allowed them to explore Google Docs and Sheets and create their own learning experiences. Online tutorials have given wings to their imaginations.
They are the true face of innovation and creativity for a promising future of Technology as the future is created in a garage or a warehouse and not by the CEO of a company.

Ms. Bindu Rashmi
TGT Computer Science

This pandemic has brought with it a plethora of amazing tools and techniques to initiate and improvise teaching and learning day by day. From creating and sharing videos to enabling the teachers and students to use online tools like "Google Meet", "Google Forms", "Padlet", "Quizzes" etc., the education world has progressed like never before. These challenging times have not handicapped us, rather empowered us with online libraries, webinars, events, celebrations and what not. Though the world was under lockdown, our teachers and students left no stone upturned to unlock their potential and creativity.

Ms. Ruchika Jain
PRT Computer Science

Just like a coin, technology too has a flip side. Since, the students are more online than ever, they are far more vulnerable to cyber threats than ever before. Such threats include increasing cyberbullying, inappropriate content, sexting, sextortion/ransomware, oversharing, online predation, Phishing emails etc.
The computer faculty at BBPSRH pays a lot of emphasis on training the students to use the online space safely. Students are periodically taught about safe practices to be followed while surfing internet including the protection of personal information with strong passwords, keeping personal information private, securing their devices etc. We encourage students to be our equal partners in our fight against cybercrimes by timely reporting any unpleasant online incidents to their teachers and parents.
Technology if used in a positive manner, bestows plenty of benefits to students.

Ms. Shikha Thakur
PGT Computer Science

In these times of fear and pain, students across the world have suffered much with an anxiety about their future. Teaching of Data Science had been conceptualized with an aim to provide them with a life-long skill that would certainly be advantageous in their career as well.
Data science is, in-fact, the most upcoming trend. There is data and big data everywhere and it requires a skillful handling. As an effective strategy, Corona related csv (data) file was picked from open sources to analyze the rising/declining trends of the virus. The students learnt the course curriculum modules of pandas and matplotlib while developing the skill of data analytics with a real life connect. Cloud computing was also incorporated in this engagement by using colab.research.google.com as the online python interpreter. Such skills also enhance the students' ability to work in a team along with the online computing tools.

Ms. Shefali Gupta
PGT Computer Science