

HSNC UNIVERSITY
KISHINCHAND CHELLARAM COLLEGE
DBT STAR STATUS AND DBT STAR SCHEME ACTIVITY
SCIENCE ADDA EVENT REPORT

HSNC University's Kishinchand Chellaram College, Churchgate, Mumbai organized the Interdepartmental Science Event entitled SCIENCE ADDA on the 11th February, 2022. The event was organized under the aegis of Star Status and Star Scheme funded by the Department of Biotechnology, Government of India and under the National Agenda of Azadi ka Amrit Mohatsav. Three Schools namely Chikitsak Samuha's Shirolkar High School, Kavalemath Municipal School and Love Groove, Worli Municipal School with 25 students from each school visited the Science departments under this initiative. A total of 9 department and Nature Club of K. C. College participated in the event. Each department organized certain specific activities for the school children with the objective to cultivate scientific temperament and the love for science in the children. The students visited the Science departments in rotation and enjoyed the Hands-on lab activities organized for them. These activities were demonstrated by the student volunteers and faculty members from each department.

The session was inaugurated by the kind and inspirational words of the Vice Chancellor of HSNC University and Principal of K. C. College, Dr. Hemlata Bagla. She spoke about the importance of science and scientific attitude. She also encouraged the students to find out their strengths and to harness their capacities. Dr. Shalini Sinha, Vice Principal of K.C. College, further addressed the students and welcomed them to the Science Adda Event. She stressed on the importance of science and urged the students to gain maximum benefit from this event. This was followed by an overview of the day provided by Dr. Sagarika Damle, the Coordinator for Star Status at K. C. College. The inaugural session was followed by the lab visits.

The departments and the activities conducted by each of the department are listed below:

Department of Biotechnology:

Biotechnology was introduced to the students in a very fun and interesting way by setting up different stations in the laboratory for explaining different aspects of biotechnology. The first station was set-up to explain the structure of DNA and explain the basic concept of mutation and variations in DNA to the students by a model of double helical DNA as well as a chart. The second station was presented with an entertaining skit to explain the application of biotechnology in forensics to provide evidence against suspects with the help of DNA testing.

On the third station we had introduced plant tissue culture to the students by explaining the process of plant tissue culture in brief, represented by a chart and students had also made boba seeds representing the formation of artificial seeds in plant tissue culture along with that another station explaining the basics of genetic engineering with the help of examples of hybrid plants and hybrid animals represented by photographs and charts was presented. Finally, biochemistry was also represented in the last station by showing the biochemical tests for identification of carbohydrates and proteins in food samples done in laboratory. Students were very excited throughout the sessions and they enjoyed seeing the wonders of biotechnology through charts, models and demonstration. The skit was thoroughly appreciated by the students and teachers adding an entertaining element to the event. The sessions were conducted by the students of the department under the mentorship of the faculties.



School students attending the session



Students explaining DNA structure using model

Department of Chemistry:

Three Schools namely Chikitsak Samuha's Shirolkar High School, Kavalemath Municipal School and Love Groove, Worli Municipal School with 25 students from each school visited the chemistry lab where they were shown how to prepare iodex, colours from different ions when heated in flame, test for alkalinity and acidity of a solution using pH meter.



School Children observing the Flame Test



School Children learning the preparation of Iodex

Department of Computer Science:

The Department of Computer Science hosted an offline seminar on “WIX”, a website that allows a user to build their own websites using ready- made templates provided on site and zero programming/coding. We named the seminar: "Let's Fix Your Website with WIX". Twenty- five students, each from Worli Sea-face Municipal School and Chikitsak Samuha's Shrirodkar High School attended the short seminar in person.

We hosted a zoom meeting on each of the computers in the lab with the audio disabled and shared the screen hence enabling all the students with access to the computers to view the PowerPoint presentation and demo video simultaneously while listening to us explain everything relevant to the above-mentioned topic. We taught them the advantages of using WIX that not only included building websites but also writing personal blogs and creating business pages. We mentioned that having once registered an account on WIX, the account stays for as long as the account isn't deleted by the user. We also taught them the various tools present in the toolbar and their uses. We showed them a short video demonstrating a portfolio created step-by-step using WIX. We finally came to the conclusion, that WIX enables a user to make websites using drag and drop tools rather than programming languages like HTML, CSS and JavaScript.

It was a lively and interactive session in which the students truly had fun and also benefited from it. We were also very excited to share our knowledge with them hoping they would use it for various constructive projects and that it would benefit them further in their academic life.



Seminar on WIX

Department of Information Technology:

Department of IT has presented an animated presentation on Reuse, Recycle and Reclaim R3 regarding the recycling of e-waste on 11th Feb, 2022. The presentation was made by the volunteers for the students. It educated the students about the sources of e-waste and the hazards of dumping the e-waste in an inappropriate manner. It was helpful in giving insights and in spreading awareness regarding disposal and recycling of E-Waste.

Demo videos were also shown to the students as part of the seminar on how can simple components be used to make useful gadgets. Live models were also showcased in order to give them a practical idea of how e-waste can be reused. One of which was a Motor Fan made using batteries, a switch, and an old small plastic fan blade; a tutorial was also shown on how the Model of the Torch was created using Plastic bottles, batteries, wires, a led, and some ice cream sticks. The students were also keen in viewing other models displayed on the desk. Overall the seminar went very smoothly and the responses received were amazing.



Presentation on Reuse, Recycle and Reclaim



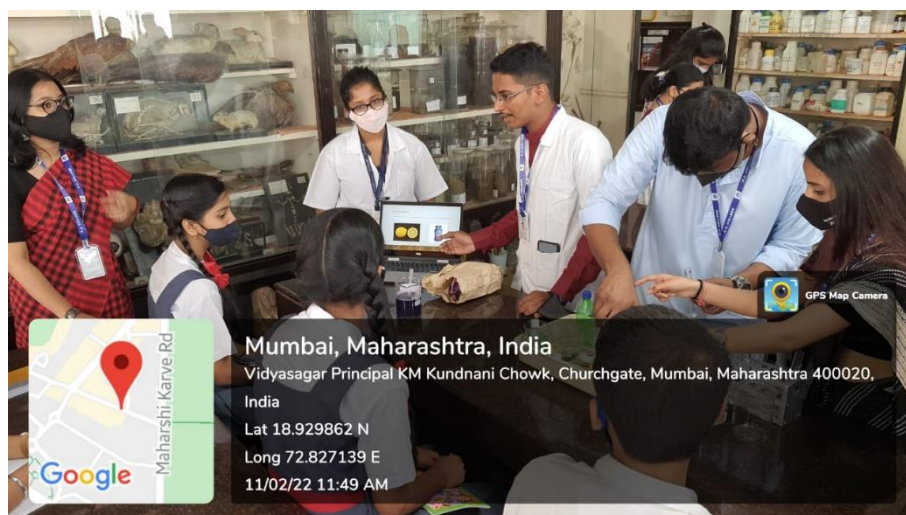
Volunteers showcasing the models to the students

Department of Life Sciences:

Life Sciences being a multidimensional subject hosted various fun session with the students. Department of Life Sciences organized 04 events for the school children. To provide them with the taste of classical biology, students were shown common and well-known medicinal plants which they can find in their vicinity. They were also shown specimens of zoological samples and briefed about human anatomy.

On the biochemistry front, the experiment of using purple cabbage juice as a pH indicator was demonstrated to the students and each school child individually performed the experiment. Thus, providing a hands – on element to the visit. The children were then taught the usage and handling of a foldscope wherein they observed microbial samples.

Students were highly excited and very happy to understand the subject and its limitless possibilities. The sessions were masterfully conducted by the First, Second- and Third-year students of the department under the mentorship of the faculties.



Students performing the PH Determination experiment



Students learning about medicinal plants in the laboratory

Department of Mathematics:

Origami workshop was conducted as an offline activity by the Mathematics Department during the Science Adda Event organized under the aegis of Star Status and Star Scheme funded by the Department of Biotechnology, Government of India and under the National Agenda of Azadi ka Amrit Mohatsav. The event was conducted on 11th February 2022. The resource person for the Origami workshop was Ms. Anushree Tambe, Assistant Professor of Mathematics, A. P. Shah Institute of Technology, and Thane.

She demonstrated and also gave hands-on experience of the various origami creations to K C college science students as well as the 75 school children visiting the Science departments under this initiative. The Origami workshop was very well received by one and all and this was evident in the feedback session that was held at the end of the Science Adda event.



Workshop on Origami



School children displaying their art

Department of Microbiology:

In order to prepare students for their visit to Microbiology lab, an introductory PowerPoint presentation highlighted what they would experience. Five stations were set up in the laboratory, and students were divided into four groups so that they could experience the demonstrations sequentially. As part of the first workstation, the students saw different pigmented and non-pigmented; fermenter/ non- fermenter; H₂S producer/ non- producer microbial cultures growing in various media. The volunteers of third year accompanied the students and explained the significance of the microbes, how to culture them and what are the preventive measure to be taken before working with the cultures. The second workstation exhibited fungal cultures growing and observing them microscopically. A microscopy demonstration was also given to the students on bacterial morphology. A third workstation was set up for showing them blood staining, freshwater algae and Meiosis.

The fourth and fifth work stations focused on the use of handmade working model wherein students were introduced to topics like viral infection, Mode of DNA replication, Spread of Tuberculosis and Dialysis mechanism. The students were fascinated by the microscopic cultures and the working model as it helped them visualise the concepts that they had previously learnt in school. To stimulate their interest, the students were given an outlined structure of virus which they could cut and make a 3D model on their own.



School Students visiting the Microbiology Lab



Students observing fungal cultures under the Microscope and Working Models on Tuberculosis and Mode of DNA replication

Department of Physics:

Department of Physics has demonstrated different physics-based experiments for school children. Students got the opportunity to perform basic experiments with a demonstrator. Through the experiments students learnt different concepts of physics like refraction of lasers, dispersion of white light and concept of resonance. After the demonstration they asked many questions and they were very happy to learn more about the principles behind all the experiment. The sessions were conducted by the First -year students of the department under the guidance of the faculties.



School Children learning the Refraction of Light with Laser Beam



Scholl children understanding the Concept of Resonance

Department of Statistics:

Statistics deals with the data analysis and visualizations. Every data has a story based on it. Using Spreadsheet as one of the data visualization tools, Students of our Department designed the dynamic dashboards which were revealing the story hidden inside the data that has been selected. Stories were narrated to school students by explaining the dashboard. Students were made aware of different plots which can be used for Data Representation.

Innovative use of Insert Map option from Excel used in representation of Geographical Data was explained by Mr Prashant and Ms Sakshi. School students and teachers appreciated this unique story telling activity. The activity was successfully conducted by the students of FYBCom, FYBSc, SYBA, SYBSc and TYBSc Students under the guidance of Department faculty members.



Students teaching graphical representation of Data



School children learning statistic through a story medium

Nature Club of KC College:

Nature Club of KC College had arranged a video of Sanjay Gandhi National Park. Wherein the school students were showed the geographical location and importance of SGNP in Mumbai. The clip also showcased places in SGNP and its flora and fauna.

Further, the students were made to listen to common bird calls which can be heard in and around Mumbai City. The students were able to identify a few birds and information about other birds was given to the students including how the birds looks, where it can be found, its regional names etc. The students found the session very interesting.



Students listening intently to bird calls during the session with Nature Club

Valedictory Function:

The event concluded with the valedictory function. Vice Principal of Sciences, Dr. Tejashree Shanbhag addressed the students. She appreciated the efforts taken by the faculty members and students volunteers of K. C. College for making this event ‘Science Adda’ a grand success. She also praised the efforts of the school teachers for making sure that the school students could spend their time at the college and get acquainted with all that K. C. had to showcase.

During the Overall feedback session, two school teachers voluntarily provided the feedback wherein they whole heartedly appreciated the efforts taken by each and every person at K. C. College in making the event a positive impression on the school children. Many children also wanted to express themselves. School students spoke about their gains from the event wherein they expressed that they were moved by the efforts and their interest in Science has been renewed and enhanced.

The event concluded on a successful note with the official Vote of Thanks presented by Dr. Pratiksha Kadam.