



It's Question Time ! STIMULATIONS 2020

LIVE WEBINAR on 'Questioning the Fundamentals' by Dr. K. Subramanian

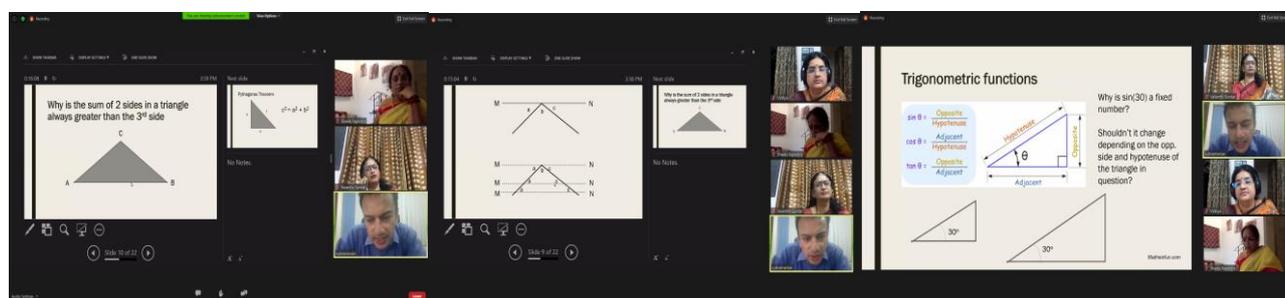
30th of June was a red-letter day in the annals of the PSBB Group of schools, when the first live webinar was held for the students of class 10, (at the threshold of class 11, 2020-21) at 3.30pm, via the zoom platform. Organised by the PSBB Group of Schools and conducted by the Principal of PSBB Nungambakkam, Mrs. Vasanthi S. under the enrichment programme entitled 'STIMULATIONS', this webinar was received with much excitement. Seated in their homes, during the lockdown, over 400 students attended, agog with attention as the illustrious resource person, Dr. K. Subramanian, Executive Director, Research & Development, Powergear Ltd. proceeded to sharpen their keen minds, stimulating them to question the fundamentals of all the concepts they had learnt in science and Maths.

"How many of you have truly asked your teachers "why" something is the way it is? Did you study and prove equations and theorems towards the next exam. or did you stop to ponder what nature is trying to tell you via Maths and science?" questioned Dr Subramanian, right at the beginning, arresting the attention of his audience.

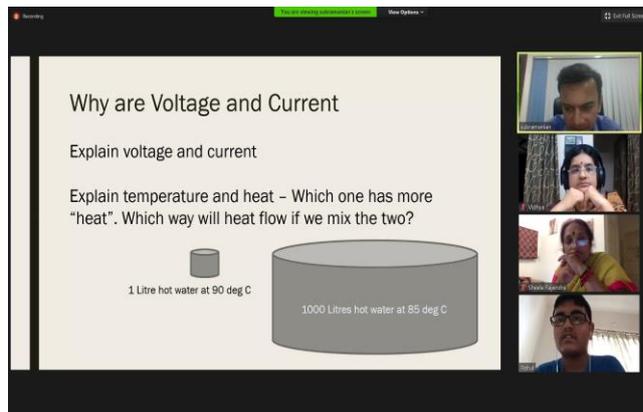
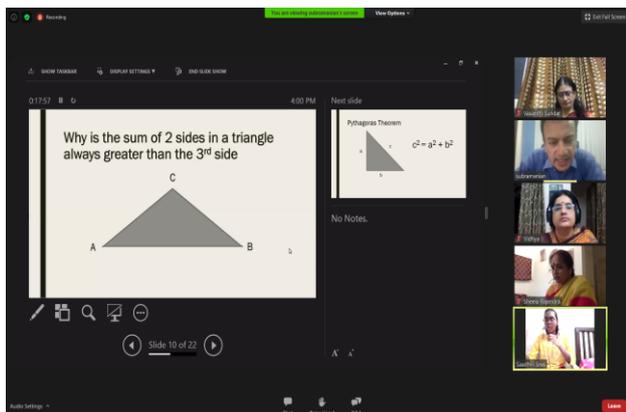
An alumnus of IIT, with a PhD in engineering from Cornell University, Dr Subramanian helped students make creative connections between various concepts. He started with a simple question. He showed the students a picture of a glass half filled with water and asked them if there was any other way of describing it other than the regular optimist's and pessimist's perspective. The answer lay in the scientific approach to the question, which did require some out of the box thinking. "You can consider the glass as completely full as it is made of atoms irrespective of it being atoms of water or air. Similarly, you can also consider the glass completely empty because as you zoom into a molecule it looks empty", said Dr. Subramanian, to the delight of his young audience, who were stunned with a new insight into the various concepts they had hitherto learnt in their classes. They realized that they would be looking at everything with a 'new pair of eyes'!



Dr. Subramanian then proceeded to ask students if they knew how to draw a 60° angle with just a compass and pencil. This was easily answered. He then asked why this approach worked, prodding them to think about what they were doing. Students soon realized that they were, in fact, creating an equilateral triangle, which was how they had got the desired angle.



Similarly, they were asked how to draw the perpendicular bisector of a line segment, and why the approach worked. Again, the first part of the question was more easily answered than the second. Slowly, questions increased in difficulty. Students moved from simple, elementary concepts in geometry and math to more difficult questions in science. They answered questions like ‘How can we increase the battery life of electrical vehicles without increasing the size of the battery?’ or ‘What is the difference between voltage and current?’. Over the course of the two hour webinar, changes could be seen in how students approached questions. The session had a noticeable impact on their thought processes.



The webinar was a fun, interactive session, where the inner beauty of science and mathematics was brought out. The Pythagoras theorem, The Golden Ratio, The Fibonacci Sequence were some of the concepts highlighted, besides Force, Acceleration and Mass and the difference between heat and temperature. The students were shown how the principles could be extended to modern problems, to facilitate an understanding of the fundamentals, giving them new and clear insights, instilling in them a love for the subjects as well.

“The best part about this session was that , it took us back to our lower classes and re-taught concepts in a new perspective! We learnt that if we ask the questions ‘how?’ and ‘why?’ rather than blindly follow the methods taught, we would remember concepts forever. I doubt if anyone who attended this session would forget their concepts ever again! ”said an excited student.

The webinar was concluded with a vote of thanks by the moderator, Mrs. Srividya Chandrasekar, senior physics teacher, PSBB Nungambakkam.



The Dean and Director and Correspondent, Mrs. Sheela Rajendra promised ‘many more such interesting and thought-provoking sessions through out the year ’,to the delight of all those who attended.

Reporter,
Cyber Pigeons,
PSBB NGM

