

REPORT ON MOLE DAY

On 23rd October 2020, the National Mole Day was celebrated by PSBB KKN through a virtual platform. The programme 'MOLE MINDZ – MOLE THOUGHTS' was a huge success and once again proved that this pandemic situation will not deter the PSBBians from showcasing their talents. The show started with an invocation to the lord, seeking his blessings. Myself, being the Science Secretary, started the show by explaining why the day is celebrated and its significance.

Celebrated annually on October 23rd from 6:02 a.m. to 6:02 p.m., Mole Day commemorates the discovery of the Avogadro Number (6.022×10^{23}). The time, day and date are derived from the Avogadro number. The National Mole Day Foundation founded in 1991 celebrates the day every year with a theme and the theme for this year is MOLEzilla.

The renowned Professor Dr. Mangala Sunder Krishnan, the Head of Chemistry Department at IIT Madras shared his thoughts on mole concept. He gave a very insightful formative lecture on the importance of mole, its unit and on the fact that how large the number is actually depends on the situation in which we are comparing it. Professor also explained how GOOGLE got its name and compared it with the largeness of Avogadro number in a thought provoking way. He also touched up on the history of how mole was discovered and, how the Avogadro Number was named.

Next up was Mrs. Vijayasudha, HOD Science, PSBB K K Nagar, who gave a Physics lens to the mole day. She spoke about how many physicists like Max Planck, Albert Einstein, Jean Baptiste Perrin and Ernest Rutherford and Hans Geiger had made estimations of the Avogadro number using different Physics concepts. Then she explained how Jean Perrin discovered the number and named it after Avogadro in honour of his works. She also elucidated on how mole concept is used in electricity and in nuclear Physics.

The role of mole in catalysis was explained by PSBB alumnus Mr. Prithvi Vangal. He gave an insight into how mole plays an important role in translation of reaction procedures across scales. He explained how the unit mole plays a cardinal role in measuring the amount of catalyst required for large scale processes. He highlighted the convenience of using that unit in everyday life.

Next in line was an amazing Carnatic music combined with a classical dance, which was beautifully linked with the Avogadro number. We had V.S. Adarsh OF 12E1 and V.S. Aakash OF 12E2 on vocals, Adithya Sridhar of 12F1 playing the mridangam and C. Shreya of 12E2 performing the dance. They chose a particular composition which consisted of 6 beats in one cycle, signifying the number 6. Similarly the whole piece was divided into three sets each containing 23 avartanams, which brought in the number 23 of the Avogadro number. The song and the dance together was a treat to the ears and eyes.

Mrs. Vijayalakshmi Srivatsan gave the new definition of mole and explained the mole concept from scratch. She discussed various topics like, from where the term mole was derived, the use of Avogadro number, its units and on how important it is for a chemist. Her thoughts on mole concept was very intriguing and informative.

Vasumathy of 12F2, spoke about the 'Big Wheel' behind this concept, which is Amedeo Avogadro. There were some memes on mole day and chemistry being displayed at intervals, which was a very fun idea. The best posters on the theme 'Molezilla' by eleventh students were also displayed. P. Smruthi from 12E1, made a fun approach to mole concept. Giving a Crorepati theme to her programme, she clearly explained how to find the mass of one mole of water.

Mr. Vishruth Venkat, alumnus of PSBB, 2011 Batch, threw light on the role of mole in Biology and Anatomy. He explained how important stoichiometry and mole concept are in the field of Biology and Biotechnology. The mole concept is important while preparing stains, buffer solutions etc. that are added to the embryo and specimens. Knowing the concentration of solutions and chemicals are again important while growing organisms under specific conditions. Similarly he explained how the process of electrolysis and mole concept again plays a role in making super fine sharp dissecting needles which must be properly and perfectly made.

Having a Shipwreck among famous Chemists manifested the spirit of creativity among the students. We had Marie Curie, Rosalind Franklin, Antoine Lavoisier, Amedeo Avogadro and Michael Faraday fighting for one life jacket. They all put forth their discoveries and inventions and argued in a scholarly way. But at the end however the Captain emphasised the fact that all of them are important to this world, as it's the foundation that they laid, that is helping this world to develop.

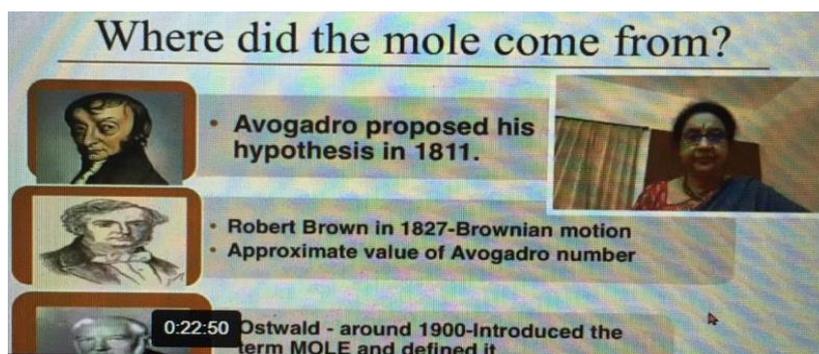
Finally as a show stopper, we had U. Gautham alumnus of PSBB, elucidating the role of mole in Statistical Physics. He discussed, why the probability of the oxygen molecules in a room entirely shifting to one half of the room, is extremely small or mostly not possible. The answer was due to the largeness of the Avogadro number. He also explained about quantum computing and why mole concept is important there too.

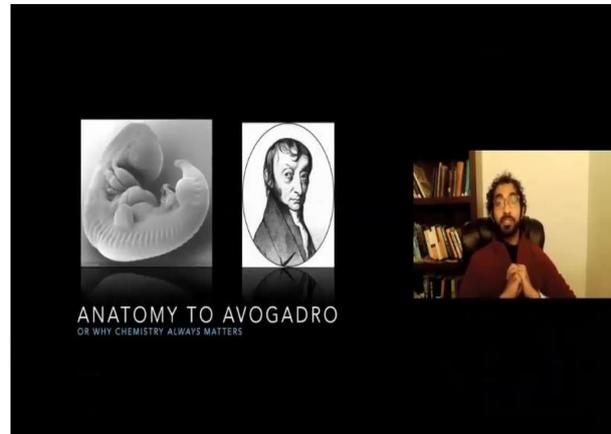
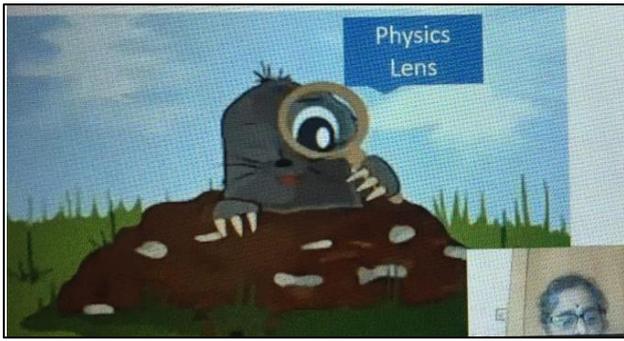
Overall the programme highlighted the role of mole in everyday life. Apart from looking it as just a concept that we learn for our exams, it helped us realize the supremacy of mole in all fields of Science. The programme was not only a sweet success, but also an inspiration to celebrate more such significant events on a digital platform.

By,

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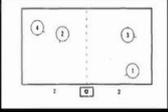
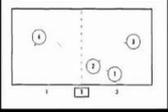




What if all the Oxygen molecules in the room went to the other half?



- Why shouldn't it happen?
- What if all of them move together?
- Probability is VERY SMALL
- Because of Avogadro's number

F Reif, Statistical Physics, Berkeley Physics Course