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## CBSE students to get virtual laboratories

From June, conducting a science experiment will be a different experience for Central Board of Secondary Education (CBSE) students. The board will introduce a virtual laboratory that will allow Class 9 and Class 10 students to conduct science experiments online.

The virtual laboratory will be in addition to the laboratories in schools and will allow students to conduct experiments in physics and chemistry. "Students will benefit from the experiments conducted online. There will be a tutorial guiding the students on experiment procedure," said Vineet Joshi, chairman, CBSE.

In the first phase, subjects such as physics and chemistry will be taken up and later include biology. Class 9 and Class 10 students conduct experiments to learn reflection of light on concave and convex mirrors, the effect of temperature and surface area on rate of evaporation of different liquids and chemistry projects to study adulterants in food.

Each experiment will be divided into four components - theory, procedure, stimulator and viva voice. The website will explain the step-by-step procedure to conduct the experiment online.

"Usually, students have a laboratory practical just once a week. At the end of the year, students tend to forget the procedure of a practical. The online lab will help them practice at their own pace," said a CBSE official. The online laboratory aims to use the Internet to engage students efficiently and cost-effectively. All the experiments will be based on the CBSE syllabus.

According to the official, the virtual experiment will spare students from coming in contact with harmful chemicals especially during chemistry experiments.

However, principals said the traditional method of conducting an experiment is better than the virtual one. "In a laboratory, a student can feel all the tools and conduct an experiment. I do not know how a virtual laboratory will benefit the students," said Cherian George, principal, Kendriya Vidyalaya, Powai.

CBSE has tied up with the Centre for Development of Advanced Computing, Mumbai, Amrita University and the ministries of human resources development and information technology to launch the project.

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