शिक्षा मंत्रालय
MINISTRY OF EDUCATION

Virtual Lab
as a teaching learning tool for Mathematics

VIRTUAL LABS

Date and Time

11 December, 2024

from 10:00 AM to 11:00 AM, Wednesday

Resource Persons

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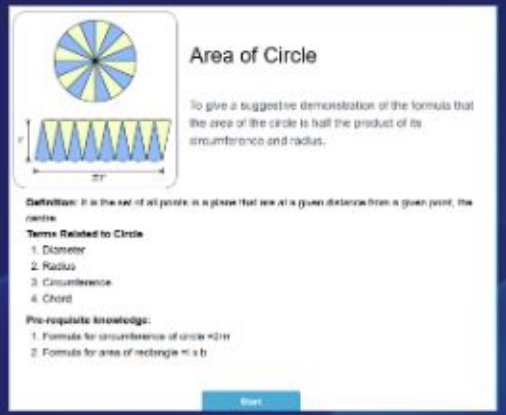
Virtual Labs as a Learning Tool for Mathematics

Presenters :
Dr. Jaganmohana Rao Gurugubelli ,Assistant Professor MPD,CIET-NCERT
Ms .Ana Gupta, Academic Consultant,CIET-NCERT

Purpose of Virtual Labs



Concept of Virtual Labs

Virtual labs are simulated environments that allow students to conduct experiments and explore mathematical concepts interactively, enhancing understanding through practical application.

Educational Objectives

The primary purpose of virtual labs is to provide a safe, flexible, and engaging platform for students to learn mathematics, fostering critical thinking and problem-solving skills.

Integration with Curriculum

Virtual labs serve as a complementary tool in mathematics education, aligning with curriculum standards to facilitate deeper learning experiences and promote student engagement.

Benefits of Virtual Labs for Mathematics Learning

01

Enhanced Engagement

Virtual labs provide interactive and immersive experiences that capture students' interest, making complex mathematical concepts more accessible and enjoyable to learn.

02

Immediate Feedback

Students receive real-time feedback on their performance in virtual labs, allowing them to identify mistakes and understand concepts more thoroughly, which promotes self-directed learning.

03

Safe Experimentation

Virtual labs allow students to experiment with mathematical theories and problems without the fear of failure, encouraging exploration and innovation in their learning process.

Active Learning Strategies with Virtual Labs

01

Interactive Problem Solving

Virtual labs enable students to engage in hands-on problem-solving activities, allowing them to apply mathematical concepts in real-time scenarios, which enhances critical thinking and retention of knowledge.

02

Collaborative Learning Opportunities

These platforms facilitate group work and peer-to-peer interaction, encouraging students to collaborate on mathematical tasks, share insights, and learn from each other's approaches to problem-solving.

03

Adaptive Learning Paths

Virtual labs can offer personalized learning experiences by adapting to individual student needs, providing tailored challenges that promote mastery of mathematical concepts at their own pace.

Use of Mathematics Virtual Lab for learners

Interactive Learning: Students can engage with mathematical concepts through simulations and virtual experiments, making learning more dynamic and engaging.

Critical Thinking: Virtual labs encourage students to think critically and solve problems by experimenting with different variables and observing outcomes.

Self-Paced Learning: Students can learn at their own pace, revisiting concepts and experiments as needed to reinforce understanding.

Use of Mathematics Virtual Lab for teachers

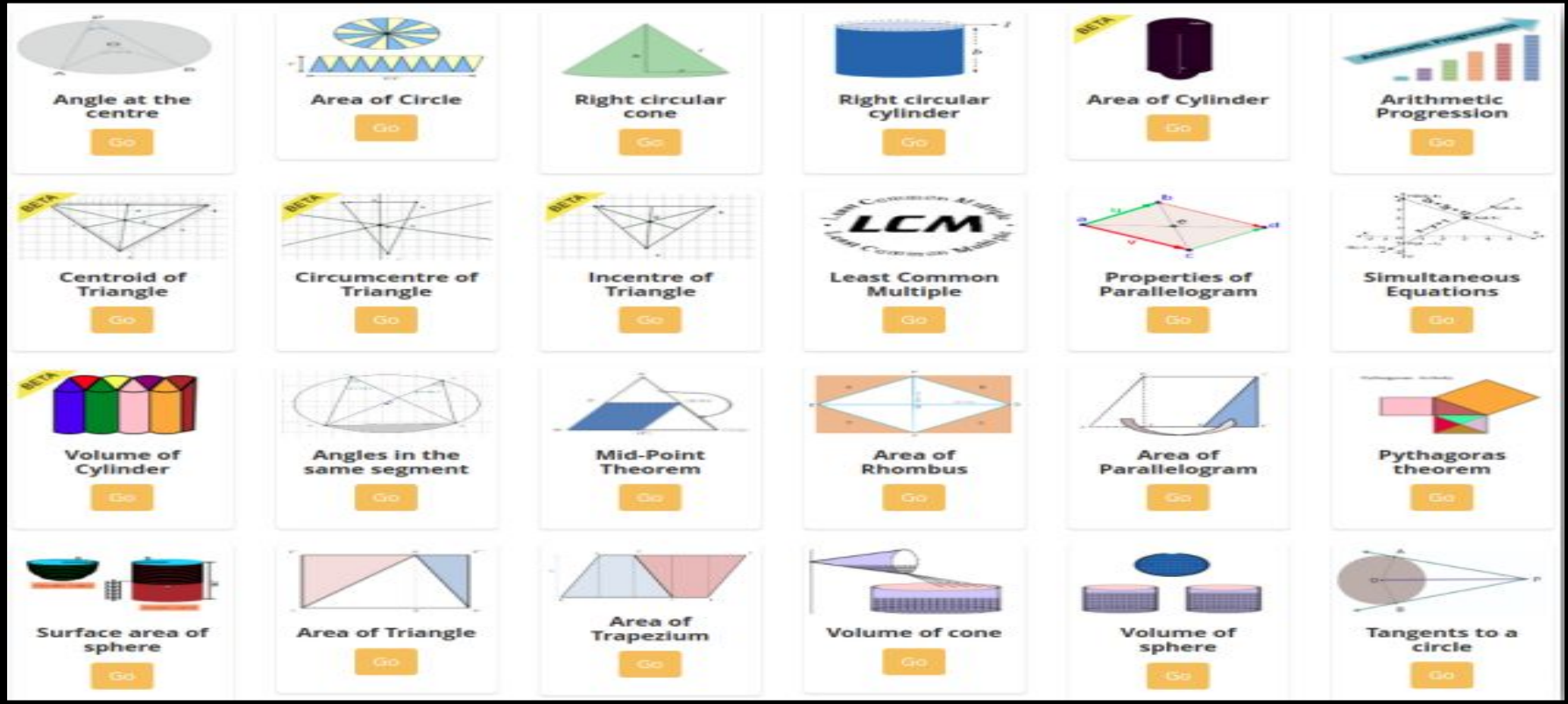
Enhanced Teaching Methods: Virtual labs provide innovative pedagogical tools, allowing teachers to incorporate interactive and hands-on activities into their lessons.

Flexible Learning Environment: Virtual labs allow teachers to create a more flexible and adaptable learning environment, catering to different learning styles and paces.

Accessibility and Inclusivity in Learning

- Broad access for all learners
- Supports diverse learning styles
- Encourages collaboration among students
- Provides resources for differently-abled
- Flexible learning environments
- Enhances engagement

Available Resources



DIKSHA HOMEPAGE

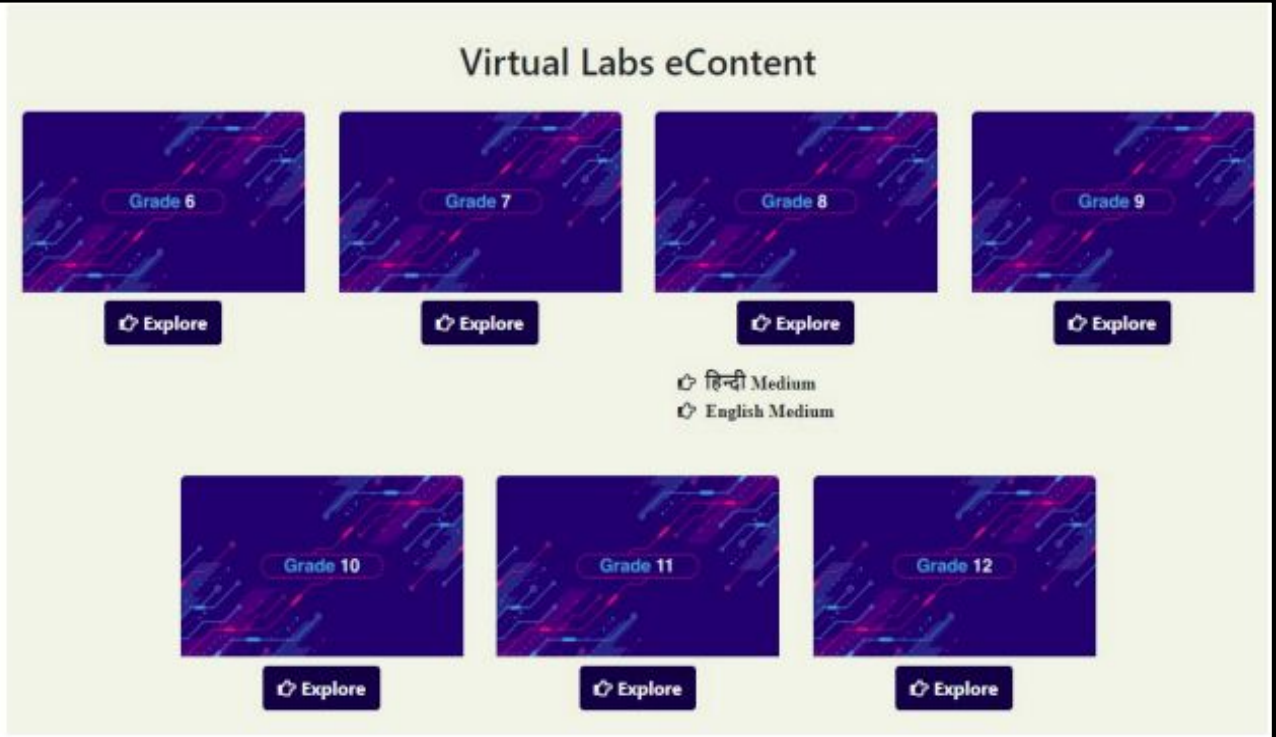
- Search https://diksha.gov.in/

Virtual labs Vertical

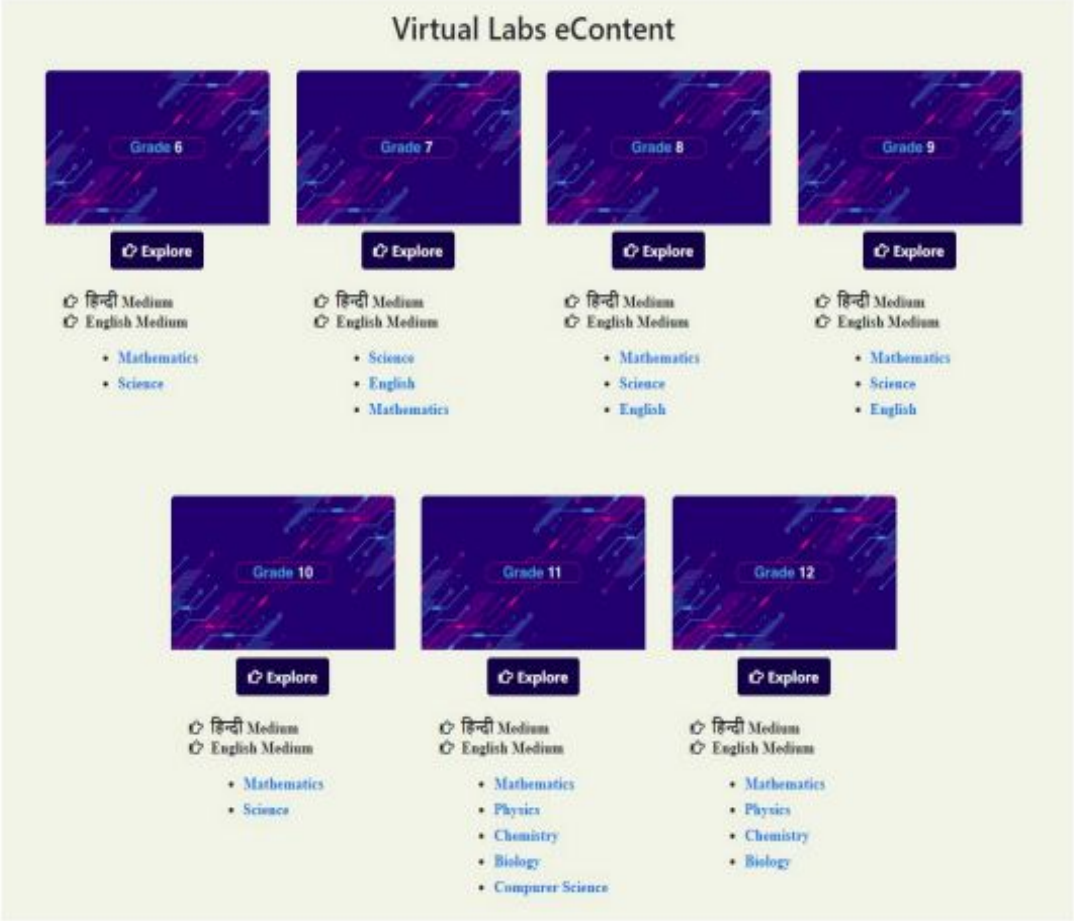
- Scroll banners to find Virtual labs vertical and click on its “Explore” icon.

Steps to reach eContent of class 6-12

- Scroll down on the landing page of Virtual labs to reach eContent of classes 6-12.



- Click on the “Explore” icon of the desirable class, select the medium of interaction, then choose a subject you wish to study.



Click on Explanation Resources