AMRITA
VISHWA VIDYAPEETHAM
DEEMED TO BE UNIVERSITY

Exploring Virtual Labs for Sciences

OLabs
Online Labs for School Experiments

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AmritaCREATE

About Amrita University

Recognition

Teaching & Research Excellence

Category-1 Status
Graded Autonomy

NAAC A++ ACCREDITED

THE WORLD UNIVERSITY RANKINGS
No.1 Private University in India (2020)
No.1 International Outlook (2020)

nirf 2021 GOVT. OF INDIA | 5TH BEST UNIVERSITY IN INDIA

Top300 Clinical, Pre-clinical & Health (2020)
Top400 Engineering & Technology (2020)
Top500 Computer Science (2020)

NBA NATIONAL BOARD OF ACCREDITATION

QS WORLD UNIVERSITY RANKINGS
No.1 International Faculty (2020)

AACSB ACCREDITED

Mission: Education for Life & Education for Living
Compassion-driven Research

MeitY
Government of India

Aligned with NCERT syllabus
Follows key principles of NEP 2020

215+ Experiments

Class IX, X, XI, XII

- Physics (54)
- Chemistry (46)
- Biology (36)

Class VI, VII, VIII

- Science (13)

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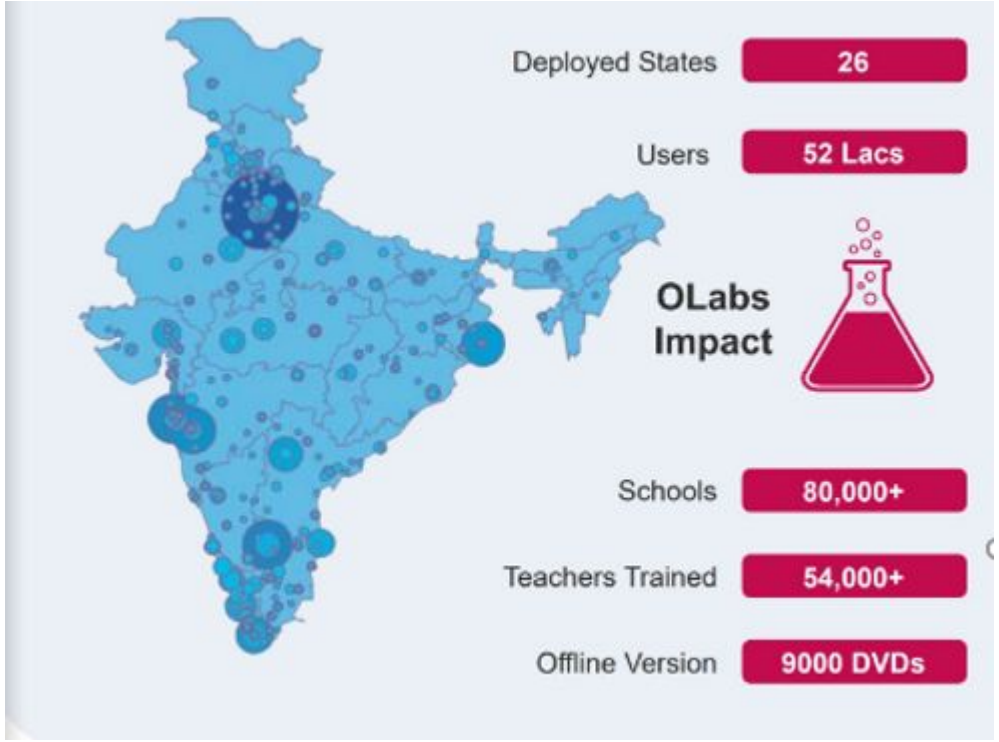
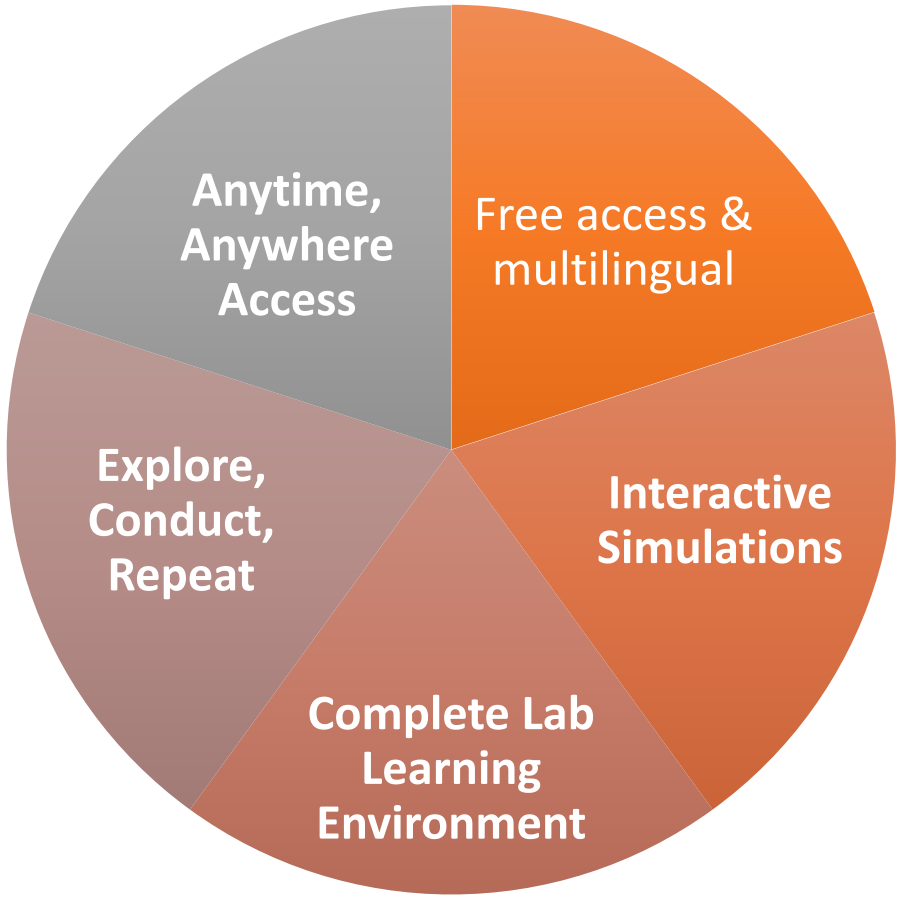
Online Labs (OLabs) Vision

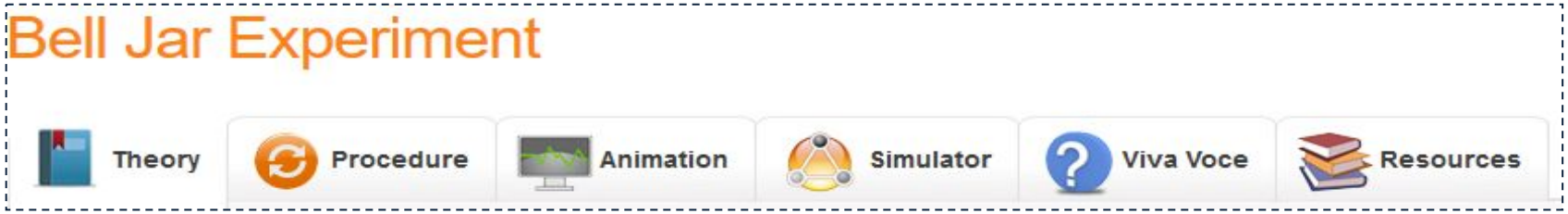
- World's largest platform for lab experiments for schools
- Animations, Interactive Simulations and Lab Videos
- Allows for exploratory learning



Online Labs for School Experiments



E-Content of a Lab – A complete lab experience



Each experiment has sections covering the following:

- **Theory** – objective, concept related to the experiment, expected learning outcomes.
- **Procedure** – explains how to perform the real lab procedure and the simulator procedure.
- **Animation/Video** - teachers may use it to demonstrate the experiment as a pre-lab or post-lab session.
- **Simulation** – learner may use simulation to practise experiments. The simulations are accurate.
- **Viva Voce –** Questions on related lab for self-assessment
- **Resources –** To refer to a topic in depth.
- **Feedback:** Very important for our continuous and constant improvement.

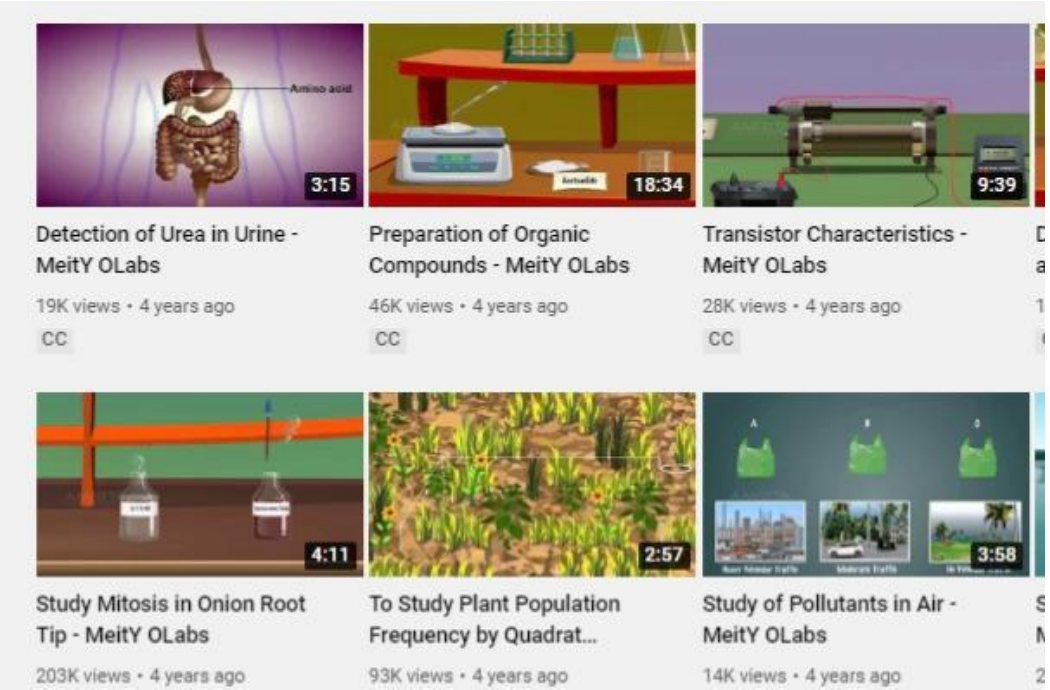
Simple Pendulum
SAVE
Solution Controls
Select Environment
earth
earth
moon
uranus
saturn
jupiter
Select Wire
Twine Thread
Pendulum Length(m): 1
0.5
1.5
Change Diameter(mm): 15
10
25
Show Protractor
Answer
Play/Pause
Reset
min sec ms
00:00:000
START
Developed by Amrita University & CDAC Mumbai. Funded by
MeitY (Ministry of Electronics & Information Technology)

Simple Pendulum
SAVE
Solution Controls
Select Environment
earth
Select Shape
Square
Sphere
Clock Pendulum
Square
Rectangle
Twine Thread
Pendulum Length(m): 1
0.5
1.5
Change Diameter(mm): 15
10
25
Show Protractor

Simple Pendulum
SAVE
Solution Controls
Select Environment
earth
Select Shape
Square
Select Material
Steel
Steel
Copper
Aluminum
Iron
Brass
Lead
0.5
1.5
Change Diameter(mm): 15
10
25
Show Protractor
Answer
Play/Pause
Reset
min sec ms
00:00:000
START

www.olabs.edu.in

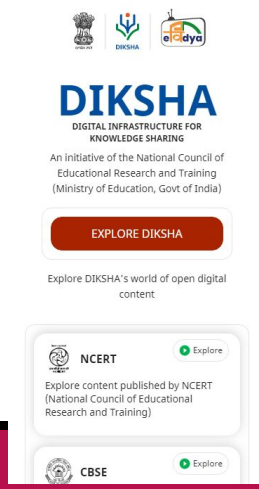
OLABS (AmritaCREATE) – YouTube Channel



https://diksha.gov.in/

DIKSHA

Platform for Teachers, Students and Parents



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Using OLabs - Scenarios

Teachers

- Supplementary Learning
- In the classroom: Explain labs before performing the practical/lab session
- After performing the practical/lab session- can frame review questions with the lab as the backdrop.

Students

- Pre-lab familiarise with lab.
- After Lab- Revision, try out various variants, reinforce the concepts, answer questions they may have, etc.

Creative teachers and students may come up with many more innovative uses!

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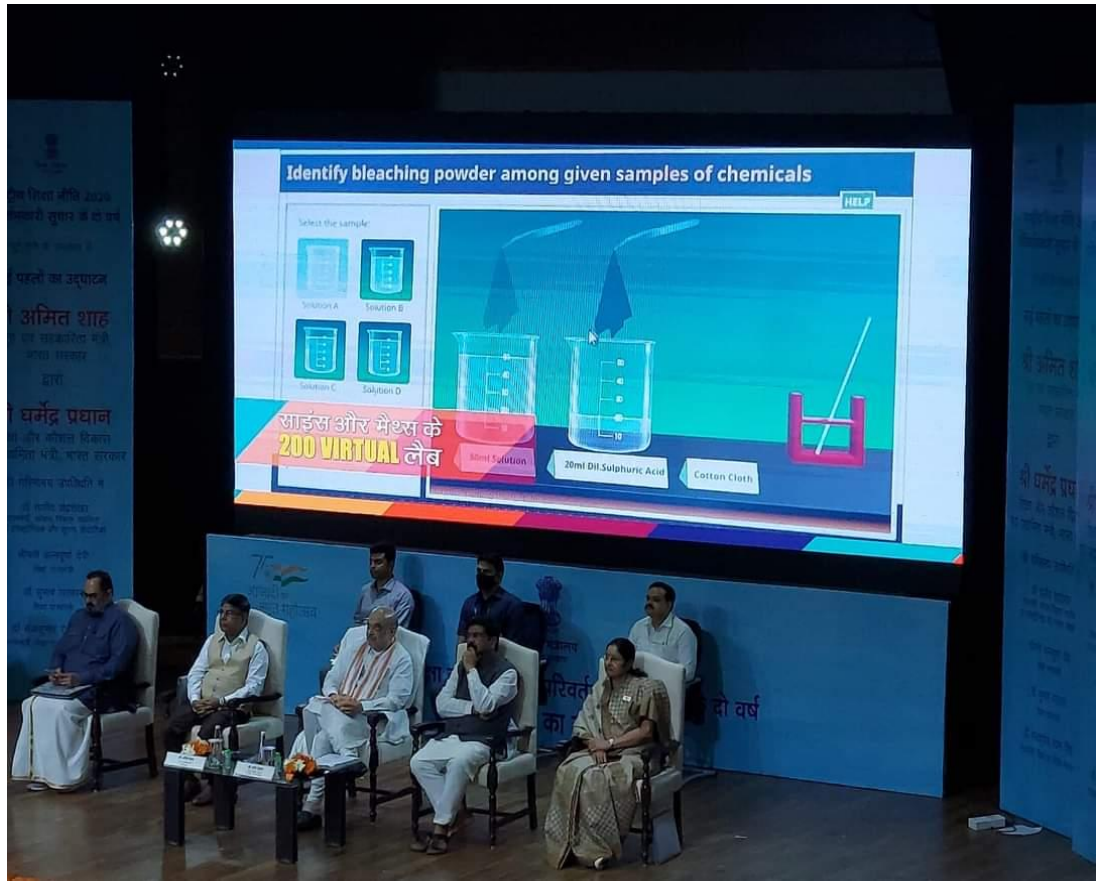
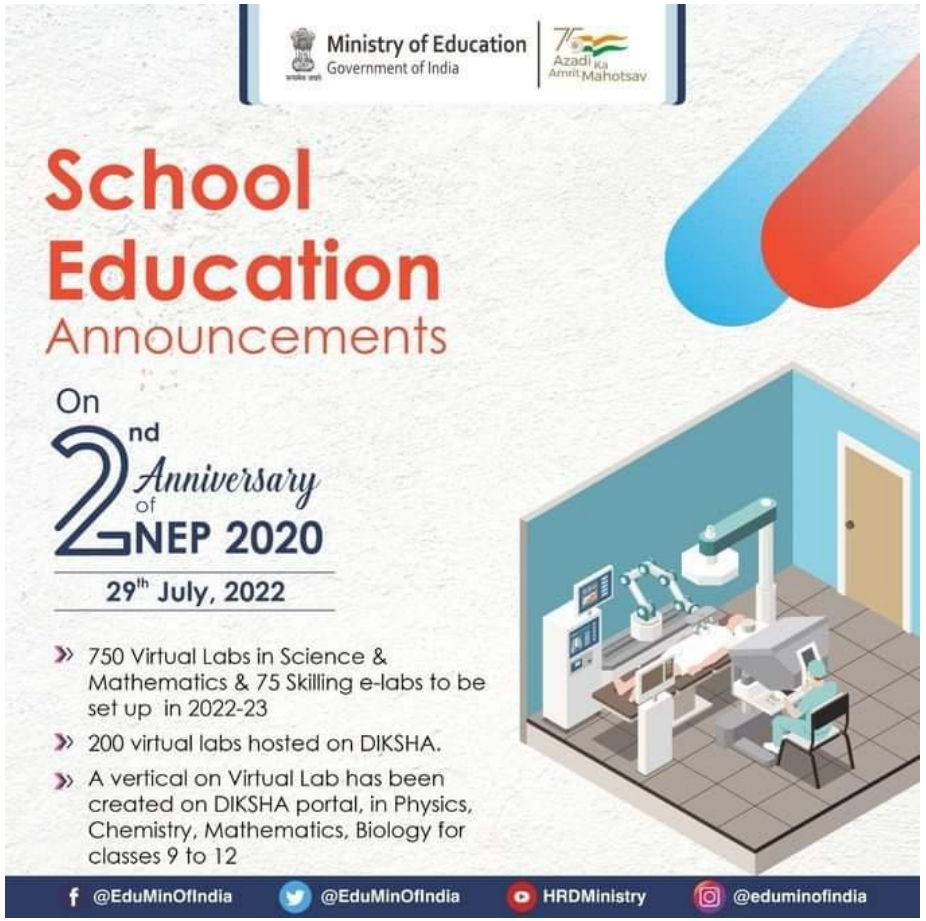
Digital India Award of Online Labs

OLabs was launched during Good Governance week celebrations on Dec 28, 2015 by Honourable minister of IT Shri Ravi Shankar Prasad

OLabs is being launched as a part of new educational initiatives.
Available in DIKSHA – One Nation One Platform