



**SESSION ON :**  
**VIRTUAL LABS FOR SCIENCE WITH SPECIAL REFERENCE TO THEIR**  
**PEDAGOGICAL USAGE**

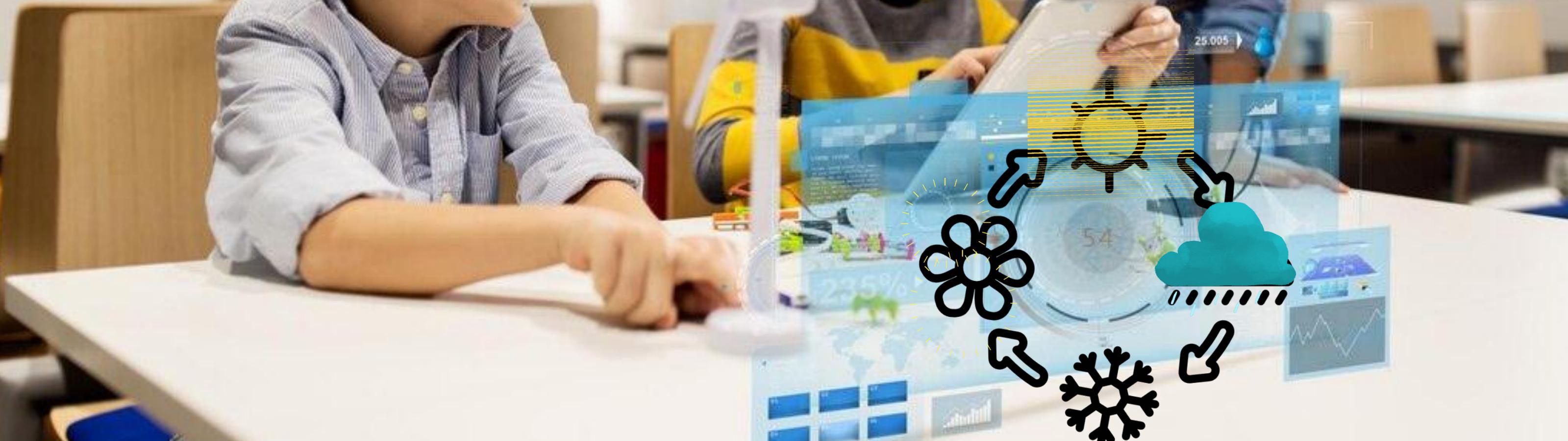


**ASSESSING THE  
EFFECTIVENESS  
OF  
VIRTUAL LABS  
IN  
SCIENCE  
EDUCATION**

# HOW PEDAGOGICAL USE OF VIRTUAL LABS AND TECHNOLOGY INTEGRATION OPTIMIZES SCIENCE EDUCATION

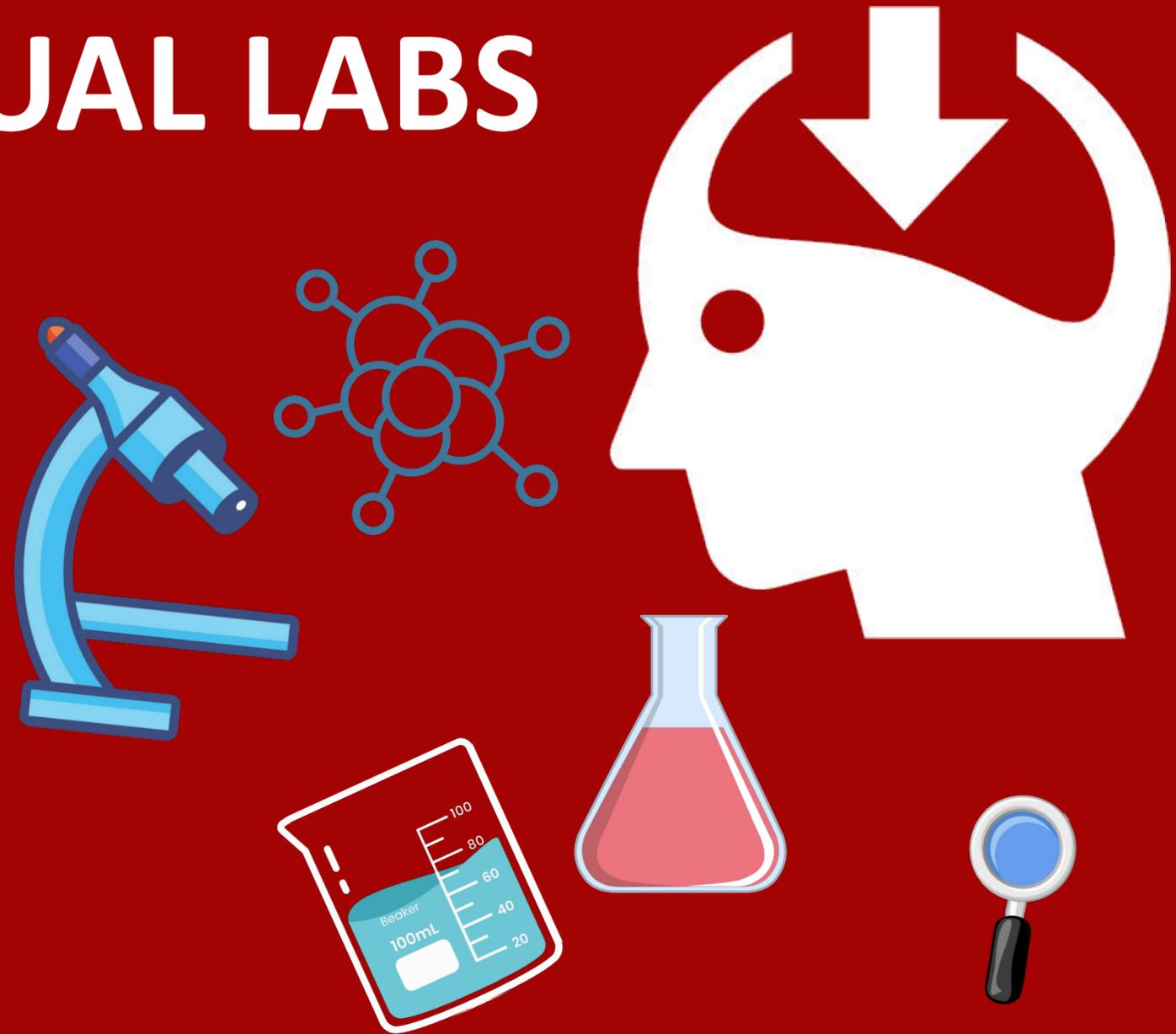


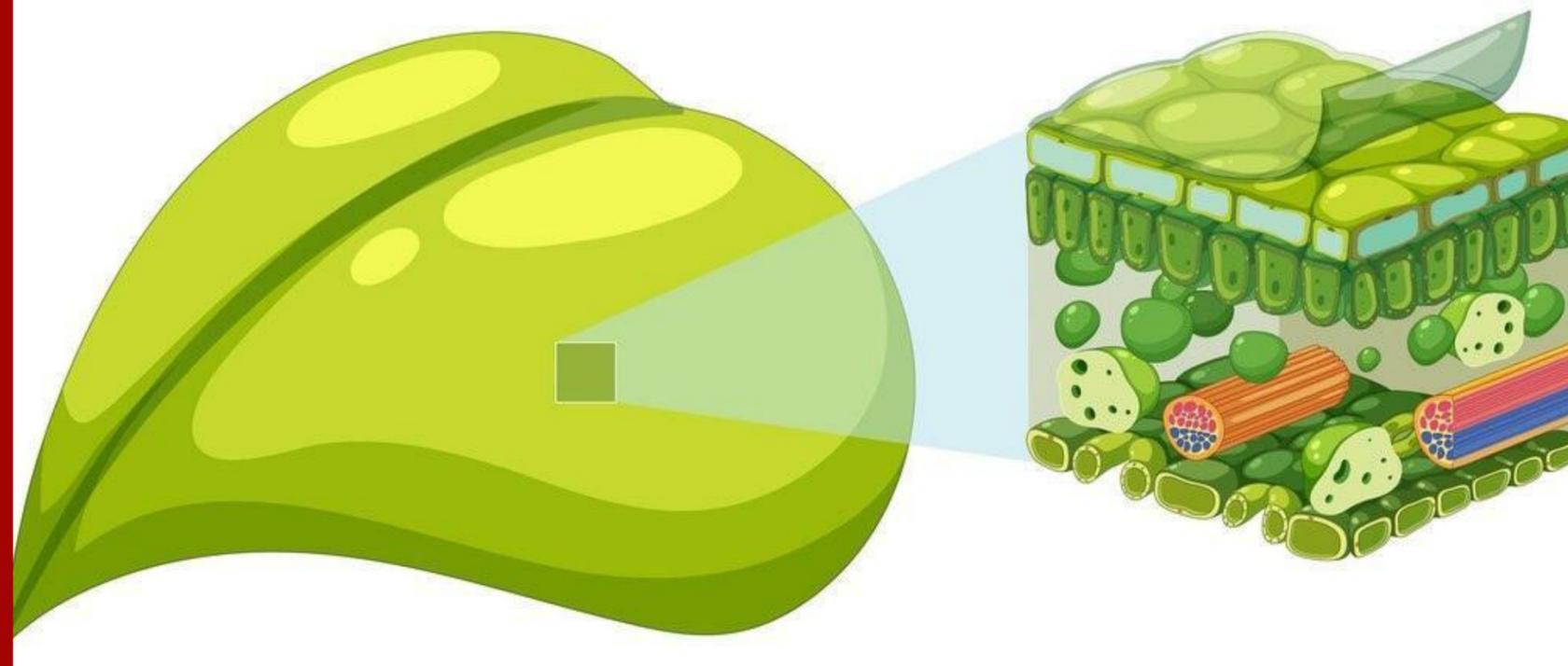
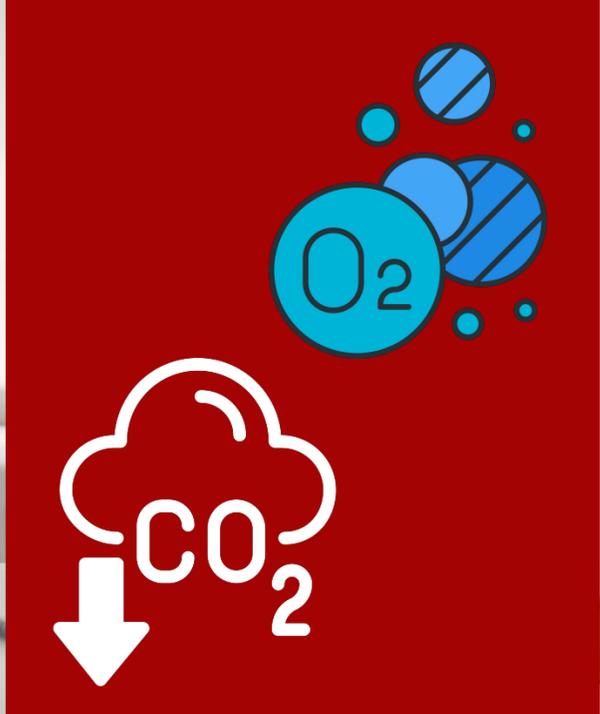
# WATER CYCLE



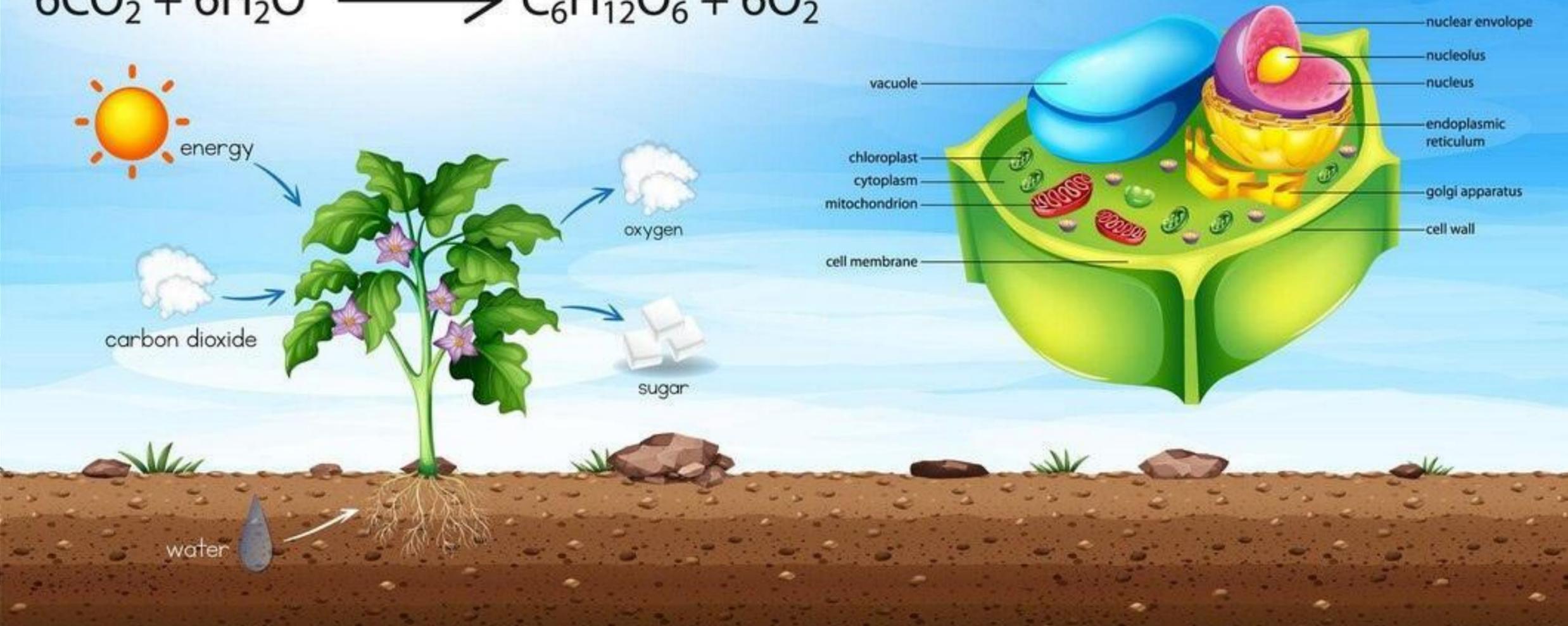
# MAXIMIZING LEARNING POTENTIAL WITH VIRTUAL LABS

- Safe
- Accessible
- Easily Visualized
- Remote Learning
- Aligned with Curriculum
- Hands-on Virtual experience
- Multiple Scientific Disciplines
- Strong guidance for students to achieve Learning Outcomes





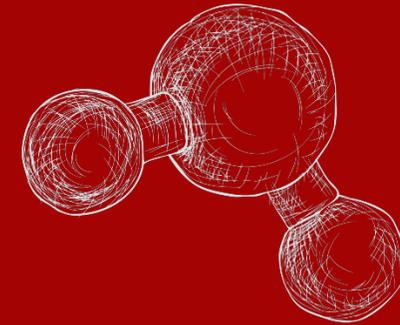
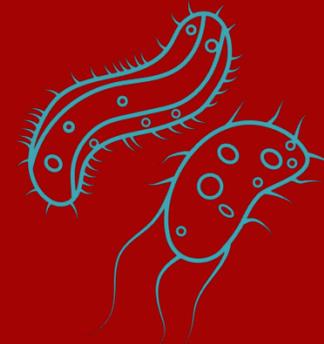
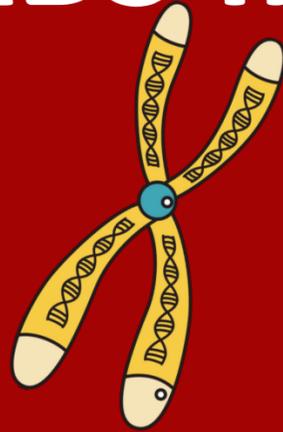
## Process of Photosynthesis



# EFFECTIVE TEACHING STRATEGIES FOR TEACHERS USING VIRTUAL LABS IN SCIENCE EDUCATION



- Ask Questions
- Inquiry-based learning
- Analyze and discuss
- Collaboration & Teamwork
- Differentiation



- Promote 21st century skills
- Formative Assessment
- Provide Feedback
- Correct Scientific Myths & Misconceptions



## Pedagogical Use of Virtual Labs

- Integration into educational practices
- Enhanced learning
- Formative Assessment
- Enables achievement of Learning Objectives

## Maximizing Learning Potential

- Promotes purposeful learning
- Smooth transition from theory to practical
- Guidance to students to achieve LOs
- Intricate structures made easy with 3D models
- Incorporation of online simulations

## Benefits

- Equal Access for all
- Fulfill educational goals (SDG 4 & NEP 2020)
- Safety
- Deeper understanding of Scientific concepts
- Development of practical laboratory skills
- Development of HOTS
- Preparation for real-world labs
- Easy Visualization
- Accommodates diverse learning styles

## Effective Teaching Strategies for student engagement

- Questioning & prediction making
- Inquiry-based learning
- Discussions
- Analysis of scientific concepts
- Collaborative learning
- Encouragement of critical thinking problem-solving
- Assessment & feedback
- Differentiation



“ VIRTUAL LABS IN SCIENCE EDUCATION ”