Active Learning Lesson Plan

Physics - Force and Motion

Position and movement (YoTeach!)

School :	XXX Secondary School		
Subject :	Physics		
Form :	S4	Date:	DD/MM/YYYY
Number of students:	24	Time:	50 minutes
Topic :	Equations of uniformly accelerated motion		

Prior Knowledge:

- Quadratic equations in one unknown
- Vectors, uniform motion, displacement, velocity and acceleration

Learning Objectives:

- Derive equations of uniformly accelerated motion
  - $v = u + at$
  - $s = \frac{1}{2}(u + v)t$
  - $s = ut + \frac{1}{2}at^2$
  - $v^2 - u^2 = 2as$
- Solve problems involving objects in uniformly accelerated motion

Learning activities planned for this lesson:

- Understand the derivation of the equations and solve problems involving objects in uniformly accelerated motion using **YoTeach!.**

Flow/Breakdown of lesson

Review and Warm-up (10 mins)

Teacher helps students to recall the prior knowledge including:

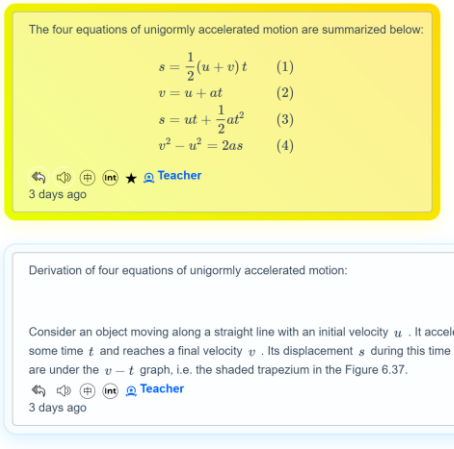
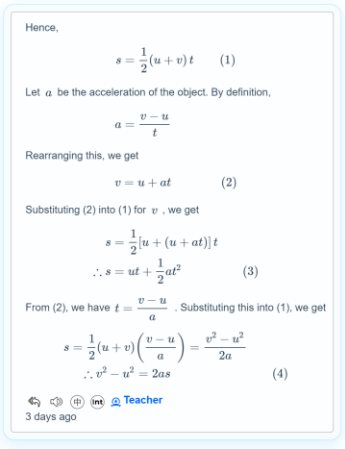
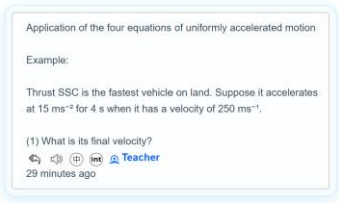
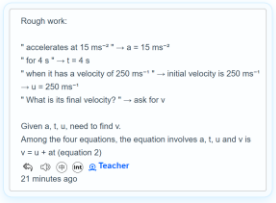
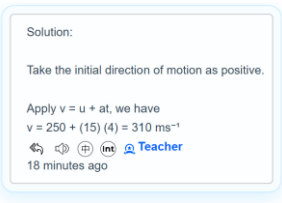
- Concepts of vectors and uniform motion
- Concepts of displacement, velocity and acceleration
- Displacement-time graphs, velocity-time graphs and acceleration-time graphs

Teacher's demonstration and explanation (35 mins)

Teacher teaches the following concepts (could be occurred on the YoTeach! platform).

- Derive equations of uniformly accelerated motion

- With the derived four equations of uniformly accelerated motion, solve problems involving objects in uniformly accelerated motion

Teacher's Activity	**Students' Activity**
YoTeach! will be used to understand the derivation of the equations and solve problems involving objects in uniformly accelerated motion. Teacher introduces four equations of uniformly accelerated motion and explains how to derive the equations. (Pic 1 and 2) Pic 1  Pic 2  By giving an example, teacher shows how to solve problems involving objects in uniformly accelerated motion. (Pic 3 - 5) Pic 3  Pic 4  Pic 5  With a similar question, students try to apply the knowledge learnt from teacher's demonstration Teacher will ask students to write down their solutions in **YoTeach!**. Teacher will then check all the solutions of students, identify the correct answers, and go over closely which ones are incorrect. Bonus Question is also provided to encourage students to try an advanced cross-topic question.	Enter the room by scanning the QR code and entering the pin: **23023677**. Observe and work out according to teacher's demonstration. Students can ask questions through **YoTeach!**. 

Conclusion and Homework assignment (5 mins)

Teacher concludes the lesson by recapping the concepts/objectives learnt in this lesson.

Assign homework to students.

Total: 50 mins