

# Active Learning Lesson Plan

## Physics - Force and Motion

### Position and movement (Badaboom!)

School :	XXX Secondary School		
Subject :	Physics		
Form :	S4	Date:	DD/MM/YYYY
Number of students:	24	Time:	50 minutes
Topic :	Motion graphs		

#### Prior Knowledge:

- Functions and graphs
- Vectors, uniform motion, displacement, velocity and acceleration

#### Learning Objectives:

- Present information on displacement-time graphs, velocity-time graphs and acceleration-time graphs for moving objects
- Use displacement-time graphs to determine the displacement and velocity of objects
- Use velocity-time graphs to determine the displacement, velocity and acceleration of objects

#### Learning activities planned for this lesson:

- Review the concepts related to motion graphs using **Badaboom!**.

### 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
- Graph plotting base on displacement-time graphs, velocity-time graphs and acceleration-time graphs

#### Teacher's demonstration and explanation (30 mins)

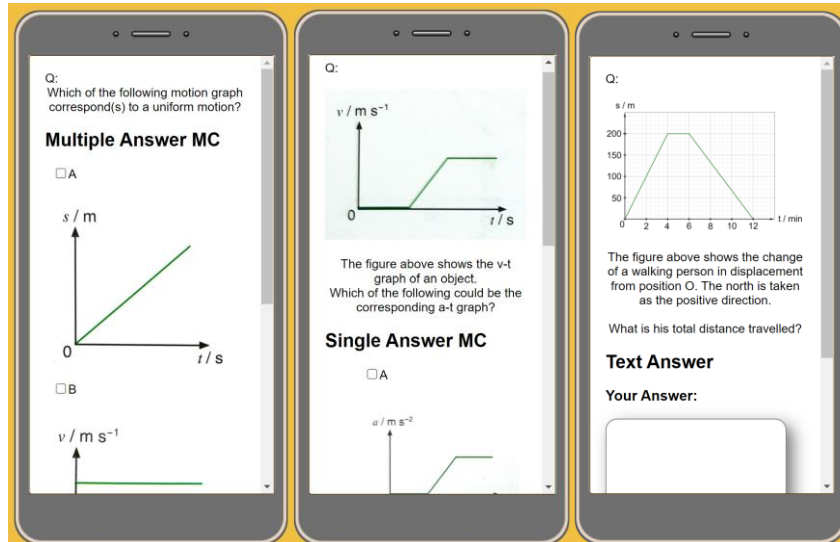
Teacher teaches the following concepts.

- Graph reading with displacement-time graphs, velocity-time graphs and acceleration-time graphs (with no specified values)
- Graph sketching base on displacement-time graphs, velocity-time graphs and acceleration-time graphs s (with no specified values)

## Conclusion and Homework assignment (10 mins)

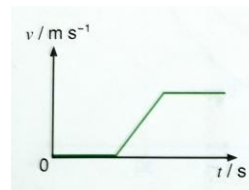
### Teacher's Activity

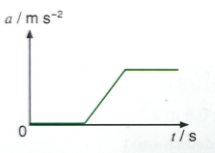
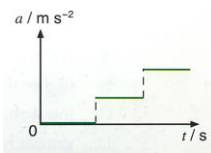
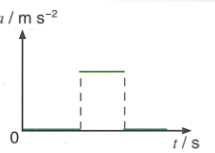
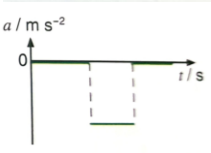
**Badaboom!** will be used to test their understanding of this lesson's new knowledge.



Q1. [Answer Type: Multiple Answer MC]

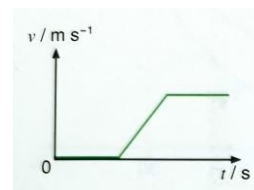
The figure above shows the v-t graph of an object. Which of the following could be the corresponding a-t graph?

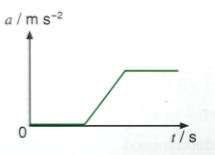
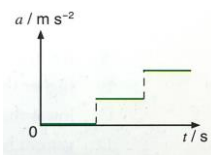
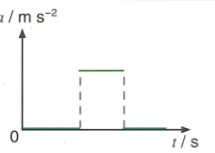
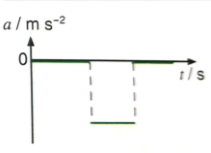


- A. 
- B. 
- C. 
- D. 

Q2. [Answer Type: Single Answer MC]

The figure above shows the v-t graph of an object. Which of the following could be the corresponding a-t graph?



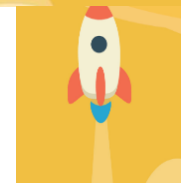
- A. 
- B. 
- C. 
- D. 

### Students' Activity



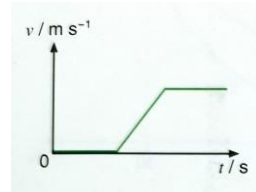
Enter the game room by scanning the QR code and entering the game pin.

Actively work out the solution and participate in **Badaboom!** gaming competition.



Q3. [Answer Type: Single Answer MC]

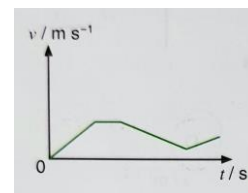
The figure above shows the v-t graph of an object. Which of the following could be the corresponding s-t graph?



- A. B.
- C. D.

Q4. [Answer Type: Single Answer MC]

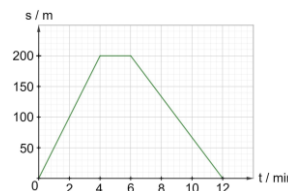
The figure above shows the v-t graph of an object. Which of the following could be the corresponding a-t graph?



- A. B.
- C. D.

For Q5 - 6 [Answer Type: Text Answer]

The figure above shows the change of a walking person in displacement from position O. The north is taken as the positive direction.



Q5. What is his total distance travelled?

Q6. What is his total displacement travelled?

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

Assign homework to students.

**Total: 50 mins**