

**Weekly planner** **Week-13**

**Subject: Physics (0625) Name of the faculty: S.M Tanvir
Grade-6**

| **Day: Wednesday****Date: 23/04/24 to 25/04/24** | **Learning objectives and Outcomes**: * Define average speed and acceleration.
* Calculate average speed and acceleration using appropriate formulas.
 | **Tools and resources** | ***Special remarks*** |
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| **23/04/24****Day-01**  | **Ice breaking- (5 minutes)****Question 1:** "Think of a situation where you had to travel from one place to another. What factors influenced how fast you could get there?"**Question 2:** "Imagine you're in a race. Would you rather have a high average speed or high acceleration? Why?"**Development activities-** (30 minutes)**Introduction to Average Speed (10 minutes):** Define average speed as the total distance traveled divided by the total time taken. Discuss the formula for calculating **average speed:****Average Speed = Total Distance/Total Time**Provide examples and solve problems involving the calculation of average speed.**Introduction to Acceleration (10 minutes):** Define acceleration as the rate of change of velocity over time. Discuss the formula for calculating acceleration: **Acceleration = Change in Velocity/Time Taken** ​ .Explain the difference between positive acceleration (speeding up) and negative acceleration (slowing down). Provide examples and solve problems involving the calculation of acceleration.**Practice Session (10 minutes):** Divide students into pairs or small groups. Distribute worksheets with problems related to average speed and acceleration. Encourage students to work together to solve the problems, using calculators and formula sheets as needed. Circulate around the classroom to provide assistance and clarification as necessary.**Closing activities- (5 minutes)**Review key concepts of average speed and acceleration. Ask students to share any insights or challenges they encountered during the practice session. Emphasize the importance of understanding these concepts in various real-life situations, such as driving, sports, and physics.  | Text BookMarkerBoardVideo clips Worksheets |  |
| **25/04/24****Day-01** | **Ice breaking- (5 minutes)****Question 1:** Ask students to recall a situation where they had to quickly change their speed while traveling (e.g., stopping suddenly at a traffic light, accelerating to catch a bus). Discuss their experiences briefly.**Question 2:** Show a simple speed-time graph on the board and ask students to describe what they observe. What might the graph represent? (e.g., constant speed, changing speed, stationary). This will help to activate prior knowledge and set the stage for the lesson.**Development activities-** (30 minutes)**Main Activity (20 minutes):** **Speed-Time Graph Analysis:**Present examples of different types of motion using speed-time graphs (e.g., constant speed, acceleration, deceleration, rest). Discuss how each type of motion is represented on the graph. Have students practice interpreting speed-time graphs by providing them with examples and asking them to identify the type of motion represented.**Velocity-Time Graph Analysis:** Introduce velocity-time graphs and explain how they differ from speed-time graphs by including direction. Provide examples of different types of motion using velocity-time graphs (e.g., constant velocity, acceleration in a positive or negative direction, deceleration). Guide students through the process of interpreting velocity-time graphs and identifying the type of motion represented.**Group Activity (10 minutes):** Divide students into small groups and provide them with printed copies of speed-time and velocity-time graphs. Instruct each group to analyze the graphs and come up with scenarios that could correspond to each graph. Encourage discussion within groups to ensure understanding and collaboration.**Conclusion (5 minutes):** Recap key points about speed-time and velocity-time graphs, emphasizing the differences between them and how they represent motion. Encourage students to ask any remaining questions they may have. |  |  |
| **25/04/24****Day-02** | **Ice breaking- (5 minutes)**Begin the lesson with a brief discussion on motion. Ask students: Can you name some types of motion you encounter in your daily life? What do you think a graph of motion might look like?**Development activities-** (30 minutes)**Introduction to Speed-Time and Velocity-Time Graphs (10 minutes):** Define speed-time and velocity-time graphs. Explain the difference between speed and velocity. Show examples of each type of graph and discuss the features of each.**Activity 1: Speed-Time Graphs (15 minutes):** Provide a real-life scenario (e.g., a car accelerating from rest, then maintaining a constant speed, and finally decelerating to a stop). Draw the corresponding speed-time graph on the board. Break students into pairs or small groups. Distribute worksheets with similar scenarios and ask students to sketch the corresponding speed-time graphs. Circulate the classroom to provide assistance and clarification as needed.**Activity 2: Velocity-Time Graphs (15 minutes):** Introduce a new scenario involving velocity (e.g., a train moving forward at a constant velocity, then accelerating, and finally coming to a stop). Draw the corresponding velocity-time graph on the board. Break students into new pairs or small groups. Distribute worksheets with similar scenarios and ask students to sketch the corresponding velocity-time graphs. Circulate the classroom to provide assistance and clarification as needed.**Conclusion (5 minutes):** Review key concepts and any challenging problems encountered during the activities. Ask students to summarize the differences between speed-time and velocity-time graphs. Encourage questions and clarify any remaining doubts. |  |  |

| **Differentiation:** By content / Process/ Product/Environment/Class performance. | **Home work: Given Example in class.** | **Assessment tools & strategies:** Formative assessment**Reflection (if any):** |
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