

Physical Science
Study Guide
Unit 2 Test – Wednesday, February 24

Key Terms:

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|--------------------|---------------------|----------------|----------------|
| ○ Qualitative Data | ○ Quantitative Data | ○ Distance | ○ Position |
| ○ Speed | ○ Velocity | ○ Acceleration | ○ Displacement |

Test Material by Subject:

Data Types

- Given a list of data, be able to distinguish between qualitative and quantitative data.
- Be able to give an example of qualitative and/or quantitative data

Graphs

- Graphs should include: a title, labels on the axis (with units), and a best fit line when appropriate.
- Be able to determine the slope of a line and the equation of a line.
- Be able to determine the independent variable and dependent variable
- Distance vs. Time
 - Be able to plot a distance vs. time graph
 - Understand how to determine the speed of an object from a distance vs. time graph.
 - Be able to evaluate a graph for how far an object went, how long it took, and speed.
 - Be able to predict time or distance once you have determined the equation of the line.
- Position vs. Time
 - Recognize the difference between a position vs. time graph and a distance vs. time graph
 - Understand how to determine the velocity of the object from a position vs. time graph.
 - Understand that a flat line (horizontal) on a position vs. time graph indicates that the object is stopped.
 - Be able to evaluate a graph for where an object started, where an object is, how long it took, and velocity.
 - Be able to predict time or position once you have determined the equation of the line.
 - Be able to create a velocity vs. time and an acceleration vs. time graph from a position vs. time graph
- Velocity vs. Time
 - Understand the difference between velocity and speed.
 - Recognize that a flat line indicates a constant velocity.
 - If an object is not moving, the flat line should be on the x-axis.
 - Velocity with positive motion should be above the x-axis while velocity with negative motion should be below the x-axis.
 - Be able to calculate acceleration as the slope of a velocity vs. time graph

Motion Maps

- Be able to plot a motion map based on a position vs. time graph.
- Understand how the velocity affects the size and direction of the arrows.
- Know to stack the points at a position if the object is stopped.
- Given times, be able to use a motion map to calculate speed and velocity.

Types of Motion

- Know the difference between displacement and distance & speed and velocity
- Be able to calculate average speed, average velocity, and acceleration
- Given acceleration and initial and final velocities, be able to calculate a change in time.

See “Essential Questions/Instructional Goals” File for the Unit on my website & Reference table for equations.