**Name:**

**Date:**

**School:**

**Facilitator:**

5.04 Displacement-Time Graphs Questions

**Complete both parts of the assignment below using what you learned in lesson 5.04. In Part 2, you are required to complete a graph. Use any of the following methods to complete this graph:**

* **Draw the graph by hand and scan/photograph it for submission**
* **Use the Microsoft Word chart tool to graph your data.**
* **Use the online Geogebra graph linked on the Task page to complete the graph. Take a screen shot of the graph you create and insert the image.**

# Part 1: Graphs

1. What variable is placed on the x-axis in a displacement-time graph?
2. What variable is placed on the y-axis in a displacement-time graph?
3. What does the slope of a line in a displacement-time graph tell you?
4. If the slope of a line in a displacement-time graph is *negative*, what does that tell you about the direction of the motion of the object?
5. If the slope of a line in a displacement-time graph is *positive*, what does that tell you about the direction of the motion of the object?
6. If the slope of a line in a displacement-time graph is *zero* (a horizontal line), what does that tell you about the motion of the object?

# Part 2: Graphing Data

**Using the following description of the motion of a car as it drives for 10 seconds, graph the motion in a displacement-time graph and insert your graph in the space provided. Make sure to use graphing techniques such as titling your graph, labeling the x-axis and the y-axis, adding scales and a line of best fit through the points, etc. Then answer the questions below about your graph.**

|  |  |
| --- | --- |
| **Time (s)** | **Displacement (m)** |
| 0 | 0 |
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |
| 4 | 6 |
| 5 | 6 |
| 6 | 6 |
| 7 | 6 |
| 8 | 10 |
| 9 | 14 |
| 10 | 18 |

|  |
| --- |
| *Insert your displacement-time graph of the data above here:* |

1. During what time frame did the car have the greatest velocity?
2. Did the car every stop during the 10s depicted on your graph?       If so, during what time frame was it stopped?