**Part 1: Connecting to Prior Knowledge – Graphing**

**Several students in science class collected data representing the height of a growing seedling over several days. Plot the data as a line graph and connect the dots.**

|  |  |
| --- | --- |
| **Day** | **Height (cm)** |
| **1** | **2** |
| **2** | **2.5** |
| **3** | **3.5** |
| **4** | **3.5** |
| **5** | **4.5** |
| **8** | **7** |
| **9** | **8** |
| **10** | **8.5** |
| **11** | **8.5** |
| **12** | **9** |

**How can you use this graph to find the average growth of the seedling?**

**Part 2: Learning about Motion**

**RUN!**

**Problem: How can we use a graph to describe how we move?**

**Science Question: Can the data on a distance-time graph show how fast we are moving?**

**Hypothesis: If I collect distance and time data and graph it, then I can tell when I am running or walking, because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Procedure:**

1. **You will be walking, running, and moving a third way (your choice). Each time you move, you will be covering a distance of 5 meters.**
2. **Create a START LINE and a FINISH LINE that is 5 m long.**
3. **You will be working in groups of 4. There will be a MOVER, a TIMER, someone at the start line that says GO and someone at the finish line that says STOP.**
4. **When the mover hears GO, he/she will start to walk. When the timer hears GO, he/she will start the stopwatch.**
5. **When the mover hears STOP, he/she will stop walking. When the timer hears STOP, he/she will stop the stopwatch.**
6. **The walker should record their time on the data table.**
7. **Repeat steps 4-6 for running and walking.**
8. **Repeat steps 4-6 so that every member of the group is able to collect their own data.**

**Data:**

|  |  |  |
| --- | --- | --- |
| **Travel Mode** | **Distance (m)** | **Time (s)** |
| **Walking** |  |  |
| **Running** |  |  |
| **Other:**  |  |  |

**Analysis:**

1. **Graph your data. Distance should be on the y-axis and time should be on the x-axis. You are creating line graphs.**
2. **Compare the slopes of each line. What is different about the slopes when you ran versus walking?**

**Conclusion:**

1. **Write a claim that answers the science question “: Can the data on a distance-time graph show how fast we are moving?”**
2. **Support your claim using evidence from your graph:**

