**Graphing and Reaction Temperature**

**Lab.**

**Problem: How can you use a graph to compare the change in temperature of three different metals when they react with an acid?**

**Material:**

 **3 metals, acid, stop watch, thermometer.**

**Data: take a temperature every 10 seconds for 3 minutes for all three metals.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Mg** | **Time****(s)** | **Temp****(C)** | **Ca** | **Time****(s)** | **Temp****(C)** | **Zn** | **Time****(s)** | **Temp****(C)** |
|  | **0** |  |  | **0** |  |  | **0** |  |
|  | **10** |  |  | **10** |  |  | **10** |  |
|  | **20** |  |  | **20** |  |  | **20** |  |
|  | **30** |  |  | **30** |  |  | **30** |  |
|  | **40** |  |  | **40** |  |  | **40** |  |
|  | **50** |  |  | **50** |  |  | **50** |  |
|  | **60** |  |  | **60** |  |  | **60** |  |

**Graph: put the temperature on the vertical axis and the reaction time on the horizontal axis.**

**Conclusion:**

What data is on your graph? What units were used? What is the relationship between the reaction time of calcium and its change in temperature? What are some reasons for the relationship (between calcium and reaction time) that you just explained? Explain the relationship between the change in temperature and the reaction time of Zinc. By looking at the graph, is there evidence of a chemical reaction between the acid and the Calcium?