**Unit 2 - Lab 1**

**Buggy Lab**

**Part I**

Watch the buggy at the front of the classroom. Based on that observation, answer the following questions:

1. Did the buggy move? How do you know?
2. Draw a series of state diagrams for the buggy. What quantity or quantities change from diagram to diagram?

**Part II**

Mark the position of your buggy each time the metronome ticks for ten ticks of the metronome. Record your results below.

1. Predict where the buggy would be on the eleventh tick of the metronome. Then the twelfth tick. Then the thirteenth. Show how you made these predictions, then perform an experiment to test your predictions.

|  |  |  |
| --- | --- | --- |
| **Tick** | **Predicted Position** | **Measured Position** |
| 11 |  |  |
| 12 |  |  |
| 13 |  |  |

1. Is there a rough pattern in your data? If so, does how does this pattern show up in your state diagrams.