**Newton’s 2nd Law Demonstration Observation Notes**

**Demo 1**

Ball 1 description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

Ball 2 description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

Ball 3 description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

Describe the relationship between the variables (write “constant”, draw up or down arrows to show how the remaining variable interact)

F \_\_\_\_\_\_ = M \_\_\_\_\_\_ X A \_\_\_\_\_\_

If more books were added to the twine;

- explain how the demonstration would change

- which variables would be effected

- which variables would not be changed

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Demo 2**

1st Angle description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

2nd Angle description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

3rd Angle description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

Describe the relationship between the variables (write “constant”, draw up or down arrows to show how the remaining variable interact)

F \_\_\_\_\_\_ = M \_\_\_\_\_\_ X A \_\_\_\_\_\_

If a ball with more mass were used;

- explain how the demonstration would change

- which variables would be effected and how

- which variables would not be changed

If a ball with less mass were used;

- explain how the demonstration would change

- which variables would be effected and how

- which variables would not be changed

**Demo 3**

Answer Before Demonstration

Predict which object will fall the fastest.

Explain why?

Predict which object will have the greatest force. Explain why?

Answer After Demonstration

Were your predictions accurate? Explain

Explain what would happen if the objects were dropped from a different height.

Which object fell fastest?

What causes the objects to land at the times they did?

Object 1 description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

Object 2 description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

Object 3 description: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mass: \_\_\_\_\_\_ acceleration: \_\_\_\_\_\_ Force: \_\_\_\_\_

Describe the relationship between the variables (write “constant”, draw up or down arrows to show how the remaining variable interact)

F \_\_\_\_\_\_ = M \_\_\_\_\_\_ X A \_\_\_\_\_\_

Predict what would happen if apiece of balled up paper and a piece of folded up paper were dropped from the same height at the same time.