Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_\_\_

Blue

**Round and Round**

**Unit Essential Question:** How do things move in space?

**Question:** How is orbital motion affected by the mass of an object?

**Task:** Develop an argument using observed evidence to show that gravitational forces are dependent on the mass of an object.

**Materials**

* Hula hoops - Tablecloth/sheet -round objects of different masses
* Binder clips -marbles -beads

**Hypothesis:**

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

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**Procedure (Check mark your steps as you complete them)**

1. Construct your model. Place a sheet or tablecloth around the hula hoop and clasp it in place. (Similar to yesterday’s video) \_\_\_\_

2. Decide which variables you will test record your variables on the chart provided. \_\_\_\_

3. Choose three different set-ups to test your variables, record your set ups on the chart.\_\_\_\_

4. Collect your materials from Ms. Murphy (you will need to show her your set-ups)\_\_\_\_\_\_

5. Start testing by placing one object in the center of the hoop; push another object so it begins to move around the rim of the hoop. Be sure to test at least three times to ensure valid and reliable results.\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Variable tested | Labeled diagram of setup | Observations |
|  |  | Trial1:  Trial 2 :  Trial 3: |
|  |  | Trial 1:  Trial 2 :  Trial 3: |
|  |  | Trial 1:  Trial 2 :  Trial 3: |

Write a claim about how mass affects the attractive force of gravity on objects moving in space. Include 3 statements of evidence supporting your claim. You may elaborate your evidence with a diagram. All statements should be in complete sentences.

|  |
| --- |
| Claim: |

|  |
| --- |
| Observed Evidence #1: |
| Observed Evidence #2: |
| Textual/video Evidence: |
| Textual/video Evidence |

|  |
| --- |
| Reasoning (Explain how your evidence supports your claim) |