

Name: _____ Date: _____ Class: _____

Making Moon Craters Worksheet

Prediction

I think that _____

Data Collection

During the activity, record in the tables below the impact depth measurements (in cm or mm) for each trial. Later, you will use this data for graphing.

Trial 1

| Height | Impact Depth | |
|--------|--------------|------|
| | 12 g | 24 g |
| 1 ft | | |
| 1.5 ft | | |
| 2 ft | | |

Trial 2

| Height | Impact Depth | |
|--------|--------------|------|
| | 12 g | 24 g |
| 1 ft | | |
| 1.5 ft | | |
| 2 ft | | |

Trial 3

| Height | Impact Depth | |
|--------|--------------|------|
| | 12 g | 24 g |
| 1 ft | | |
| 1.5 ft | | |
| 2 ft | | |

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Graphing

Make a graph of your data so you can better visualize the energy in this experiment.

Making a *height vs. impact depth* graph

1. Using graph paper, make a two-axis graph.
2. Make sure your x-axis and y-axis are each at least 10 squares long.
3. Number your y-axis.
 - For example, if you measured height in feet, put 1 ft at the lowest square and 2 ft at the highest square. (Each square represents 0.1 ft.)
 - For example, if you measured height in centimeters, put 30 cm at the lowest square and 60 cm at the highest square. (Each square represents 3 cm.)
4. Number your x-axis from 0 to 5 cm.
 - Put 0 at the furthest left square and 5 at the furthest right square. (Each square represents 0.5 cm.)
5. Plot the data points on your graph.
6. Using a ruler, connect all points that came from the 12 g trials.
7. Using a ruler, connect all points that came from the 24 g trials.

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Optional Activity—Freefall Highscore

Prediction

I think that _____

Data Collection

During the activity, record in the tables below the time it takes for the phone to fall for each trial. Later, you will need this data for graphing.

Trial 1

| Height | Time |
|--------|------|
| 1 ft | |
| 1.5 ft | |
| 2 ft | |

Trial 2

| Height | Time |
|--------|------|
| 1 ft | |
| 1.5 ft | |
| 2 ft | |

Trial 3

| Height | Time |
|--------|------|
| 1 ft | |
| 1.5 ft | |
| 2 ft | |

Trial 4

| Height | Time |
|--------|------|
| 1 ft | |
| 1.5 ft | |
| 2 ft | |

Graphing

Use your data to create a *height vs. time* graph and a *height vs. average velocity* graph. Show your work.