

Name(s): \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_ Course/Section: \_\_\_\_\_

Grade: \_\_\_\_\_

## **Observing Lunar Features**

### Objectives:

The goal of this lab is for students to observe basic features on the Moon, develop a basic understanding of the causes of some features, and learn how to measure the impact crater height on the Moon using basic geometry.

### Checklist:

- Complete the pre-lab quiz with your team (if required).**
- Compile a list of resources you expect to use in the lab.**
- Work with your team to complete the lab exercises and activities.**
- Record your results and mark which resources you used.**
- Share and discuss your results with the rest of the class.**
- Determine if your team's answers are reasonable.**
- Submit an observation request for next week (if required).**

## Pre-Lab Quiz

Record your group's answers to each question, along with your reasoning. These concepts will be relevant later in this lab exercise.

1.

2.

3.

4.

5.

## Part 1: Impact Physics

1. Classify the different types of impact features that can be simulated with the impact crater demonstration, and how they are produced.

2. What were the dimensions of the crater your team produced that came closest to the dimensions of Barringer Crater?

Diameter:	Depth:
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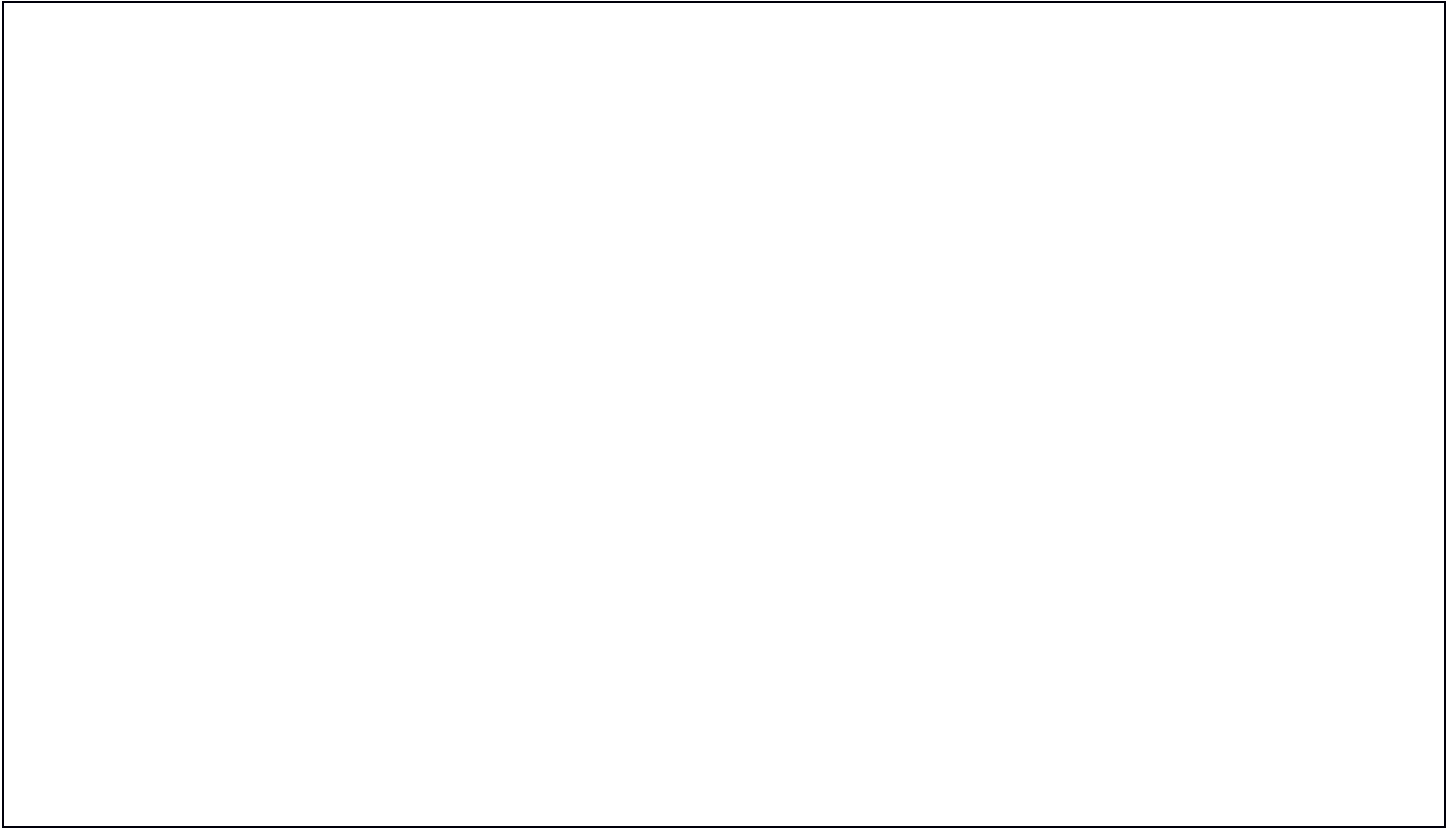
3. What were the parameters of the impact event used to create this crater? Explain your team's reasoning behind any assumptions you made.

Impactor Diameter:	Impactor Density:	Impact Angle:	Impact Velocity
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## Part 2: Observing Lunar Features

1. Locate the Moon in the night sky. What is the current phase of the Moon? In what direction (N, S, E, W, etc.) and at what elevation (Horizon, Zenith, About half way up, etc.) is the Moon located?
2. Knowing the phase, approximately what time does the Moon rise? What time does it set? Explain your group's reasoning in determining this
3. Observe the Moon through a telescope or using the image on the lab website. What types of features do you see? Describe the types of features you see in detail.
4. How does the Moon's surface differ from Earth's? How are they the same?

5. Sketch the lunar surface. Identify 5 features and the lunar landing site on your map. Also, make sure you mark where the terminator is located. After sketching your map, use the lunar map provided to label the cardinal directions on your Moon map, as well as the names of any features you included in your map.



6. How does the impact crater demonstration compare to actual impact features on Earth or the Moon?

### Part 3: Measure the Height of Lunar Craters

1. Using the method described on the lab page, calculate an estimate for the height of any two lunar craters in the images provided. Show your work.
2. How does the size of lunar craters compare to craters on Earth like the Barringer Crater? How do you explain this?
3. During what phases would the moon have to be in to determine the height of craters using this method? Explain your reasoning.