

### Exploration Student Worksheet: Tides

#### Overview

In this Exploration, you will explore the factors that cause tides. You will see how sea level changes during the day and how tides are affected by the position of the Earth and moon in space

#### Questions

1. Why are tides particularly high and low when the sun, the moon, and Earth are lined up?

---

---

2. Why does the shape of the tidal bulge change during the course of a month?

---

---

3. What is the greatest number of times that a high tide and a low tide can occur in a day? Explain your answer.

---

---

#### How to Use This Exploration

1. Read the Introduction and click the **Continue** button.
2. Read the text and follow the instructions.
3. Watch the animation and read the outcome explanations as they appear. Sketch the arrangement of the sun, the moon, and Earth that form extreme and moderate tides.
4. Click the **Revolve** button to see how the positions of Earth, the Sun, and the Moon affect the tidal bulge.
5. Click the **Previous** button to go back to the previous instruction. Click the **Next** button to move ahead in the Exploration.



Name \_\_\_\_\_ Date \_\_\_\_\_

EXPLORATIONS

**Exploration Student Worksheet: Tides**

**Data**

Use the animation to help you make a sketch of the arrangement of the moon, the sun, and the Earth in each box below.

**Arrangement of the moon, the sun, and Earth for Extreme Tides:**

A large, empty rectangular box with a black border, intended for a student to draw a diagram showing the arrangement of the moon, the sun, and the Earth for extreme tides.

**Arrangement of the moon, the sun, and Earth for Moderate Tides:**

A large, empty rectangular box with a black border, intended for a student to draw a diagram showing the arrangement of the moon, the sun, and the Earth for moderate tides.