**Tides** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_P \_\_\_\_

The daily changes in the level of ocean water are called­­\_\_\_\_\_\_\_\_\_\_\_**.** Tides are influenced by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and occur at **predictable times**.

**High Tide and Low Tide:** How often tides occur and the difference in tidal levels depend on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the moon as it revolves around the Earth.

The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has the greatest impact on the tides

**Battle of the Bulge:** When part of the ocean is directly facing the \_\_\_\_\_\_\_\_\_\_\_, the water \_\_\_\_\_\_\_\_\_\_\_\_ and the water on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ side of Earth bulges toward the moon. The bulges are called *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.*

Water is drawn away from the areas between the high tides, which causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to form.

The bulge (high tide) follows the moon

**Timing the Tides:** Tides occur at different times each day because the Earth rotates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the moon revolves around the Earth.

The sun also tugs on the water

The sun also affects tides. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the sun and the moon on Earth result in tidal ranges that vary based on the positions of the Sun, Earth, and Moon.

Tidal Variations

**Spring Tides** are tides with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and occur during New and Full Moons. During these times, the Sun, Earth, and Moon are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Neap Tides** are tides with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and occur during the first and third quarters of the Moon. During these times, the Sun, Earth and Moon form a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ angle.