

Topic/Objectives: 6-3 Tides; (1) Relate tides to the alignment and natural gravitational forces of the Earth, Sun and Moon. (2) Distinguish between tides, currents, and waves. (3) Give examples of how tides affect marine organisms.

Name:

Date:

Period:

Essential Question: How does the Earth, Sun and Moon influence tides?

Questions:

Notes:

The rhythmic pattern of rising and falling sea surfaces is known as _____.

- Tides do not affect the middle of the ocean basins, but have a pronounced effect on nearshore _____.
- Tides drive the circulation of bays and estuaries, trigger _____, and influence the lives of marine organisms in many other ways.

Tides are caused by the _____ pull of the Moon and the Sun and by the rotation of Earth, the Moon, and the Sun.

- The Earth-Moon system has two bulges—one bulge toward the Moon where the Moon's _____ dominates and the other bulge away from the Moon where _____ force predominates.

A full tidal cycle takes _____ causing the high and low tides in an area to vary daily.

The effect of the gravitational pull of the Sun on Earth is only about _____ as strong as the Moon's.

When the Sun and the Moon are in line with each other, which happens at the full and new moons, their gravitational effects add together; the difference between high and low tides is large. These tides are called _____.

When the Sun and the Moon are at right angles, their effects partially cancel each other; the difference between high and low tide is small. These tides are called _____.

There are three main tidal patterns: semidiurnal, mixed semidiurnal, and diurnal.

- _____ have two high and two low tides of approximately the same height each day.
- _____ occur when an area has two high tides and two low tides of different heights each day.
- _____ occur when there is only one high and one low tide each day.

Tides vary from time to time and from place to place because of the effects of _____ and the _____.

