

Name _____

The Moon's Magical Influence: How it Affects Earth's Tides

Short Answer Key

1. The Moon's gravitational pull creates two high tides on Earth by pulling the water on the side facing the Moon and creating a bulge. Simultaneously, the gravitational pull on the far side of Earth creates another bulge, resulting in two high tides.
2. Factors influencing tidal patterns include the Moon's position in its orbit, Earth's position in its orbit around the Sun, and the shape of coastlines and ocean basins. These factors lead to variations in tidal heights and timings.
3. Tides impact marine life and ecosystems by redistributing nutrients and oxygen, creating intertidal zones rich in biodiversity. Organisms in these zones have adapted to the tidal cycle for feeding, breeding, and survival.
4. The shipping industry relies on the predictable nature of tides for navigation. Ports and harbors ensure that ships have sufficient water depth during high tides for safe passage.
5. Tidal energy systems use the kinetic energy of rising and falling tides to generate electricity. They typically consist of underwater turbines that rotate as water flows in and out with the tides, producing power.

