

OCEAN TRIVIA

Trivia Questions: Ocean Tides and Weather

Children

1. What object in outer space is mainly responsible for the Earth's tides? **The Moon**
2. How often do tides usually happen? **Two high tides and two low tides per day.**
3. Why does the moon have a bigger effect on Earth's tides than the Sun? **Because it is closer.**
4. What is caused by the wind blowing over the surface of the water? **Waves**
5. What is the chemical formula for water? **H₂O**
6. A long, high sea wave caused by an earthquake, submarine landslide, or other disturbance is called what? **A tsunami**
7. Tides are caused because the moon's gravity is pulling the water (**up** or down), while the earth's gravity is pulling the water (up or **down**).
8. Where do jet streams form? **At the boundaries between hot and cold air masses.**
9. Where are jet streams found? **Six to nine miles above the Earth.**
10. Can a plane fly through a jet stream? **Yes**

Teens

1. Tides are affected by the Moon's what? **Gravitational pull**
2. What is a basic definition of a tide? **Tides are very long-period waves that move through the oceans in response to the forces exerted by the moon and sun.**
3. What is a strong, offshore current that is caused by the tide pulling water through an inlet along a barrier beach, at a lagoon or inland marina where tide water flows steadily out to sea during ebb tide. **A rip tide**
4. How do you spot a rip tide? **a) A gap in the waves. Not between one wave and the next but within the line of the waves, perpendicular to the shore; b) A channel of particularly choppy water or break in the waves. c) A channel of seaweed or other debris visibly moving away from the shore. d) Discolored water, caused by sand and other sediment picked up by the current.**
5. What astrologer, astronomer, and mathematician suggested that the moon was responsible for tides, in 1609? **Johannes Kepler.**
6. The tides which cause most damage to our beaches and occur at full and new moon phases are? **Spring tides**
7. What happens when a plane flies in the same direction as a jet stream? **When an airplane is flying in the same direction as the stream of air, it can travel very fast and use up less fuel.**
8. If you live in the United States, you are most affected by the _____ jet stream because it flows across most of the land. **Polar jet stream**
9. The _____ jet stream tends to stay to the south of the U.S. border. **Subtropical**
10. Jet streams affect the path of what tropical weather occurrence? **Hurricanes**

Adults

1. Name three natural occurrences that affect water levels. **Rain, hurricanes, and tides**
2. What is a neap tide? **A less than average tide occurring at the first and third quarters of the moon.**
3. Where are the highest tides in the world found? **The Bay of Fundy**
4. The sun's gravitational effect on tides is ____ that of the moon. **50%**
5. What are the two principal factors that produce tides? **Gravitational attraction and centripetal force**
6. Where on Earth are tides the weakest? **At the Equator.**