

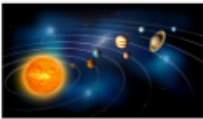
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Crash Course Astronomy #8: Tides

Name: _____ Date: _____

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1. Tides are caused by a change in the force of _____ over distance.
2. We measure gravity from an object's _____, not its surface.
3. The change in gravitational force over distance is called the _____ force.
4. The tidal force increases when the affected object is _____.
5. Tidal force causes objects to _____ due to unequal gravitational pull.
6. The side of Earth facing the Moon is pulled harder, creating a _____-shaped Earth.
7. Tidal forces create two bulges on Earth, one facing the Moon and one _____.
8. When the tidal force is strong and water rises to cover the beach, it's called _____.
9. Earth's rotation causes most locations to experience _____ high tides per day.
10. The solid Earth can also bulge due to tides, moving up and down about _____ centimeters.
11. The Moon is slowly moving away from the Earth due to the tidal _____ from Earth's rotation.
12. The Moon always shows one face to Earth because it is in a state of _____.
13. Spring tides occur when the Earth, Moon, and Sun are in a _____.
14. The especially high tides caused when the Moon is closest to Earth during a spring tide are called _____ tides.
15. Near a black hole, the intense tidal forces can stretch objects into long strings, a process known as _____.

Crash Course Astronomy #8: Tides KEY

1. Tides are caused by a change in the force of **gravity** over distance.
2. We measure gravity from an object's **center of mass**, not its surface.
3. The change in gravitational force over distance is called the **tidal** force.
4. The tidal force increases when the affected object is **wider**.
5. Tidal force causes objects to **stretch** due to unequal gravitational pull.
6. The side of Earth facing the Moon is pulled harder, creating a **football-shaped** Earth.
7. Tidal forces create two bulges on Earth, one facing the Moon and one **away**.
8. When the tidal force is strong and water rises to cover the beach, it's called **high tide**.
9. Earth's rotation causes most locations to experience **two** high tides per day.
10. The solid Earth can also bulge due to tides, moving up and down about **30** centimeters.
11. The Moon is slowly moving away from the Earth due to the tidal **tag** from Earth's rotation.
12. The Moon always shows one face to Earth because it is in a state of **tidal locking**.
13. Spring tides occur when the Earth, Moon, and Sun are in a **line**.
14. The especially high tides caused when the Moon is closest to Earth during a spring tide are called **proxigean** tides.
15. Near a black hole, the intense tidal forces can stretch objects into long strings, a process known as **spaghettification**.

15 Questions

Answer Key Included

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