

ISLAND KIDS

& PAPERBINS

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SPEND A MONTH WITH THE MOON

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Island Kids And Parents

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Spend A Month With The Moon

In 1969, Neil Armstrong and Buzz Aldrin first stepped foot onto the moon's surface. This was a great leap for mankind. For the first time, people from earth had ventured out into space and had touched down onto the surface of its satellite, the moon.

Prior to this venture, scientists had two theories about how the moon was formed. Some thought that the moon was created from the same ball of dust and gas that formed the earth. Others believed that the moon was once a part of the earth, a piece that broke off and drifted into space.

If these theories were true, then the moon should be made up of substances similar to those on earth. Tests done on rock and soil samples brought back from the moon indicate that the moon is not, however, made from the same chemicals as the earth is. Upon dating these moon samples, scientists also found that the moon seems to be older than the earth. Could the moon have been just traveling through space and gotten caught in the earth's gravity? Scientists are not sure.

There is a rule in physics (a branch of science) that states that an object in motion tends to stay in motion. If you are in Mom or Dad's car and they step on the brakes, your body wants to keep going forward. Without your seatbelt, you would fly forward and hit the window. The same rule holds true in space. If the moon were drifting through space, it would continue drifting forever until it hit something or something slowed it down.

Let's say that the moon was moving, and it got caught between the earth's gravity pulling it on one side and the sun's gravity pulling it on the other side—like a tug of war on the moon. Since the moon was only slowed down by this gravity, it would continue to move, but in this captured orbit around the earth. Since there is no air friction in space to slow the moon down, it will orbit forever.

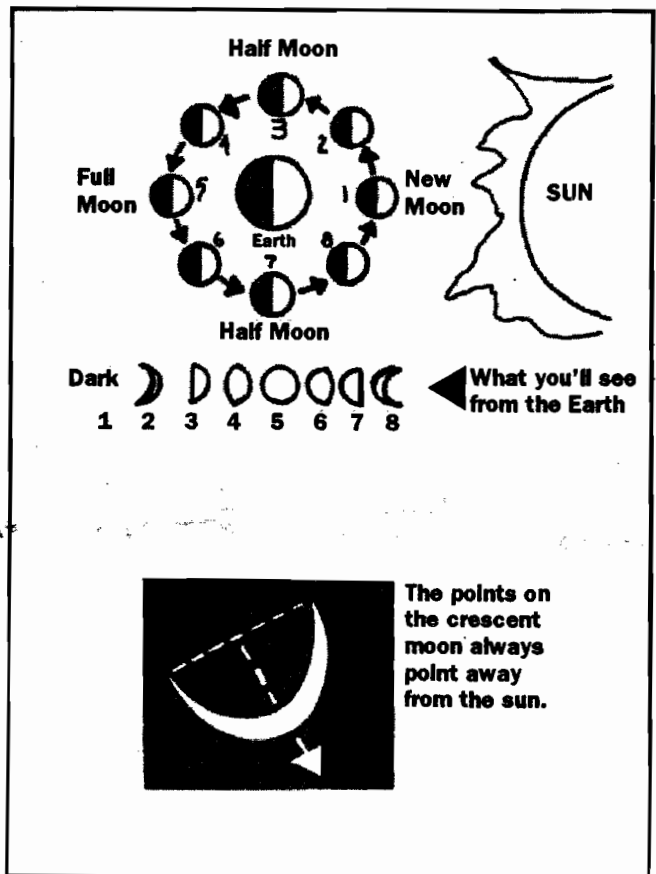
The ancient Greeks and Romans worshipped the moon. They believed that the moon was a goddess that traveled and ruled at night. For ancient peoples, the moon seemed a great mystery. While we still do not know a great deal about our neighbor, the moon, there are things scientists *have* been able to determine.

Light travels through space from stars (our sun is a very close star). This light travels in the form of rays and photons. As light hits an object, it is either absorbed (pulled in) or reflected off (bounced off) of the object. As our sun's light hits the surface of the moon, it reflects off of it, causing the moon to light

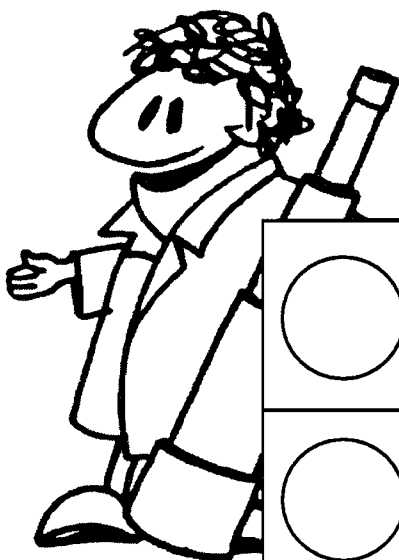
up. The moon does not give off its own light, but instead reflects the sun's light. As the moon revolves around the earth each month, it is in a different position in the sky with respect to the sun and the earth.

From where we are on the earth, we cannot see the moon fully illuminated all the time. When the moon is fully lit, we call it a **full moon**. When we cannot see the illuminated part at all, we call it a **new moon**. There are many other shapes of illumination that we see between a fully lit moon and a darkened new moon.

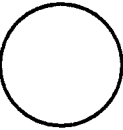
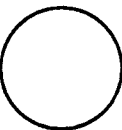
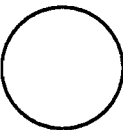
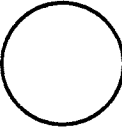
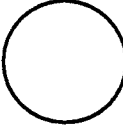
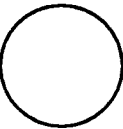
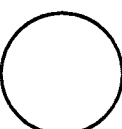
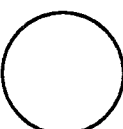
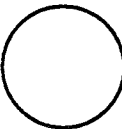
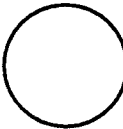
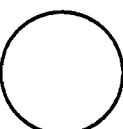
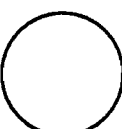
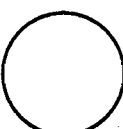
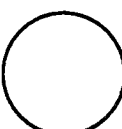
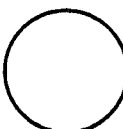
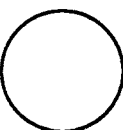
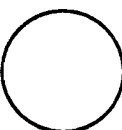
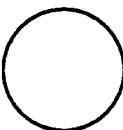
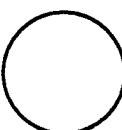
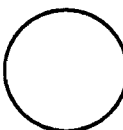
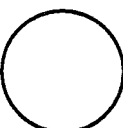
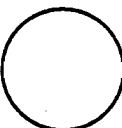
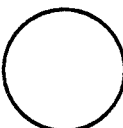
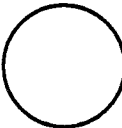
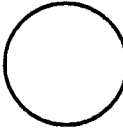
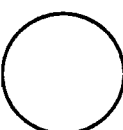
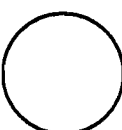
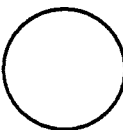
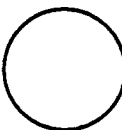
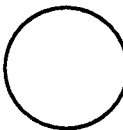
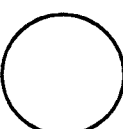
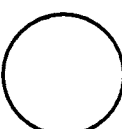
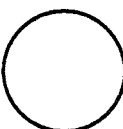
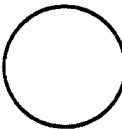
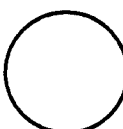
Observe the moon for a month and note its changing shape on the chart on page 18. If you examine the moon during its crescent phase, you may see the outline of the darkened part of the moon. As the lit portion gets larger, we say the moon is **waxing**. As the lit portion gets smaller, we say the moon is **waning**. During the night, the moon also changes position in the sky. The moon, like the sun, appears to rise in the east and set in the west, because the earth rotates (spins on its axis).



MOON



Name _____

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