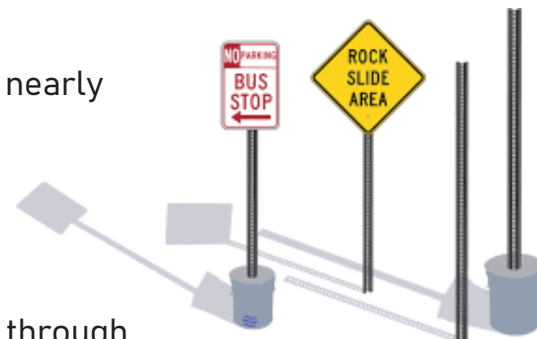


Shadows

What are Shadows?

The Sun sends light rays that travel in a straight line at nearly 300,000 kilometers per second. Eight minutes later, these rays will hit whatever is in their path on Earth. If the object they hit is opaque, a shadow forms.

Remember, opaque means that light cannot pass through the object. Therefore, a **shadow** is an absence of light, meaning it is a dark area on a surface produced because an object is blocking the Sun's light rays.



Light Sources and Shadows

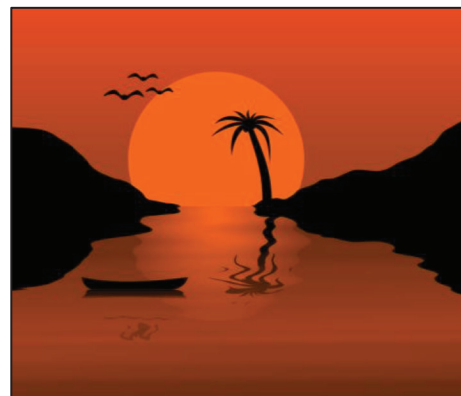
There are many sources of light – stars, candles, light bulbs, flashlights, and computer screens are all examples. The light produced by these sources travels in straight lines until they hit something.



All of these sources of light can produce shadows if the path of the light rays are blocked by an opaque object. Some sources of light produce so much bright light that the shadows are really visible, whereas other sources of light can only produce shadows at close distances.

Size and Shape of Shadows

The shape of the opaque object that is blocking the light rays will always determine the shape of the shadow. However, the size of the shadow can change based on the position of the light source.



The Sun's changing position in relation to the Earth affects shadows. When the Sun is low on the horizon, the shadows are long. When the Sun is high in the sky, the shadows are much shorter. The same effects can be seen with a flashlight. If you change the position of the light source, the shadow will also change.

Name: _____

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Curriculum Connection
C2.3

Shadows

Summarize

Summarize the reading by writing the important information

True or False

Circle whether the statement is true or false

1. All objects will produce a shadow	True	False
2. Only opaque objects will produce a shadow	True	False
3. Shadows are largest when it is noon when the sun is straight above us	True	False
4. Shadows are largest when the sun is rising or setting	True	False
5. Shadows are an area of darkness where light is blocked by an opaque object	True	False

Questions

Answer the questions below using evidence from the text

1) What are shadows? What can affect the size and shape of a shadow?

2) Do all objects create a shadow? Explain and give examples.
