Name_____ Date_____

Science – Learning about Light and Shadows

Reading/Discussion:

On February the second, the legend said,
the little groundhog popped out his head,
saw his shadow and sadly said:
for six more weeks I'll go back to bed!

What do you think the weather was like when the groundhog decided that winter would last another 6 weeks? I know the sun must have been shining! Why?

Shadows are formed by sunlight and other forms of light like electric light bulbs and flashlights. Try using a flashlight on a couple of objects. Where does the shadow fall? On the opposite side to the light source. Why do you think this happens? Light travels in a straight line. It cannot go around objects, so when it strikes an object that it cannot go through, a shadow forms on the other side. Try shining the flashlight from further away and then closer to the object. What happens? The shadows change position, shape and size when the light source changes. Look at your shadow on the ground first thing in the morning and then again at midday. Has it changed? How? Why? Because the sun has changed its position in the sky.

Objects which light cannot pass through are called opaque. Opaque objects are like wood, stone, metal and always throw shadows. Some objects allow a certain amount of light to pass through but it is difficult to see through them. These objects are called translucent. Frosted glass, ice cubes and wax paper are examples of translucent objects. Finally, some objects let light pass through easily and are so clear that we can see through them. We call these objects transparent. Examples of transparent objects are water, glass and some plastics. The thinner these objects are the more transparent they will be.

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Science – Learning about Light and Shadows Questions

A: Categorizing objects

See if you can find five transparent and five opaque objects in your classroom. Use the sunlight or a flashlight to decide what category they fit into. List them in the table below.

Transparent objects	Opaque objects.

B. Where is the light?

Look at the shadows in the pictures below. Can you work out where the light source is? Draw in a little sun to show where the light is coming from.

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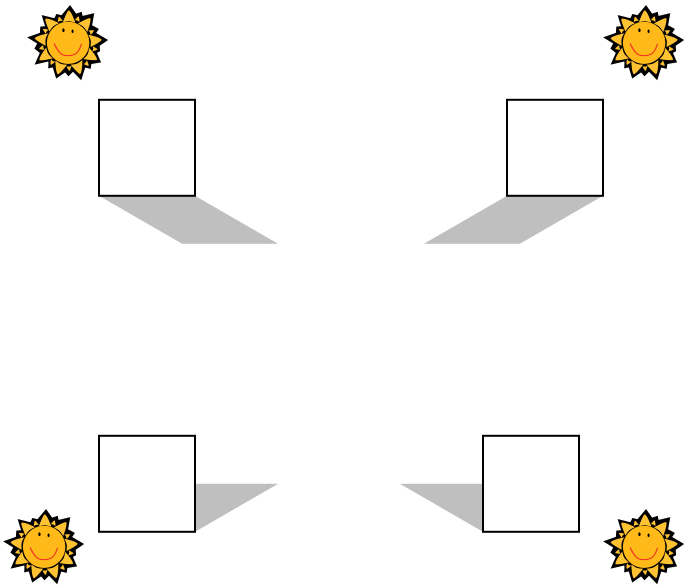
Science – Learning about Light and Shadows Answers

Activity A

The lists would depend upon what items are available in the classroom.

Activity B



Note: Because the pictures are two dimensional an approximate placing of the light source is acceptable.

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