

## Objectives

To understand the nature of light when it interacts with different objects.  
To introduce the terms transparent, translucent and opaque.

## Initial Questions

Do you think light always interacts with objects in the same way?

What do you think light could do when it hits different objects? List as many possibilities as you can imagine.

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Look around your classroom and try to find objects that might match your list of possibilities above.

## Materials and Notes

- 5 flashlights
- 5 empty shoe boxes
- scissors
- tape
- plastic wrap
- piece of paper
- poster board
- piece of light-weight fabric
- piece of medium-weight fabric (like a pillowcase)

## Procedure

Visit each of the 5 shoe boxes. Record as your observation how light interacts with the material taped to the shoe box. For example, can you see clearly through to the other side? What does this mean light is doing when it hits the surface of this material?

Box	Material taped to box	Observations
1		
2		
3		
4		
5		

### Questions

What are some other items that would act similarly to the items you observed if light encountered them?

Box 1 -

Box 2 -

Box 3 -

Box 4 -

Box 5 -

What happens when light encounters you? Place a flashlight up next to the fleshy side of your fingertip. Turn it on and look at your fingernail. What do you see? What does this mean about light and people?