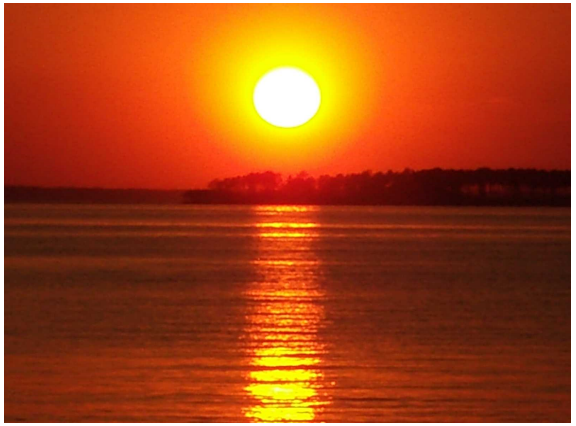
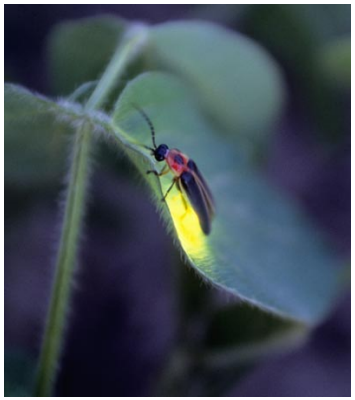

Light

http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/light.htm

https://www.brainpop.com/science/energy/light/

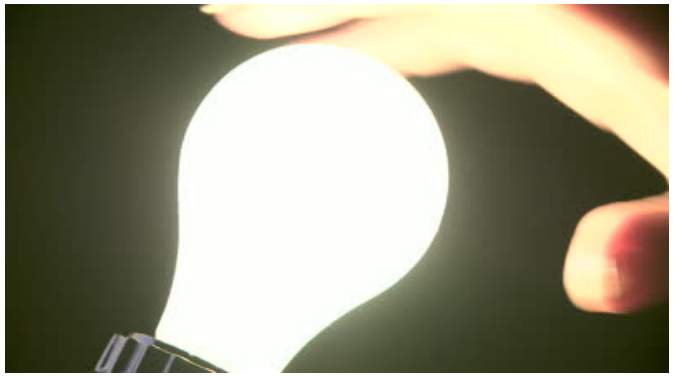
Sources of Light





https://jr.brainpop.com/science/energy/light/preview.weml

Many sources of light give off heat.



https://jr.brainpop.com/science/energy/heat/preview.weml

Answer in your science notebook in complete sentences.

1. Name some sources of light.

2. Why is the Sun important?

3. How is the Sun like a light bulb? How is it different?

Light can reflect off of a surface.

http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/light-absorb-reflect-refract.htm

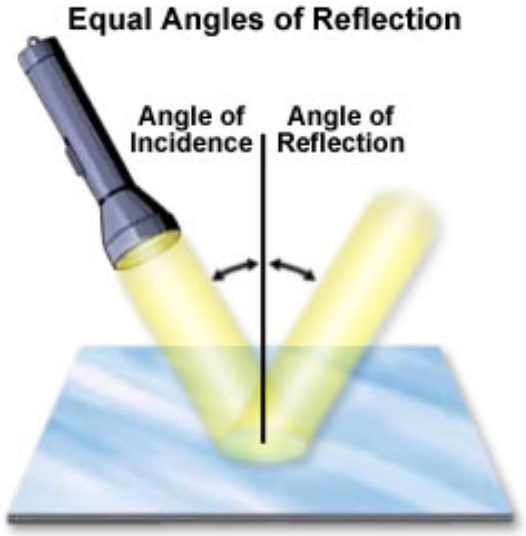
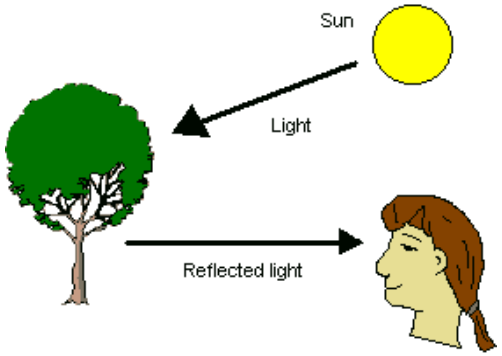
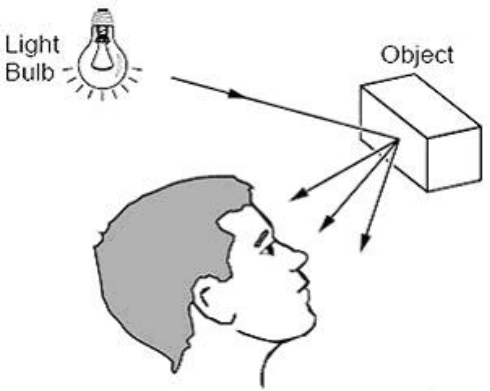


Figure 2

Figure 1

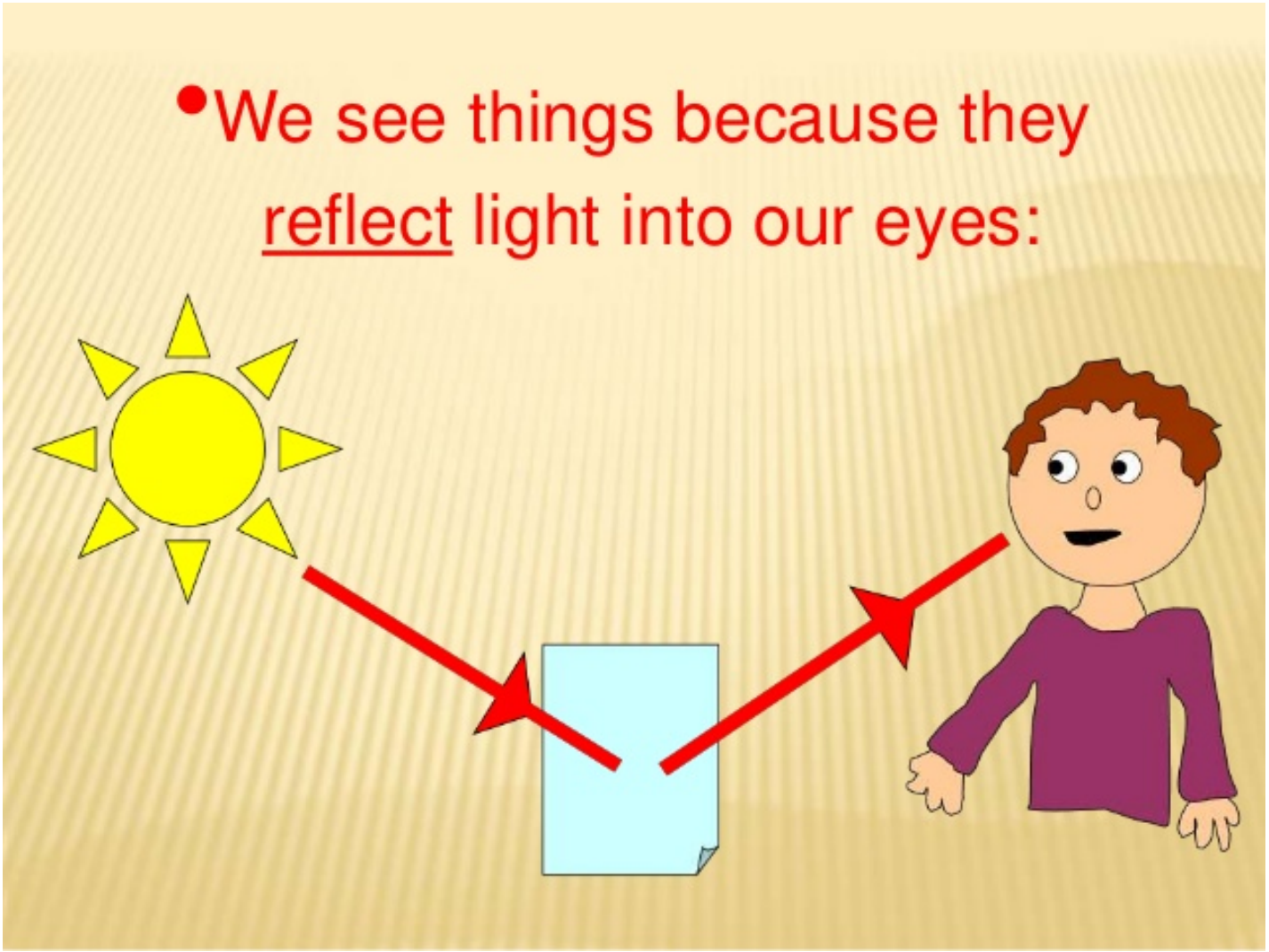
How do we see objects?





We need light in order to see.

- We see things because they reflect light into our eyes:



1. What happens to light when it hits a smooth, shiny surface?

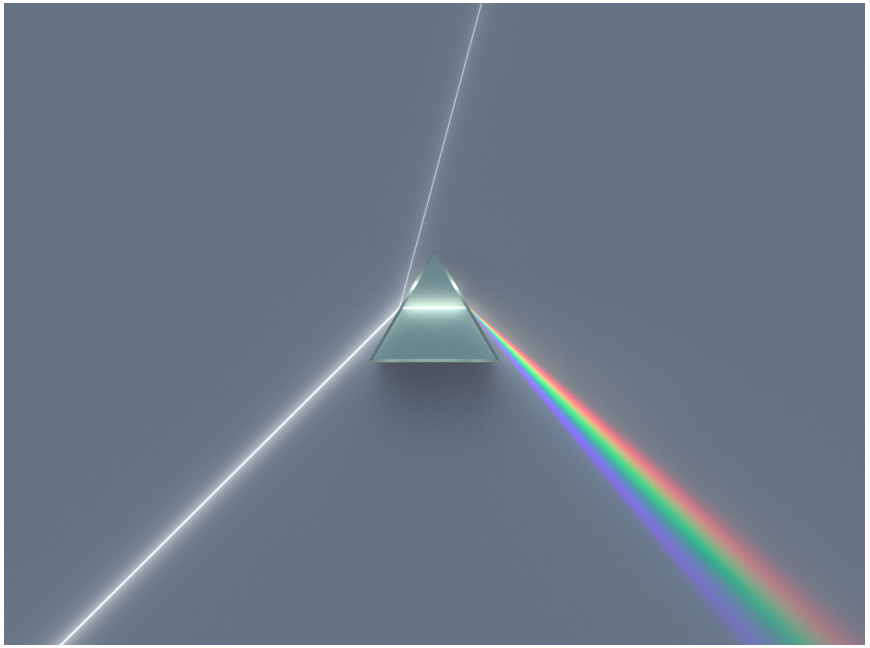
2. Could you see a clear, sharp reflection in a piece of crumpled, shiny wrapping paper? Why or why not?

3. How does reflected light allow you to read a book?

Refraction is the bending of light as it passes from one kind of matter to another.

Gas to liquid


Tim Peare 08



A prism bends, or refracts, white light into its individual colors.

1. What happens to light as it passes from air to water?

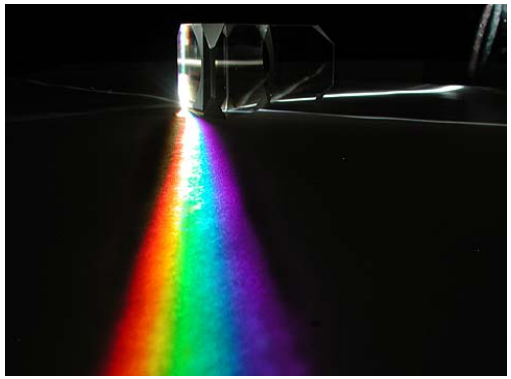
2. What happens to light when it passes through a prism?

3. How are refraction and reflection different?

Remember, white light is made up of the colors of the rainbow.

Rainbow in Hawaii

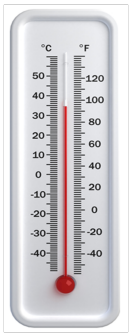
Rainbow on a wall

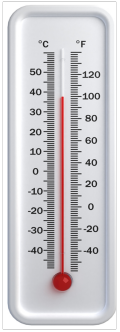


Rainbow created by a prism

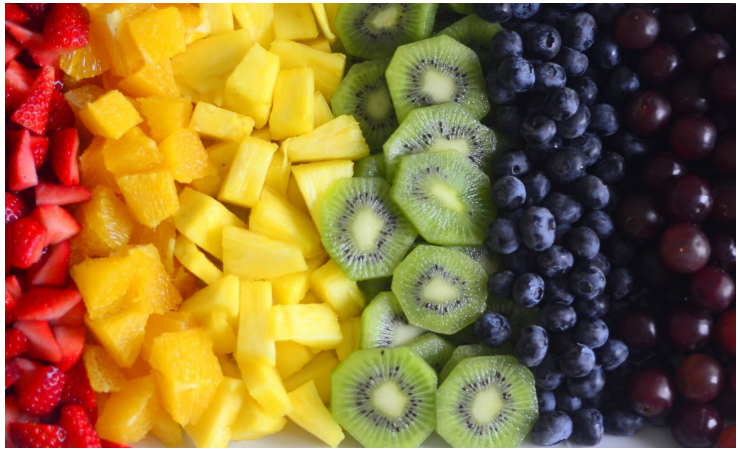
Certain materials can absorb light.

Eva did an experiment. She placed both shirts in the sunlight. She put a thermometer underneath each shirt. She left both shirts out in the sun for eight hours, and then she looked at the thermometers. She saw that the thermometer under the black shirt showed 100 degrees, but the thermometer under the white shirt showed 94 degrees. What conclusion can Eva draw?



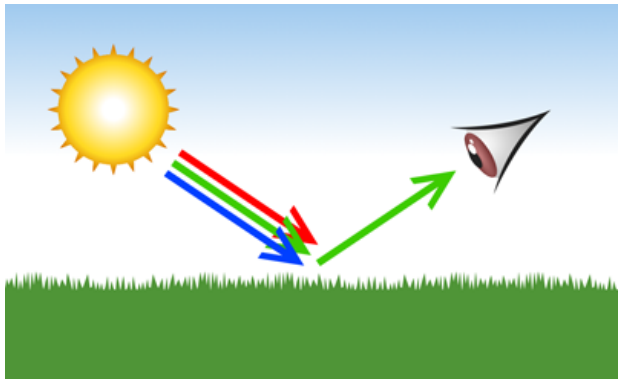


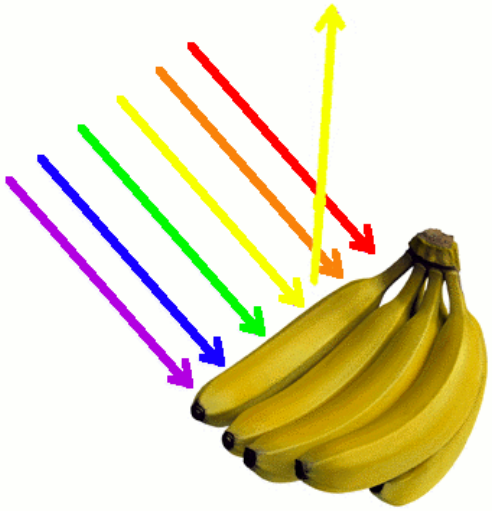
How do we see color?



We see color when light hits an object, and some light is absorbed, and some light is reflected.

An apple looks red because the apple reflects red light, but absorbs all other colors.





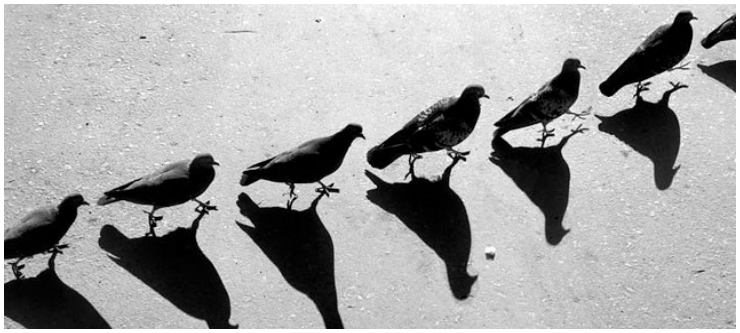
1. What is absorption?

2. Would a dark blue object or light blue object absorb more light?

3. You are outside in the sun in white clothes. You feel comfortable. Your friend is wearing black. He is complaining that he is hot. Why is this happening?

Shadows

Shadows happen when an object blocks the light.



1. What three things do you need to make a shadow?

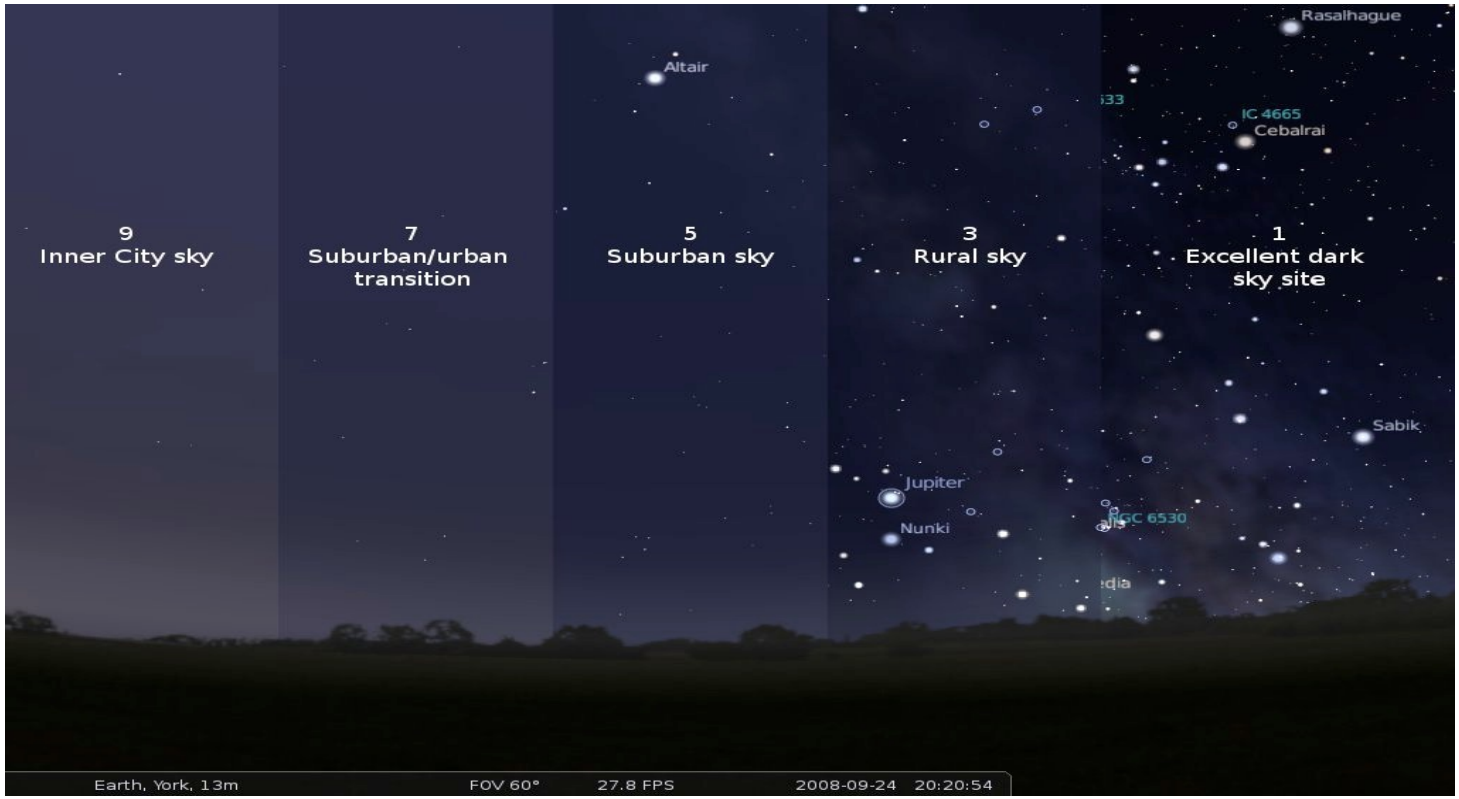
2. It's a sunny day. You stand on the sidewalk at noon. You stand in the same place in the early evening. Your shadow is different each time. Why?

3. How can you make a shadow disappear?

Light Pollution

1. What is light pollution?
2. How is light pollution harmful?
3. How can we stop light pollution?


Before
After


9
Inner City sky
7
Suburban/urban transition
5
Suburban sky
3
Rural sky
1
Excellent dark sky site
Altair
Rasalhague
IC 4665
Cebalrai
Sabik
Jupiter
Nunki
NGC 6530
Earth, York, 13m
FOV 60°
27.8 FPS
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1. How is laser light different from regular light?

2. List three ways that lasers are useful.

3. How do eye doctors use lasers?

4. How are lasers used at the supermarket?