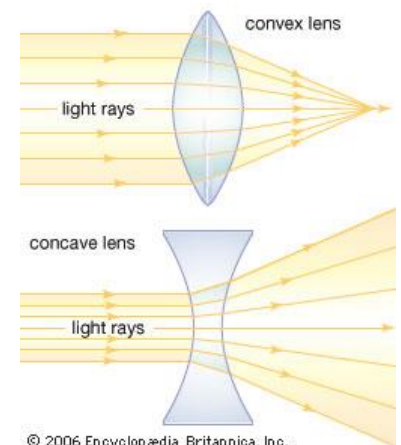


Light Test Study Guide

1. What is light? - **light is energy that we can see**
2. What is the difference in reflecting and refracting?
 - **reflecting is when light bounces back from an object it hits**
 - **refracting is when some or all of the light passes through an object AND the object bends the light**
3. How does light travel? - **light always travels in a straight line unless it hits an object**
4. What can happen to light when it hits objects?
 - **Light can be absorbed (all light is taken in by the object)**
 - **transmitted (some or all of the light goes through the object), or**
 - **reflected (all the light bounces back from the object).**
5. What is the visible spectrum? What is the invisible spectrum? Give an example of each.
The Visible Spectrum is the light (on the spectrum) that we see.
The invisible spectrum is part of the electromagnetic spectrum that we cannot see... infrared (remotes, microwaves, cameras...) and ultraviolet (tanning beds, sunlight, black lights)
6. What does Roy G. Biv represent? What is it? **Roy G. Biv is the acronym that we use to help us remember the colors that refracted light gets broken into... longest wavelength is first – Red, then Orange, Yellow, Green, Blue, Indigo, and Violet (shortest wavelength)**
7. What are the three primary colors that make up white light? - **blue, green, and red**
8. What is a prism? **a shaped piece of plastic, glass, water droplet, diamond etc. that refracts light into the individual wavelengths --- so we can see the rainbow**
9. What happens to light when it travels through a convex lens?
Be able to properly diagram the light source, lens, and light direction. **The convex lens is thicker in the middle and thinner at the top and bottom. It makes the light bend inward. Objects on the other side of the lens will look larger.**
10. What happens when light travels through a concave lens?
Be able to properly diagram the light source, lens, and light direction. **The concave lens is thinner in the middle and thicker at the top and bottom. It makes the light bend out. Objects on the other side of the lens will look smaller.**



11. Define opaque, transparent, and translucent. Be able to name common objects that represent these vocabulary words.

Opaque - describes an object you cannot see through and no light passes through – examples: bricks, metal, thick cardboard or fabric

Transparent - describes an object you can see through clearly – all light passes through – examples: clear, clean glass, clear clean plastics, clear clean plastic wrap

Translucent - describes an object you can see through, but not clearly - some light passes through – examples: wax paper, foggy glass or plastics, thin paper, thin fabric, thin skin

12. Know the vocabulary and usage / example of each:

Light – type of energy that produces a brightness that you can see

Reflect - bounces off an object; sends something back

Transmit - to let (light) pass through

Absorb – all light is taken in

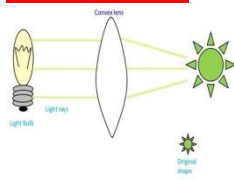
Scatter - to move in all directions

Reflection – image or light that has bounced back (reflected) off of an object

Refraction - bending of light as it passes through one material to another

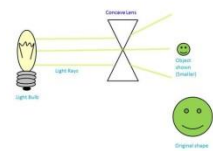
Lens - a clear material with one or two curved surfaces used to change the direction of light

Convex lens - a lens that is thicker in the middle than at the edges; this lens makes the



light bend inward; objects look larger or closer

Concave lens - lens that is thinner in the middle and thicker on the outer edges; this lens



makes the light bend outward; objects look smaller or further away

Ultraviolet - beyond the violet end of the visible light spectrum; human eyes cannot detect this light

Visible Spectrum - A mixture of light wavelengths that the human eye can detect.

Prism - a three-dimensional, triangular object made of clear glass or plastic that can change the path of light