

- 1. Total internal reflection C
  - 2. Critical angle D
  - 3. Fiber optics E
  - 4. Incandescent D
  - 5. Fluorescent F
  - 6. Filament B
- A. Light created from high heat.
  - B. The part of a light bulb that glows when hot and makes incandescent light.
  - C. When all light cannot escape glass or another medium and stays inside.
  - D. The angle past which light cannot escape.
  - E. Technology based on bending light in cables.
  - F. Efficient light from UV radiation.

- 1. Polarization D
  - 2. Polarizer A
  - 3. Photoluminescence E
  - 4. Phosphorous C
  - 5. Laser B
- A. An object that screens out all but light in one direction.
  - B. Light amplification by stimulated emissions of radiation.
  - C. An element that releases light slowly; used in glow-in-the-dark objects.
  - D. The act of only allowing one-directional light to pass through a "filter".
  - E. Objects that give off light slowly and to "glow-in-the-dark."

How can light be redirected by fiber optics?

flexible glass or plastic tubes

Can a fiber optic cable be bent any direction? Why or why not?

Yes, total Internal Reflection

You have an office building and need to cut cost. What kind of lights will you use and why?

Fluorescent lights because they are 4x more efficient

Light is passed through a polarizer. How could you cancel out light with a second polarizer?

Turn opposite direction

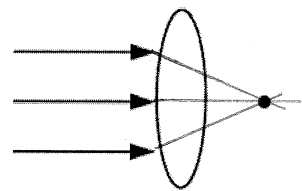
What element is photoluminescent and why?

phosphorus because it's energized electrons "fall" slowly

Why don't lasers spread out into a rainbow in a prism?

pure light

lens



Show where the 3 light rays will go.

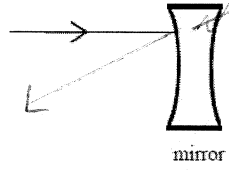
Concave or convex lens?

What do we call the dot?

Focus Point

Magnifying or reducing?

Convergent or divergent?



mirror

Show where the light will go.

Concave or convex mirror?

Magnifying or reducing?

Convergent or divergent?

Use RGB to make these colors.		Use CMYK to make these colors.	
Cyan <u>BG</u>	Yellow <u>YG</u>	Blue <u>CM</u>	Red <u>YM</u>
White <u>RGB</u>	Black <u>none</u>	White <u>none</u>	Black <u>CMY</u>
Green <u>G</u>	Magenta <u>RB</u>	Green <u>YC</u>	Magenta <u>M</u>

Using CMYK—What color does yellow absorb?

R+B

What colors does cyan reflect?

G+B

What has more energy: Radio waves or Visible light?

What has a shorter wavelength: Ultraviolet or Gamma rays?

What has a higher frequency: Visible light or Infrared?

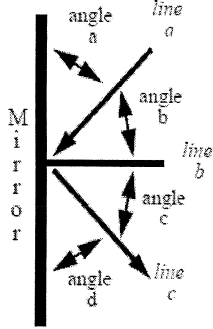
A convex lens is convergent/divergent and magnifies/reduces.

A concave lens is convergent/divergent and magnifies/reduces.

A convex mirror is convergent/divergent and magnifies/reduces.

A concave mirror is convergent/divergent and magnifies/reduces.

- Angle of incidence: b
- Angle of reflection: c
- Normal: line b
- Incident ray: line A
- Reflected ray: line C



If the angle of incidence is 25°, what is the angle of reflection?

25°

If the angle between the incident and reflected rays is 80°, what is the angle of reflection?

40°

If an image look 20 meters away in a mirror how far away is the object?

40m

An object is 4 meters away from a mirror. How far away does the image look?

8m

A sound wave has a period of 0.5 secs. Find its frequency.

Find the wavelength of the above wave.

If the fourth harmonic of a standing wave is 48 Hz, find the fundamental frequency.

You hear your echo 6 seconds after you yell into a canyon. How wide is the canyon?