

# Lesson 3 Refraction and Lenses

**Skim** Lesson 3 in your book. Read the headings and look at the photos and illustrations. Identify three things you want to learn more about as you read the lesson. Record your ideas in your Science Journal.

## Main Idea

### Refraction of Light

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### Lenses

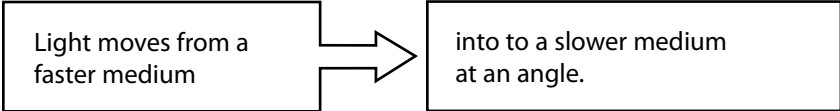
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## Details

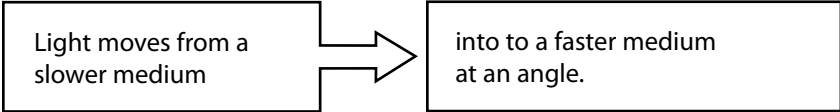
**Rank** these four examples of transparent media from fastest to slowest according to their placement on the index of refraction.

	air	diamond	oil	water	
Fast					Slow

**Contrast** what happens to light as it moves between transparent media.

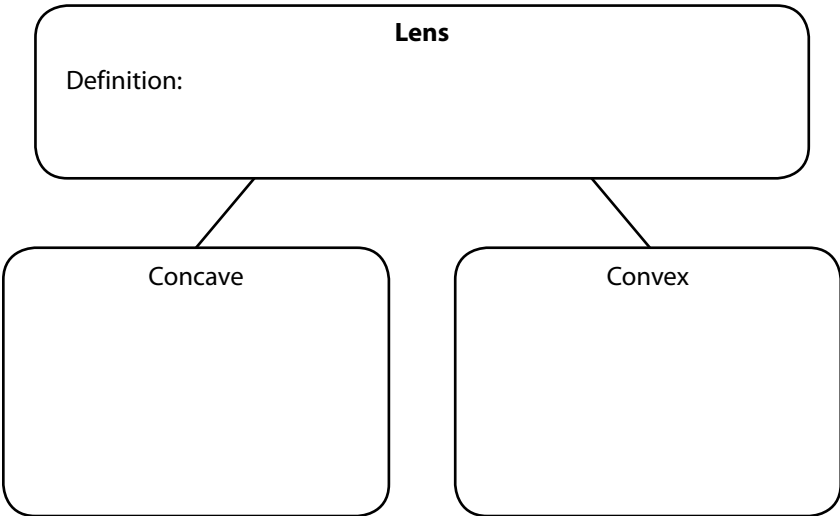


Effect: \_\_\_\_\_.



Effect: \_\_\_\_\_.

**Define** lens, and explain how concave lenses and convex lenses differ.



# Lesson 3 | Refraction and Lenses (continued)

## Main Idea

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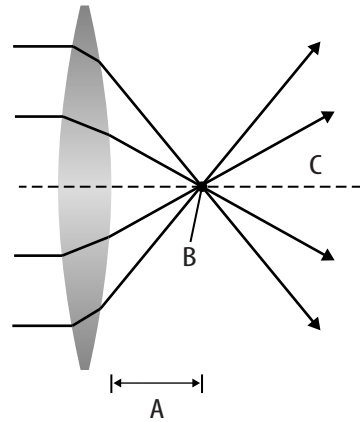
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### Refraction and Wavelength

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## Details

**Key** Differentiate types of lenses.



Type of lens: \_\_\_\_\_

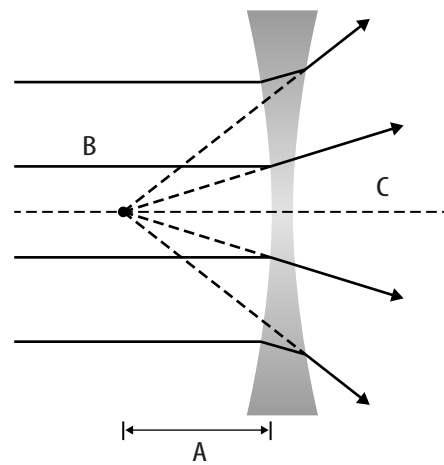
Identify labeled parts:

A: \_\_\_\_\_

B: \_\_\_\_\_

C: \_\_\_\_\_

Effect on light: \_\_\_\_\_



Type of lens: \_\_\_\_\_

Identify labeled parts:

A: \_\_\_\_\_

B: \_\_\_\_\_

C: \_\_\_\_\_

Effect on light: \_\_\_\_\_

**Relate** the refraction of different wavelengths of light to the familiar spectrum of colors.

Light at different wavelengths refracts at different angles within the medium.	Wavelengths _____ _____ Wavelengths near the _____ _____ refract more than those near the _____ _____ _____	You see _____ _____ _____ _____ _____ widest band: _____ narrowest band: _____ _____
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## Lesson 3 | Refraction and Lenses (continued)

### Main Idea

#### Detecting Light

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### Details

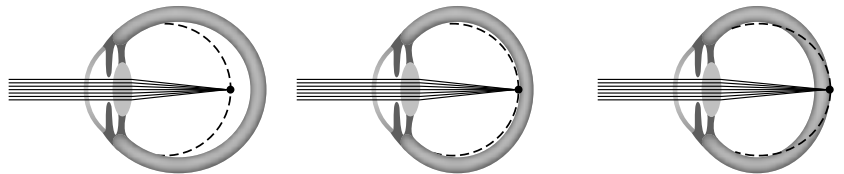
**Describe** how the parts of the eye work together.

Part	Description
Cornea	
Iris	
Pupil	
Lens	
Ciliary muscles	
Retina	
Optic nerve	

**Compare and contrast** rods and cones.

Rod	Both	Cone

**Explain** whether each eye needs vision correction and why.



A: \_\_\_\_\_

B: \_\_\_\_\_

C: \_\_\_\_\_

**Synthesize It** Use what you have learned about lenses and refraction to explain how eyeglasses correct blurred vision.

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