

## SCIENCE 8 – REFLECTION & REFRACTION WORKSHEET

NAME: \_\_\_\_\_

<b>Vocabulary</b>			
Incidence	Opaque	Reflected ray	Refraction
Material	Plane mirror	Reflection	Transparent
Normal	Ray model of light	Refracted ray	Translucent

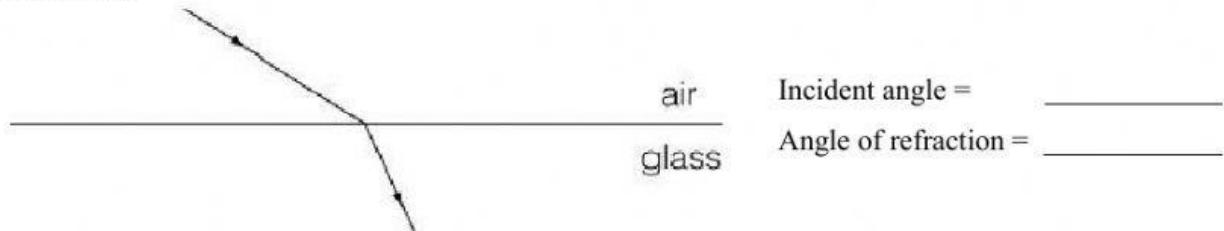
Use the terms in the vocabulary box to fill in the blanks for the following eight questions. You will not need to use every term.

- 1) In the \_\_\_\_\_, light is described as a ray that travels in a straight path.
- 2) When light strikes \_\_\_\_\_ materials, it passes through them.
- 3) When light strikes \_\_\_\_\_ materials, it passes through them but is scattered from its straight path.
- 4) \_\_\_\_\_ materials do not allow light to pass through them.
- 5) The angle of reflection is equal to the angle of \_\_\_\_\_.
- 6) Light rays bounce off a \_\_\_\_\_ with a regular reflecting pattern.
- 7) The angle of \_\_\_\_\_ is the angle of a light ray that comes out of the boundary between two materials.
- 8) The angle of refraction is measured between the \_\_\_\_\_ and the normal.
- 9) Match each **Term** on the left with the best **Descriptor** on the right. Each **Descriptor** may be used only once

<b>Term</b>		<b>Descriptor</b>	
	Normal	A.	Equal to the angle of reflection
	Angle of refraction	B.	Measured between the refracted ray and the normal
	Angle of reflection	C.	Angle of reflected ray
	Angle of incidence	D.	Imaginary line that passes through materials at right angle

10) For each diagram, draw the normal at the point of contact. Measure the incident angle and the angle of refraction. Then complete the sentences using *greater*, *less*, *toward*, or *away from*.

(a) Air to glass



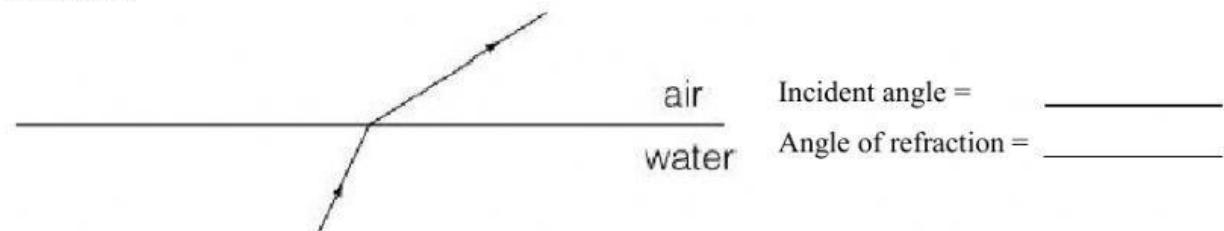
Incident angle = \_\_\_\_\_

Angle of refraction = \_\_\_\_\_

The angle in air is \_\_\_\_\_ than the angle in the glass.

The light entering the glass bends \_\_\_\_\_ the normal.

(b) Water to air



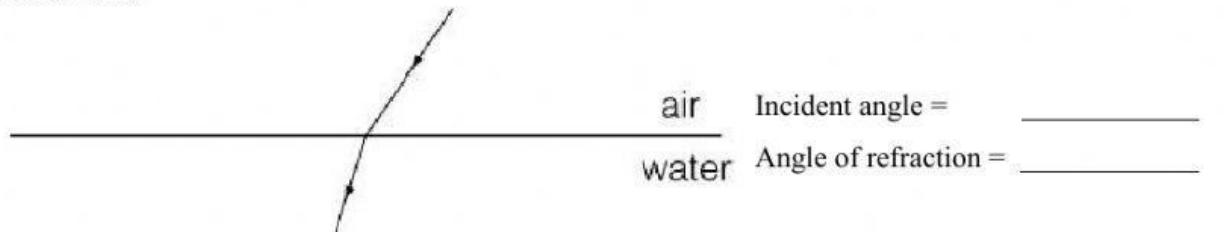
Incident angle = \_\_\_\_\_

Angle of refraction = \_\_\_\_\_

The angle in air is \_\_\_\_\_ than the angle in the water.

The light entering the air bends \_\_\_\_\_ the normal.

(c) Air to water



Incident angle = \_\_\_\_\_

Angle of refraction = \_\_\_\_\_

The angle in air is \_\_\_\_\_ than the angle in the water.

The light entering the water bends \_\_\_\_\_ the normal.

(d) Transparent plastic to air



Incident angle = \_\_\_\_\_

Angle of refraction = \_\_\_\_\_

The angle in air is \_\_\_\_\_ than the angle in the plastic.

The light entering the air bends \_\_\_\_\_ the normal.