	COLEGIO ANGLO AMERICANO <i>"Proyecto forjador de valores para una Nueva Sociedad"</i>		
	DEPARTAMENTO DE CIENCIAS NATURALES Y EDUCACIÓN AMBIENTAL- PHYSICS AND CHEMISTRY.		
	Lab #3: How do liquids bend light?		
Time: 25 minutes.		Grade.	Date.
Name:		3__	August __, 2021

FINAL	Achievement indicator	
I	The student observes how changing materials affects the speed of light and how light refracts or "bends" (Activity I).	
II	The student explains lab results about reflecting light (Activity II).	

In this laboratory you will practice more about the properties of the light, and how liquids bend light.

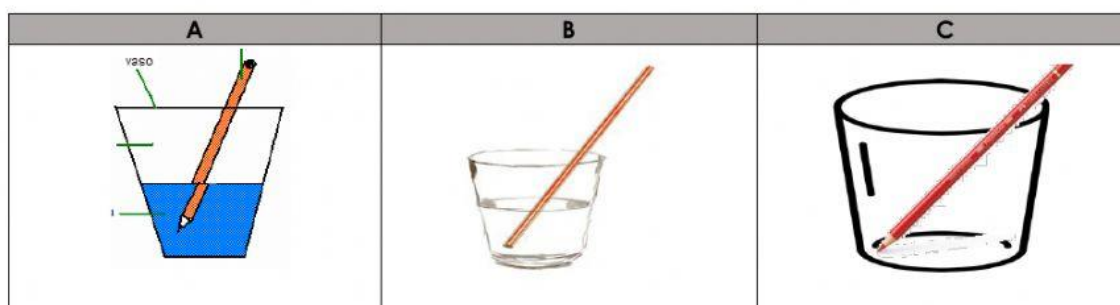
ACTIVITY I

Inquiry question:

How do liquids bend light?

Use the glass cup, fill the glass halfway. Put inside one element in each glass: pencil, straw, and stick.

1. Choose with an X the option that represents how the light bends inside the water.



2. The changes that you see in the objects inside the water, could be explain as:

A. the water is transparent, and passes through it.

B. the light bends when it passes through the water and we see the objects cut.

C. the water bends because of the light that passes through the water.

3. Answer true (T) or false (F) according to each statement:

T/F	Statements.
	Reflection occurs when light passes through a transparent object like the glass
	The light bends and the pencil looks cut.
	The process shows refraction, so light passes through, and changes direction from the air to the water.

ACTIVITY II:

Now, use the arrow you brought to class, pass the arrow behind the cup (situation I). Then fill the cup put the arrow behind it (situation II). Look what happens and explain the situations.

4. Look at the picture and connect the correct options that explain situation I and II:



The arrow without water changes the direction because the light bends in a transparent medium.

The arrow without the water does not change the direction because the light does not bend in contact with the water.

The arrow with the water changes the direction because the light bends in a transparent medium.

5. Complete the chart with the words in the boxes to explain the situations:

Changes the direction.

Arrow has the same direction.

Light bend in contact with the water.

Characteristics	Water	Without water
Light.		Passes through the transparent cup.
Observation.		

6. How do you explain the direction of the arrows when you see through the water?

- A. the light bends when it passes from the air through the water for reflection, we see the arrow in different direction.
 B. the light bends when it passes from the air through the water for refraction, we see the arrow in different direction.
 C. the arrow bends, we see different direction because it is a transparent object.

Conclusions:

Complete the following conclusions. Underline the correct word:

- When the light travels from the air to the glass it bends _____ (close/ away from) normal.
- The light needs to cross in a _____ (transparent/translucent) objects.
- The bending of light in the water is known as _____ (refraction/reflection) of light.

Teacher's name:	Revised by:	Approved by:
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