

ACTIVITY NO. –11 -Disappearing coin

Subject	Science
Class	X
Chapter/Unit	Chapter 10-Light reflection and refraction
Topic	Refraction of light
Time	10 Minutes
Nature of Activity	Pair work

What will I learn (Learning Outcome)?

To demonstrate the phenomenon of refraction of light as it passes from water to air and derive the necessary condition for refraction to take place.

Skills: Analyzing and Creating

What I have to do?

To demonstrate an activity to show the refraction of light using a coin and a glass of water

What do I require?

Two glasses, two coins, water.

What do I need to know?

Refraction of light is the phenomenon of change in the path of light in going from one medium to another. In going from a rarer to a denser medium, the ray of light bends towards normal and in going from a denser to a rarer medium, the ray of light bends away from normal.

Teacher's Activity

Teacher will :

1. discuss the concept of bending of light when it moves from one medium to another
2. will explain the steps of the activity.
3. ensure that each participant in pair performs the activity .

How will I proceed?

Students activity

1. Put a coin inside a glass and fill it with water slowly and observe from the side the glass.
2. Then, place the other coin on the table and put another glass on top of it.
3. Fill the second glass with water and observe from a side of this glass.

What have I observed?

Put a tick in front of the correct option.

S. No	Position of coin	Coin is visible or not from the side
1.	Below the glass filled with water	
2.	Inside the glass filled with water	

What have I learnt?

1. The coin is _____ (visible/ not visible) if it is kept below a glass filled with water and viewed from the side of the glass.
2. The coin is _____ (visible/not visible) if it is put inside a glass of water and viewed from side of the glass.
3. Also we can conclude that for refraction to happen we need two _____ media.

What am I curious to learn? Expression to be improved

- A small beaker is filled with oil to its brim and is put in a bigger glass which is later filled with oil slowly . Will I be able to see the smaller beaker inside the bigger beaker? Perform the experiment to verify this statement. Why does it happen?

Let me evaluate myself

1. Define refraction.

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2. Explain with the help of diagrams, what happens to a ray of light as it travels from (a) rarer to denser and (b) denser to rarer medium?

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3. Explain why a swimming pool seems to be shallow as seen from outside?

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4. A pencil immersed in a glass of water seems broken at the interface? Explain with the help of a diagram.

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5. Do sound waves also undergo refraction? Discuss by giving reasons.

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