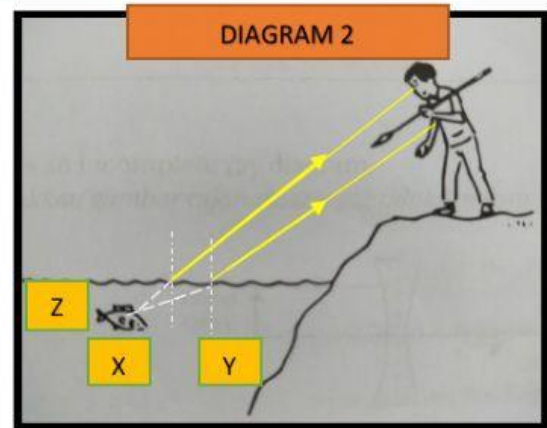
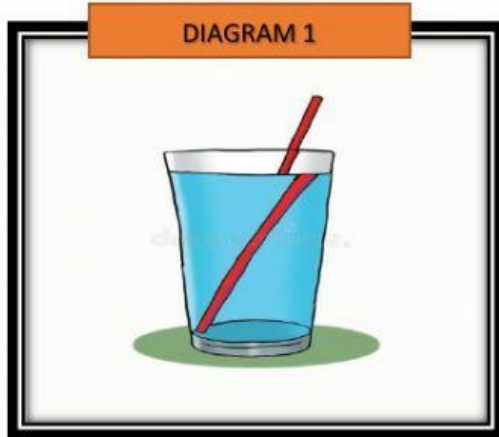


FROM 4 KSSM CHAPTER 6

6.1 Refraction of light

Diagram shows a pencil appears to be bent in a glass of water



1.(a) Name the phenomenon involved diagram 1

1.(b) Explain how the light phenomenon in 1(a) occurs.

1 (c) Diagram 2 shows a man aiming a spear to catch a fish he saw in the river. Unfortunately, his spear does not hit the fish. Give reasons why his spear failed to hit the fish and chose position of actual fish.

1(d) The speed of light in air and in water are $3.0 \times 10^8 \text{ ms}^{-1}$ and $2.0 \times 10^8 \text{ ms}^{-1}$ respectively. Calculate the refractive index of water. Arrange the correct sequence

1

2

List down all value given, $c = 3.0 \times 10^8$,
 $v = 2.0 \times 10^8$

Use formula $n = \frac{c}{v}$, $n = \frac{3.0 \times 10^8}{2.0 \times 10^8}$, $n = 1.5$

1(e) Calculate the real depth of the fish when the apparent depth is 3.0 m

1

2

3

4

List down all value given, $h = 3.0$, $H = ?$, $n = 1.5$

$1.5 = \frac{H}{3.0}$

Use formula of $n = \frac{H}{h}$

$H = 4.5 \text{ m}$