Heat and Light

Presenter and Topics

- Heats and Lights

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- Measurement of Heat and its Unit

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- Sources of Light

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- Reflection of Light

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Heat and Light

Heat

Heat is a form of energy that flow from one object to another. It is the flow of kinetic energy.

Heat and Light

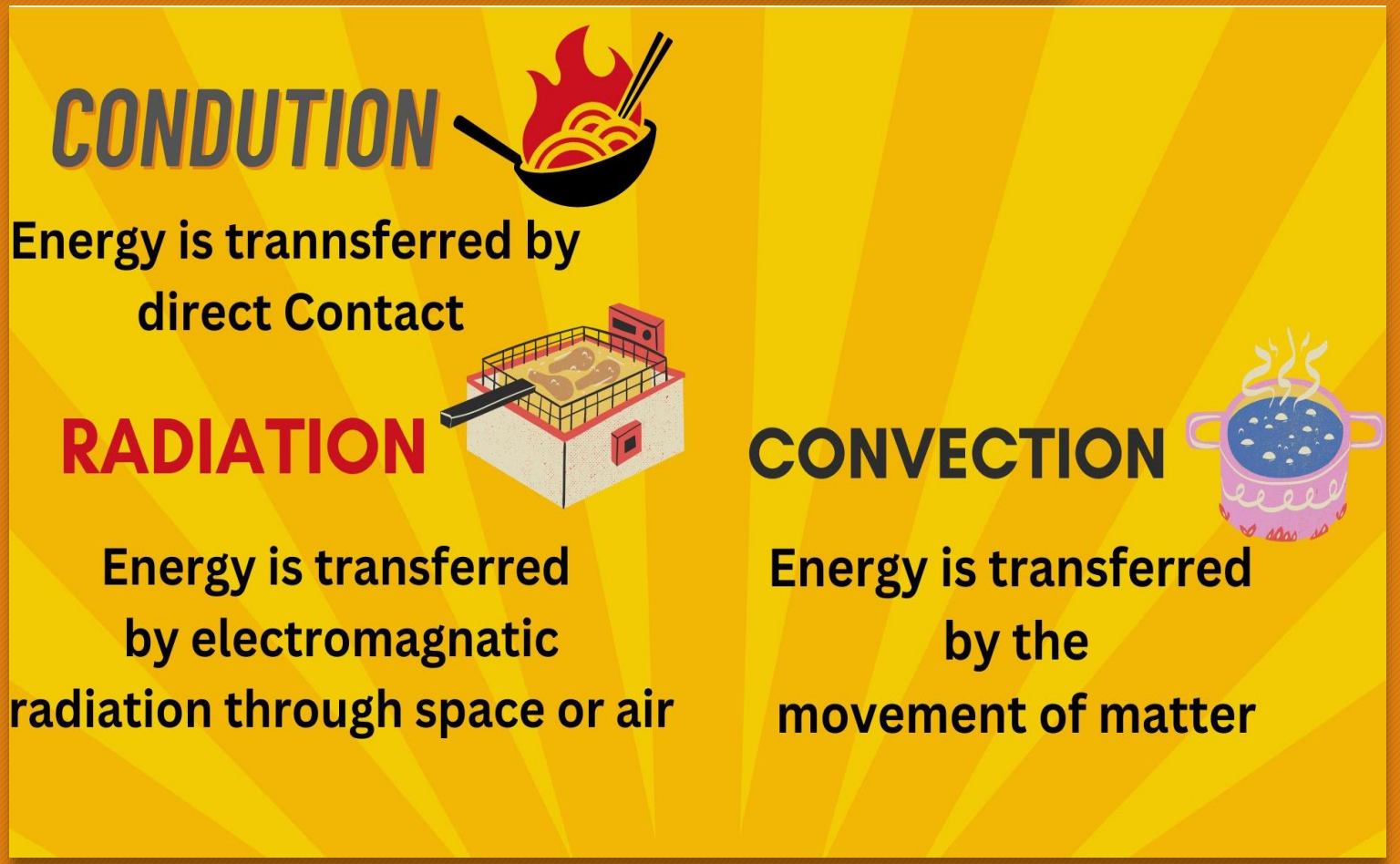
Sources

- Sun
- Friction
- Chemical reaction
- The earth
- Candle

Heat and Light

Heat flows in what direction?

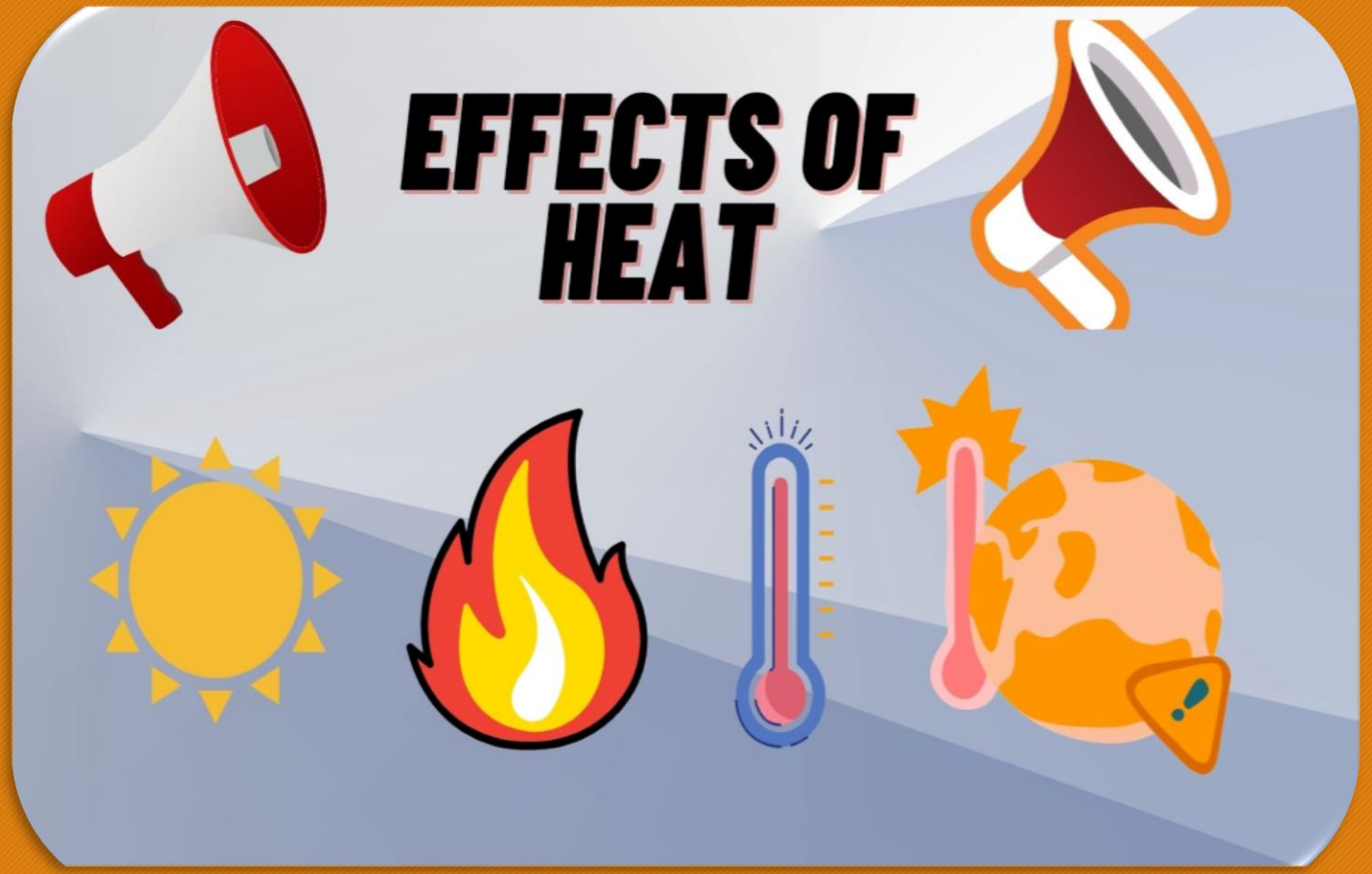
- Heat flows from hot to cold.
- The movement of heat from hot to cold objects may happen by



Effects of Heat

Effects

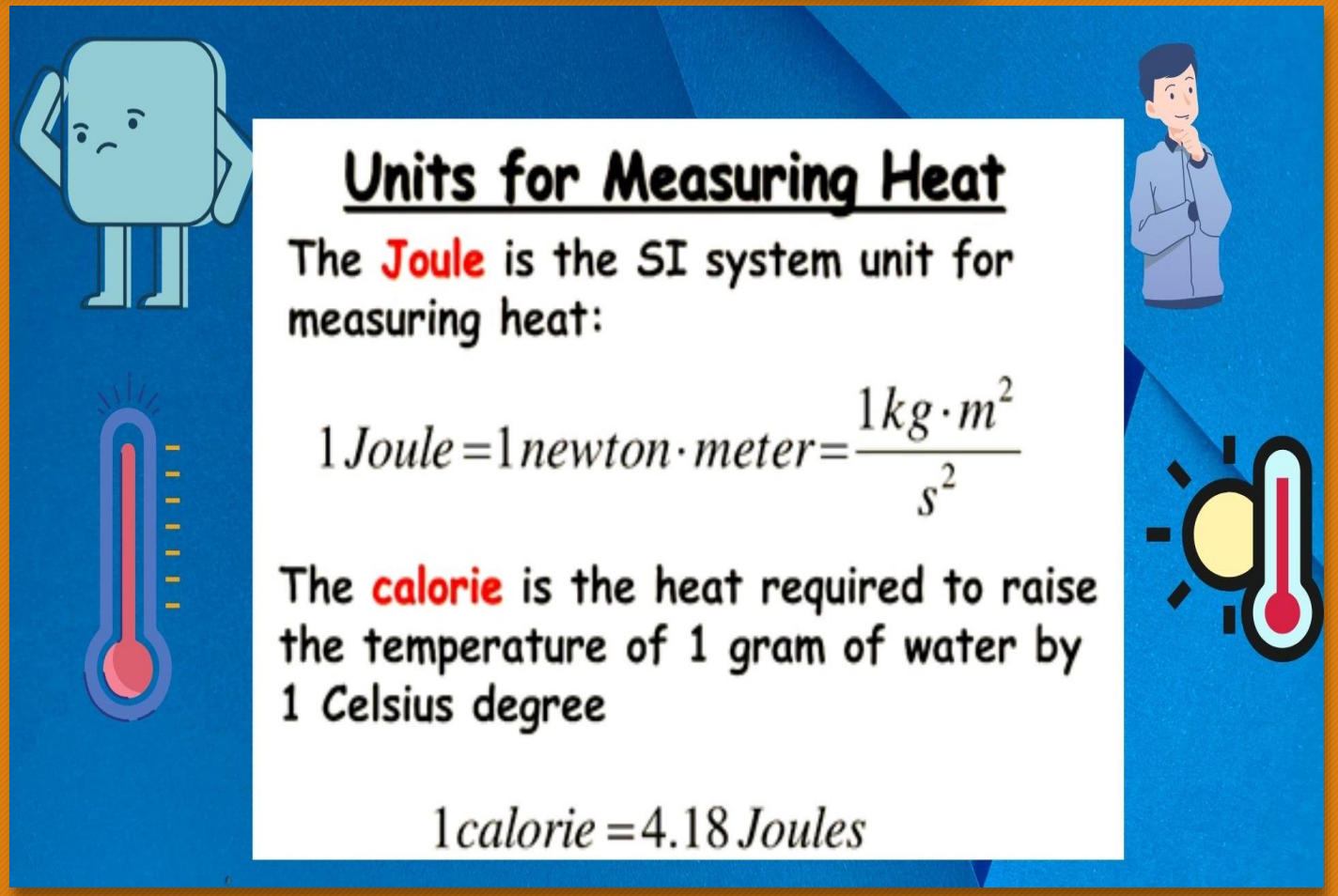
- Cause a change in temperature.
- Cause a change of state.
- Cause a chemical reaction.
- Cause a change in density.
- Cause a change in shape



Measurements of heat and its units

What is heat measured?

Heat is a form of energy, and therefore the SI unit of heat is also joules (J), calories (C) which are defined as the amount of energy needed to raise the temperature of a given mass by one degree.



Measurement of Heat its Units

Different temperature scales

- Celsius scale
- Fahrenheit
- Kelvin scale

Celsius scale

Based on 0° for freezing point of water and 100° for boiling point

Farenheit

Based on 32° for freezing point of water and 212° for the boiling point of water

Kelvin Scale

A scale of temperature begining at absolute zero

Measurements of Heat and its Units

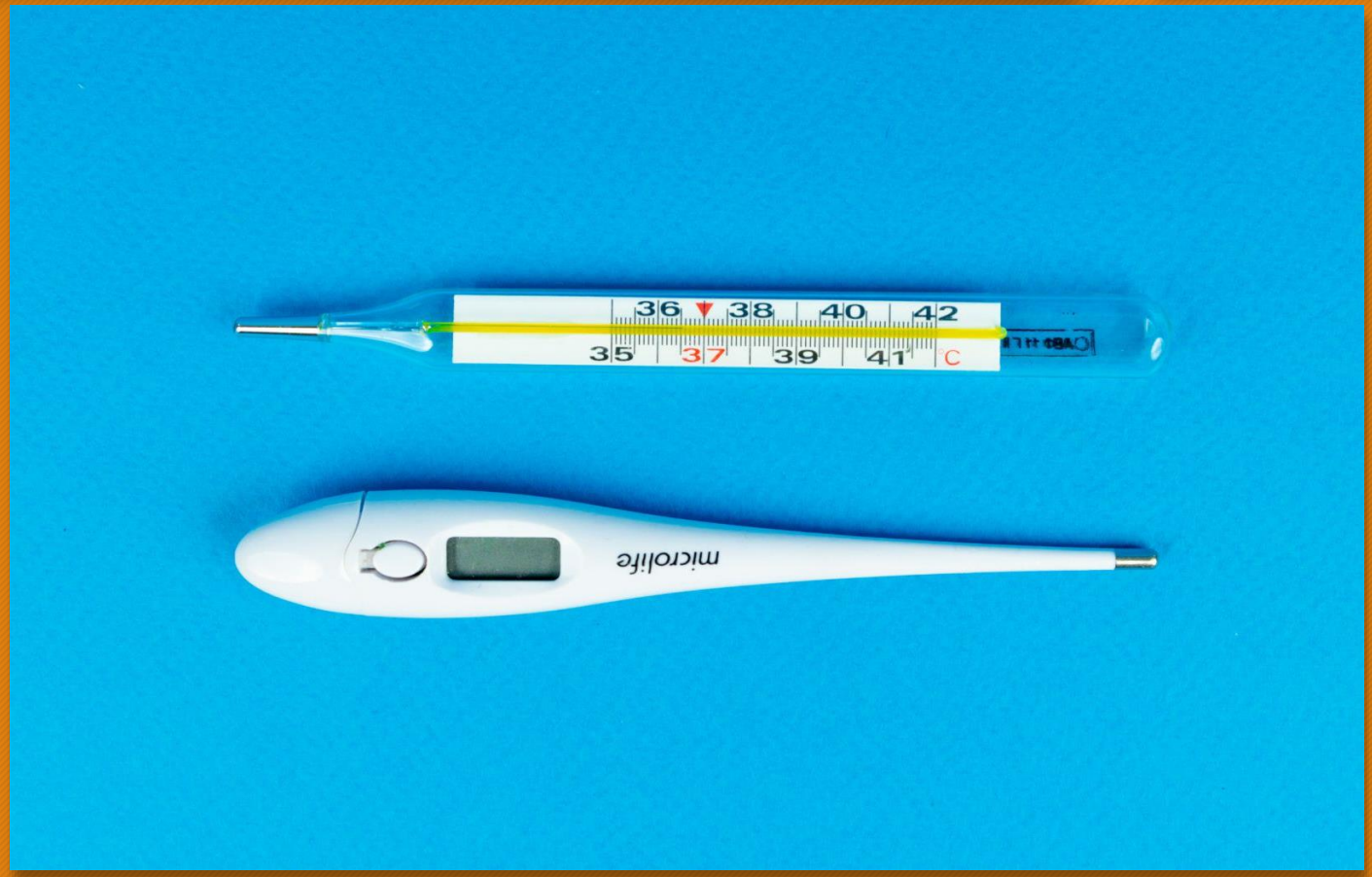
Specific heat capacity

The specific heat of water has a huge role to play in the earth's climate and help determine the habitability of many places around the goal.

Measurements of Heat and its Units

Application of heat

Medical thermometer can measure body heat. Thermometer consist narrow glass tube containing at thin column of liquid which raises and falls temperature.



Sources of Light

What is light?

Light is a from of energy which produces a sense of version. Also know as an electromagnetic radiation that can be detected by human eye.

Sources of Light

All objects that we see are sources of light. even if they do not produce light themselves.

Types Of sources

- ❑ Natural
- ❑ Artificial

Sources of Light

Natural sources

The universe is filled with objects that emit light. Some light from these natural sources reaches the earth. Following things in nature have ability to emit light

Sources of Light

Artificial sources

Apart from natural sources light can be produced artificially to.

Reflection of Light

Definition

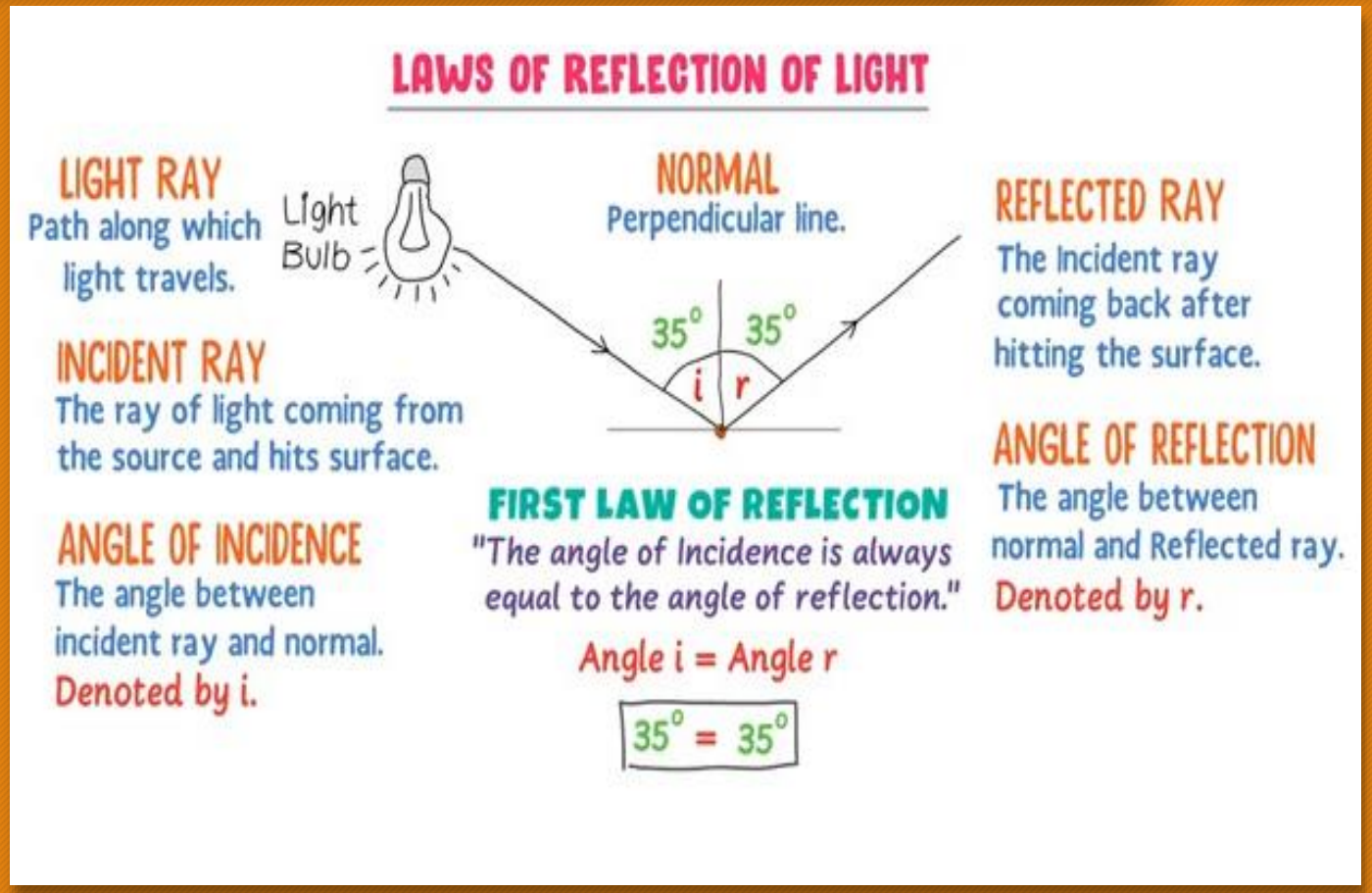
When light travelling in a certain medium fails on the surface of another medium, a part of it turns back in the same medium. This called reflection of light.

Example Video

Laws of reflection

First law

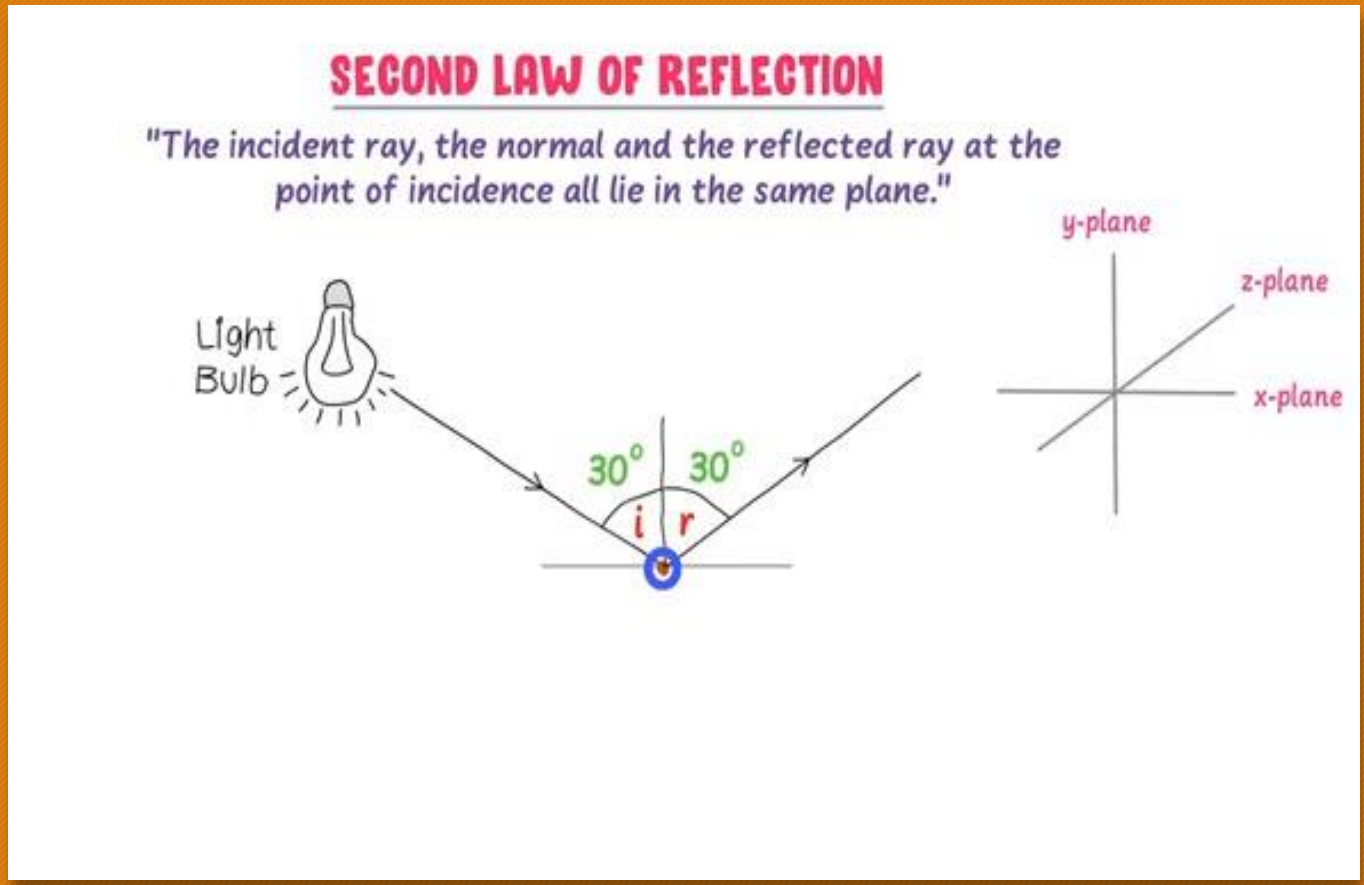
"The angle of incidence always equal to angle of reflection"



Laws of reflection

Second law

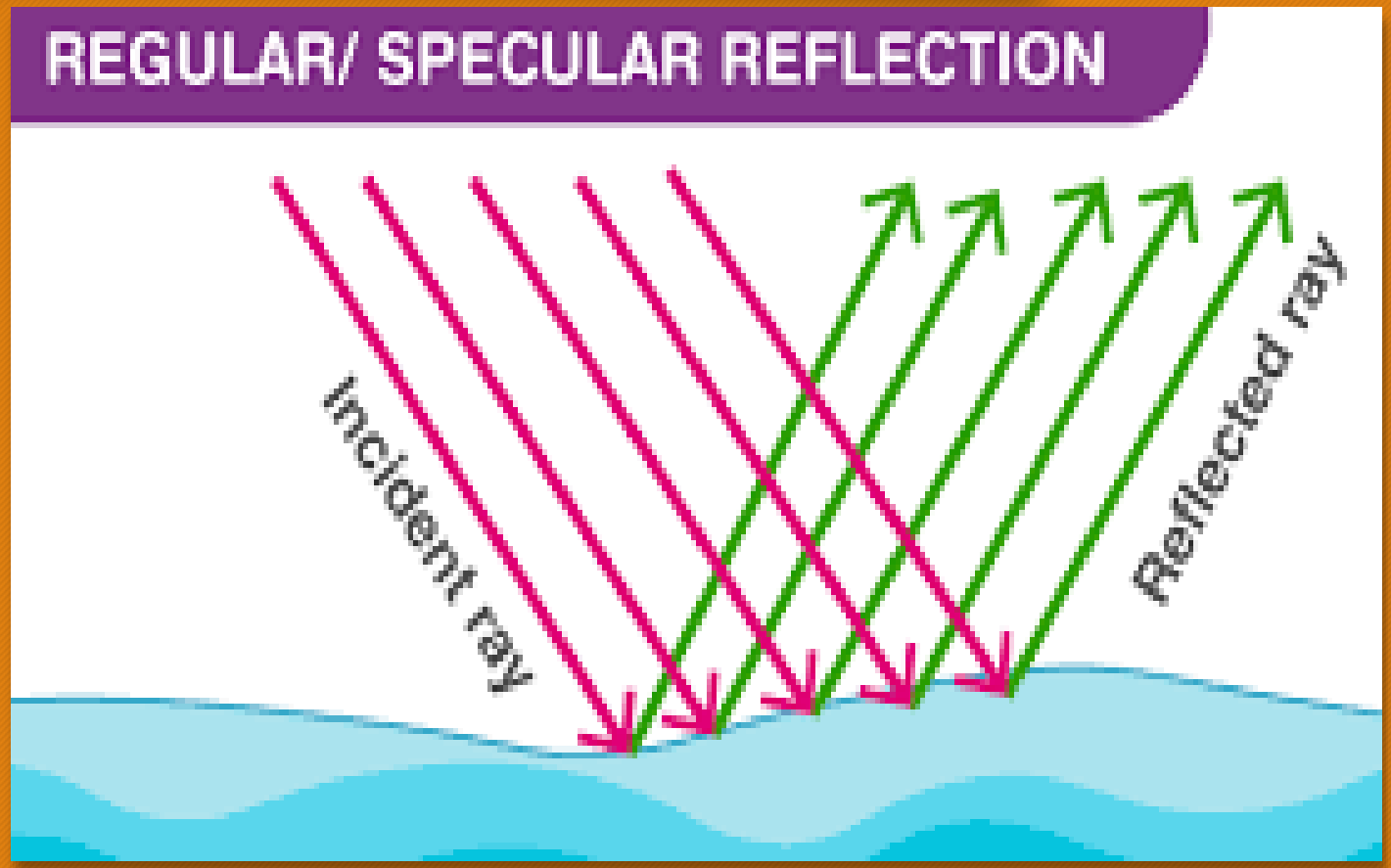
“The incident ray, the normal and the reflected ray at the point of incidence all lie in the same plane”



Types of reflection

Regular reflection

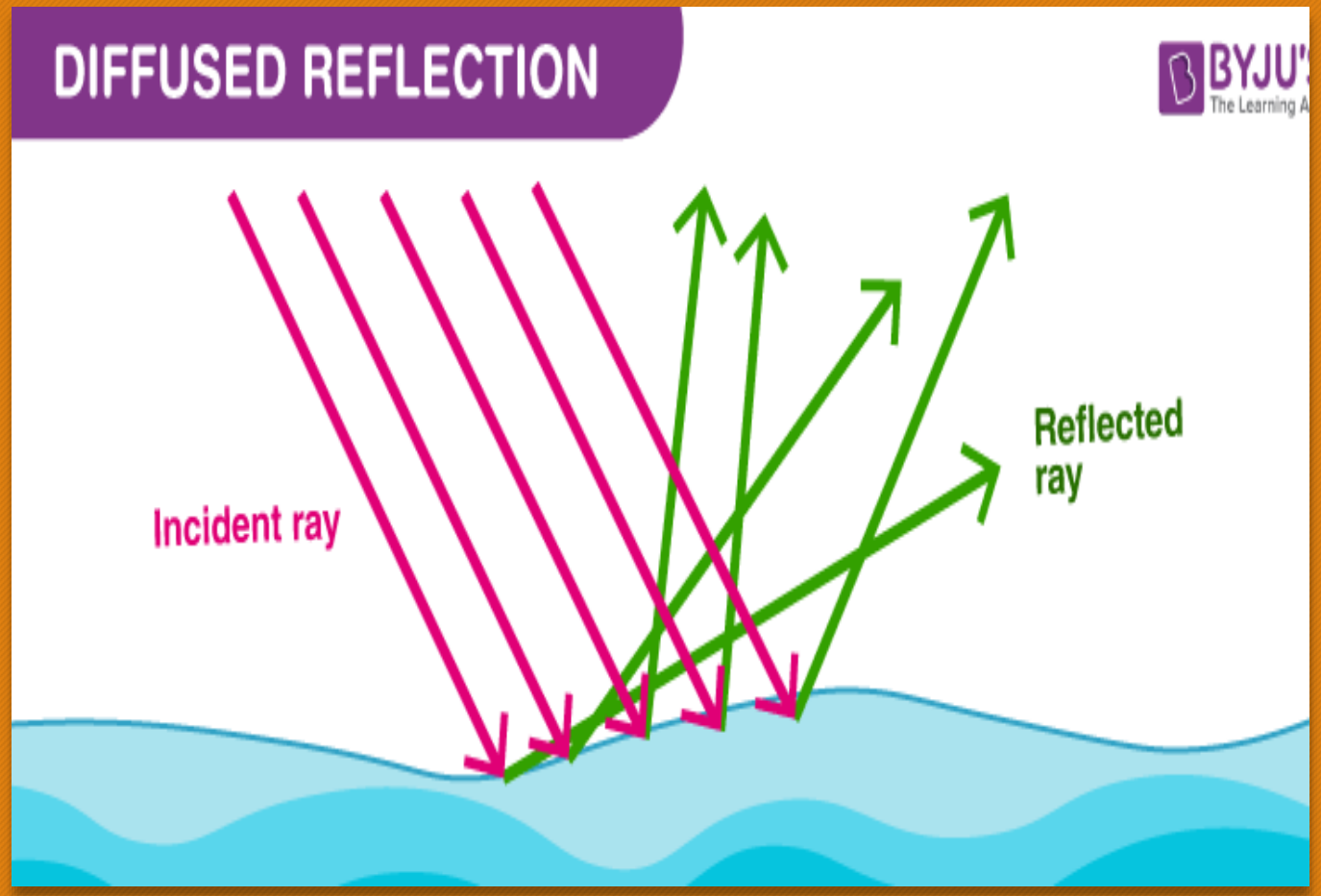
Nature of reflection depends on smoothness of the surface. For example, a smooth surface of silver reflects parallel rays of light in only one direction. The reflection by these smooth surfaces is called regular reflection.



Types of reflection

Irregular reflection

Most of the objects in everyday life are not smooth on the microscopic level. The rough surfaces of these objects reflects the rays of light in many direction. Such type of reflection is called irregular reflection.



Types of reflection

Multiple reflection

If a reflected light ray is reflected again on being incident on another surface, it is termed multiple reflections. Multiple reflections are used in periscopes. Periscopes are used in submarines

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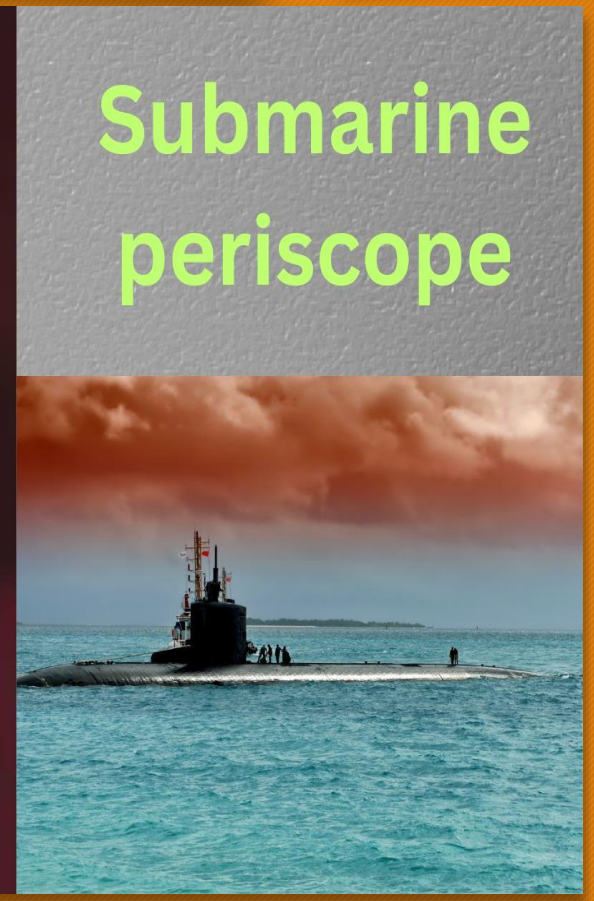


THANK YOU