



Grade 6





Subject : Science

Grade : 6

Term : 1st Term

Unit : Light and vision

Learning outcomes :

- State the factors required for vision
- Distinguish luminous and non-luminous objects
- Identify transparent, translucent and opaque media according to the transmission of light
- Demonstrate rectilinear propagation of light by doing simple activities
- List out the advantages of light

Activities

Activity 1

Let us find the factors required for vision

Conduct this experiment during night

Required materials : flower, book

- Pluck a flower from the garden.
- Go inside a room.
- Keep the flower on a table in the room.
- Now close your eyes and look at the flower.
- Can you see the flower?
- Why can't you see the flower?
- Switch off the bulbs in the room.
- Now, can you see the flower on the table?
- Why can't you see the flower?

If so, what are the required factors for vision?

Science



Activity 2

Let us categorize luminous and non-luminous objects.

The objects which can produce their own light are known as luminous objects and the objects that do not produce their own light are known as non-luminous objects.

Study the pictures given below and put the appropriate letter in the table.

A



D

Lighted Bulb

B



Star

C



Fire fly

D



Unlit bulb

E



Book

F



Moon

G



Luminous objects	Non-luminous objects



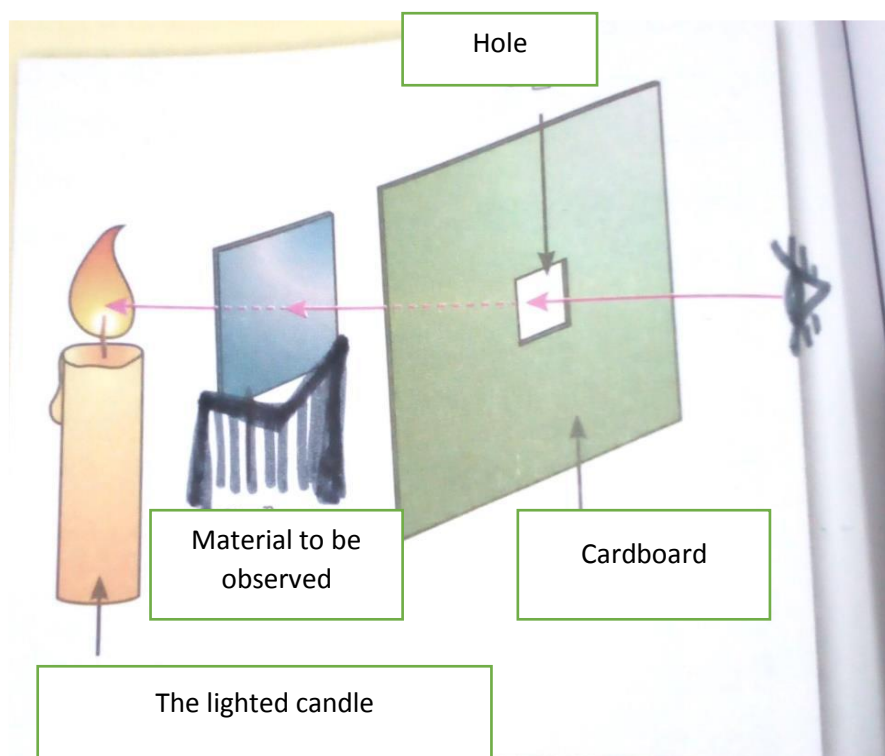
Write a criterion which can be used to further divide the luminous objects into two groups.

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Activity 3

Let us categorize objects based on the transmission of light

Required materials: Candle, a thick cardboard, a metal sheet, thin glass sheet, a piece of decorative glass, a drawing paper, an oil paper, a piece of wood, a piece of polythene sheet, a piece of newspaper



- Cut a piece of cardboard about the size of a writing book.
- Cut a 4cmX4cm hole at the middle of the cardboard.
- Arrange it to the eye level, so that when you sit you will be able to see through it.
- Light a candle (about 30cm) behind it.
- Now keep each of the things you have gathered in the middle of the hole and the candle.
- Record the observation in the following table.



The objects through which both the light and the flame are clearly seen	The objects through which the light is seen but the flame is not clearly seen	The objects through which both light and the flame cannot be seen clearly



Transparent objects	Translucent objects	Opaque objects
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Activity 4

Let us identify light rays and beams

Required materials – Torch, Comb, White paper

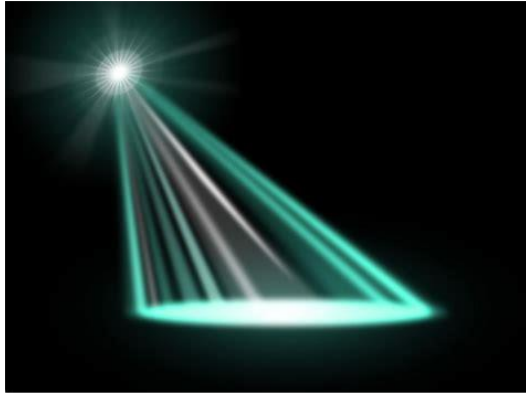
- Light a torch in a darker place.
- Look at the light coming from it.
- Such light is known as a beam of light.





Following picture shows the light coming from the sun. Is it a light ray or a beam of light?

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- Choose a desk kept in a darker place and keep the comb on a white sheet. Then direct a lighted torch towards the comb.
 - Mark those light rays on the white paper with a pencil.
 - What is the term used to define that single line of light?
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Activity 5

Let us identify the propagation of light.

Required materials: Candle, rubber tube

- Light a candle.
- Stretch the rubber tube and observe the flame of candle through the tube.
- Can you see the flame clearly?
- Now, hold the tube lightly and allow it to bend in the middle.
- Observe the flame of candle through the tube.
- Can you see the flame?

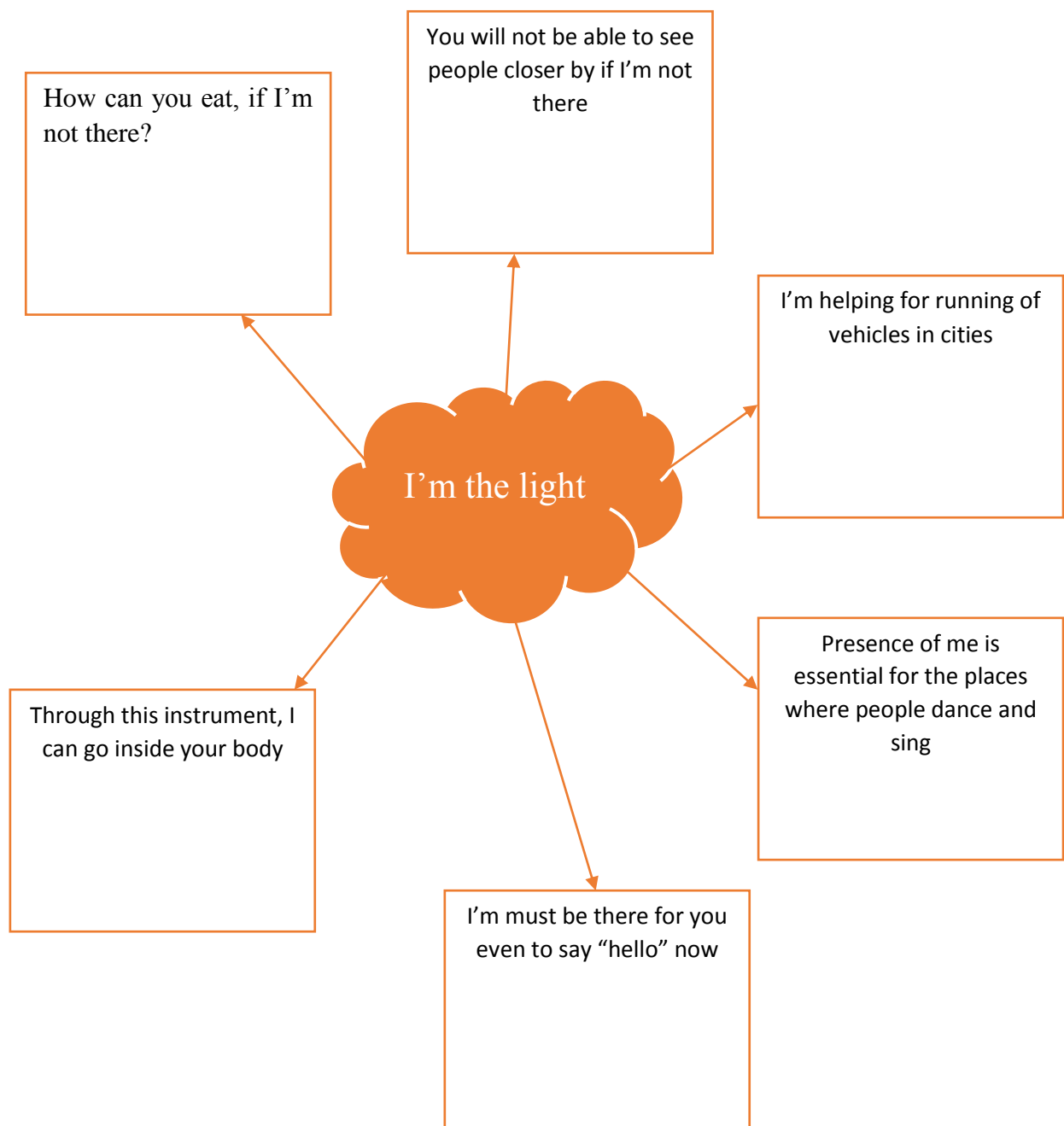
(Light does not travel in curved paths. Light travels only in rectilinear paths.)



Activity 6

Let us list out the advantages of light.

Understand the sayings of light and state the advantages.





Evaluation

1. Write two factors required for vision.

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2. Why moon is not considered as a luminous object?

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3. What is the term used to define the materials which allow light to transmit completely?

4. Write two features that should be considered when drawing a ray of light.

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5. Write an instrument which can be used to demonstrate a ray of light.

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Summary

Complete the following concept map.

