

Subject: Science

Duration: 3 x 40 mins

Unit Title: Light and Earth (Food/Energy chain)

Focus Question: How does light affect Earth?

How do animals and plants use light to satisfy their basic needs?

Objectives:

Pupils will:-

1. Explain how Earth experiences day and night, using interferences from experiment.
2. Define the term “rotation”.
3. Identify the types of eclipse and how they are formed.
4. Use animated objects to illustrate the eclipse.
5. Discuss how plants make food by using light.
6. Define photosynthesis.
7. Identify a food habitat on school compound and examine the feeding relationships.
8. Identify different food chains in the environment.
9. Categorize animals as carnivores, herbivores and omnivores.

Materials/Resources: Flashlights, globe, objects, pictures, scrap books

First Steps in Science (pg. 66-68)

The New Integrated G.S.A.T Science (pg. 72)

Nelson’s Achievement Science

Procedures/Activities:

Pupils will:-

1. Observe and use the light from the flashlight used to illustrate the effects of day and night, when shone on the globe.

- Rotate the globe and explain what is happening. Then make the connection to present day happenings.
  - Write a definition for rotation and state what causes it.
2. Read information from First Steps in Science (pg. 66-67).
  3. Recall eclipses they have ever experienced. Observes what happens as a student shines the flashlight on a ball held in front of the face. Then give explanations.

**Nb.** Flashlight – sun

Ball – moon

Face – Earth

- Define the term eclipse, and then read about the lunar and solar eclipse on pages 67 and 68.
  - Draw diagrams to represent both eclipses.
4. In groups, examine a tree on school compound and discuss how it's able to grow or make food. Then give a summary of discussion.
- Listen carefully as teacher re-emphasizes explanations giving more detailed information.
  - Define the term “photosynthesis”.
5. In groups, choose a tree or any other area where insects or other organisms feed and observe what is being fed on.
- After group report, as a class define what is a food chain or a food web.
6. Classify animals as consumers who may be regarded as herbivores, carnivores and omnivores.
- Identify animals that fit these categories in the environment and discuss their feeding relationships.

#### Key Concepts/Vocabulary:

Rotation refers to a complete spin on the Earth's axis which is made in 1 day/24 hours producing day and night time. Two types of eclipses are: solar and lunar. An eclipse occurs when the moon or Earth revolves in such a way that it blocks the sun's light from the other, thus forming a shadow. Lunar eclipse occurs when the Earth blocks the sun's light from the moon. Solar eclipse occurs when the moon blocks the sun's light from the Earth.

Photosynthesis is the process by which plants use energy from the sun while mixing water, chlorophyll and carbon dioxide to make their own food, sugar

and starch. Plants are called producers while animals are called consumers. Feeding relationships are shown by a food chain or a food web.

Assessment:

1. Answer questions from the Science and Social Studies Achievement Test papers 2 – 53-55, no. 4-10.
2. In their scrapbook, draw a food web based on feeding relationships on school compound.

Evaluation: