Lesson Plan

Grade: Four	**Subject:** Science	**Term:** 2nd	**Time:** 40min
Teacher's Name: _____		**Week:** 4	**Day:** 1
Chapter 5: Forms of Energy and Energy Transfer		**Topic:** Light Energy, Transformation of Energy	

Objective(s):

At the end of this period, the students will be able to:

- Relate familiar physical phenomena (i.e., shadows, reflections, and rainbows) to the behavior of light.

Resource Materials:

Chalk/marker, white/blackboard, Science Textbook, Worksheet

Warm-up Activities 5mins

- Before beginning the lesson, ask students to say "Tasmiya".
- Ask them: What is energy? Why do we need energy? Wait for their responses.

Teaching and Learning Activities: 25mins

- Write the topic name 'Transformation of energy' on the board.
- Tell students today they will study about forms of energy.
- Tell them there are different forms of energy.
- Light energy
- Heat energy
- Sound energy
- Electrical energy
- Energy is the most important part of universe. It is used to perform various tasks.
- Tell students ultimate source of energy is the Sun. Plants use sun energy to make food. Animals and humans get their energy by eating plants.
- Now write 'Light energy' on the board.
- Tell students light energy helps us to see things around us. We cannot see in dark. We get light from natural sources such as sun, stars, fire, firefly, etc.
- Human also has made some artificial sources of light such as bulbs, lamps, flashlights, etc. such sources are called manmade sources.
- Tell students light shows certain behavior on interacting with different materials. Light travels in straight line but when some material is placed in its path, it may be reflected, refracted or absorbed by material.
- Ask the students: What are some basic forms of energy? Wait for their responses.
- Write on the board: '**Basic forms of energy are:**
- Light energy

- Heat energy
- Sound energy
- Electrical energy
- Ask students to write the answer in their notebooks. Check their work.

Review: **3mins**

Explain the main points about forms of energy and energy transfer.

Evaluation: **5mins**

To check the understanding of students, ask them:

- What are basic forms of energy?
- What is light?
- Can we see in the dark?
- What are sources of light?

Homework: **2mins**

Ask the students to learn the topic and solve the given worksheet.

Worksheet

Q1. Fill the box with natural and manmade sources of light.













Q2. Differentiate between natural and manmade sources with examples.

Natural Sources	Manmade Sources

Q3. Pick and write natural resources and manmade things in separate columns.

Oil	Wood	Trees	Coal	Sand
Cotton	Ice	Paper	Sugar	Rubber
Candy	Knife	Feather	Sun	Rain

Natural	Manmade

Lesson Plan

Grade: Four	**Subject:** Science	**Term:** 2nd	**Time:** 40min
Teacher's Name: _____		**Week:** 4	**Day:** 2
Chapter 5: Forms of Energy and Energy Transfer		**Topic:** Transformation of Energy, Shadow Formation	

Objective(s):

At the end of this period, the students will be able to:

- Relate familiar physical phenomena (i.e., shadows, reflections, and rainbows) to the behavior of light.

Resource Materials:

Chalk/marker, white/blackboard, Science Textbook, Book, Torch, Worksheet

Warm-up Activities 5mins

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: What are forms of energy? What do you know about behavior of light? Wait for their responses.

Teaching and Learning Activities: 25mins

- Write the topic name 'Shadow formation' on the board.
- Tell the student today we will learn about shadow formation.
- Tell them light always travels in straight line. Light can pass through some objects. However, when light cannot pass through an object, a shadow of that object is formed behind it. For example, when light falls on a tree, a shadow is formed on the surface directly behind the tree.
- Tell students size of shadow does not remain same all the time. It depends on distance between source of light and the object. If an object is closer to source of light, the shadow will be long. If an object is far from source of light, the shadow will be small.
- Tell students at noon, the Sun is closest so the shadows are the shortest at this time. In morning and evening the Sun is at far so the shadows are the longest.
- Ask students to open their textbooks and do activity.
- Tell them to draw an object on your sketchbook and the shadow it casts when placed in front of light. Check their work.

Review: 3mins

Explain the main points about transformation of energy and formation of shadows.

Evaluation: 5mins

To check the understanding of students, ask them:

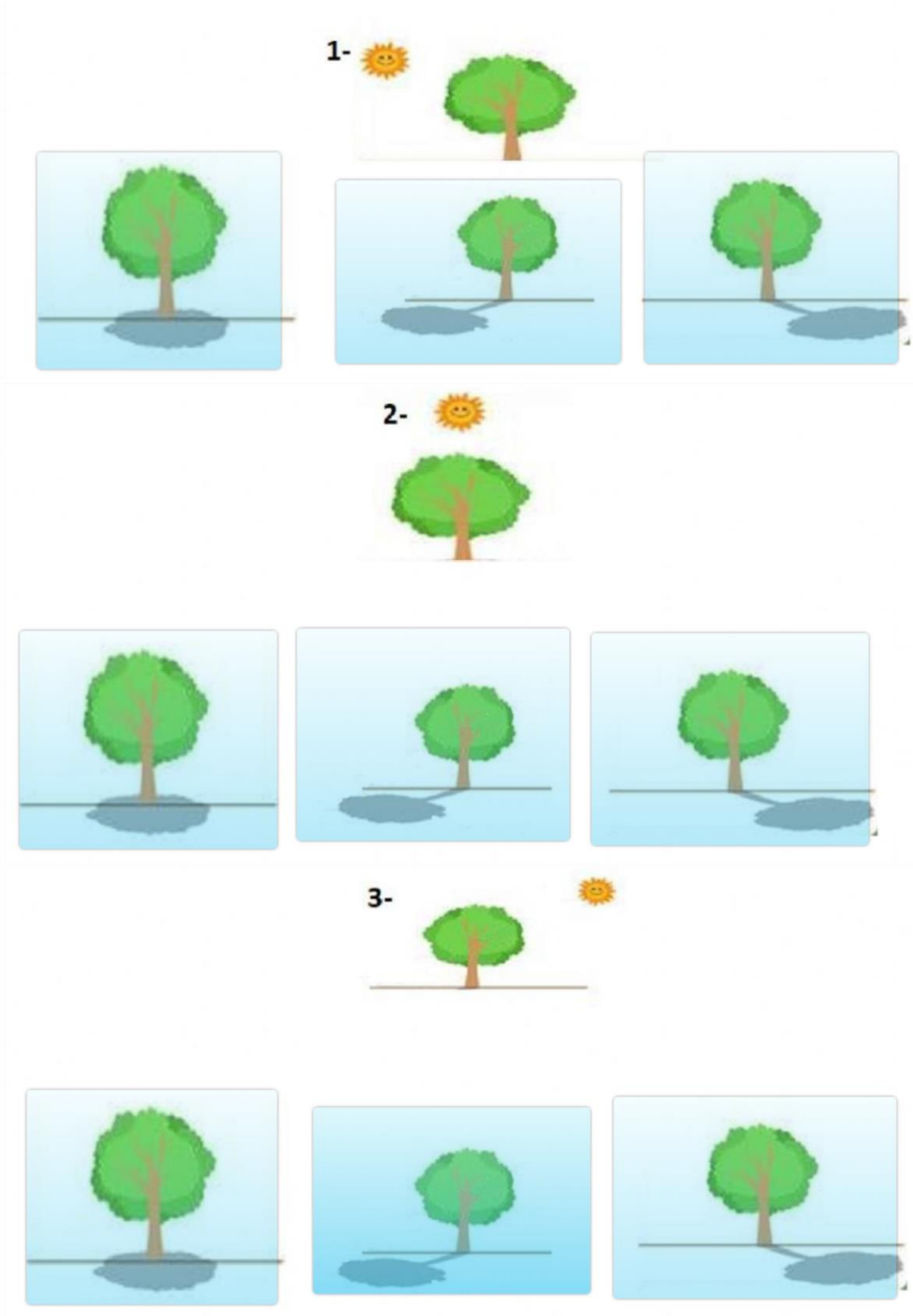
- Which objects form shadow?
- How is shadow formed?
- On what factors size of shadow depends?

Homework: **2mins**

Ask the students to learn the topic and solve the given worksheet.

Worksheet

Q1. Look at the position of the sun in each picture and draw the shadow of the tree.



Lesson Plan

Grade: Four	**Subject:** Science	**Term:** 2nd	**Time:** 40min
Teacher's Name: _____		**Week:** 4	**Day:** 3
Chapter 5: Forms of Energy and Energy Transfer		**Topic:** Reflection of Light	

Objective(s):

At the end of this period, the students will be able to:

- Relate familiar physical phenomena (i.e., shadows, reflections, and rainbows) to the behavior of light.

Resource Materials:

Chalk/marker, white/blackboard, Science Textbook

Warm-up Activities — 5mins

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: How is shadow formed? On what factors size of shadow depends?
- Wait for their responses. Appreciate them for correct answer.

Teaching and Learning Activities: — 25mins

- Write the topic name 'Reflection of light' on the board.
- Bring a mirror to the class and show students reflection. Tell them how image is formed in mirror.
- Tell students reflection is an important property of light.
- When light falls on shiny surface, it bounces back. This is called reflection of light.
- Draw a ray diagram of reflection of light on the board and explain the concept with its help.

Review: — 3mins

Explain the main points about reflection of light.

Evaluation: — 5mins

To check the understanding of students, ask them:

- What is reflection?
- How do you see your image in mirror?

Homework: — 2mins

Ask the students to learn the topic.

Lesson Plan

Grade: Four	**Subject:** Science	**Term:** 2nd	**Time:** 40min
Teacher's Name: _____		**Week:** 4	**Day:** 4
Chapter 5: Forms of Energy and Energy Transfer		**Topic:** Rainbow Formation	

Objective(s):

At the end of this period, the students will be able to:

- Relate familiar physical phenomena (i.e., shadows, reflections, and rainbows) to the behavior of light.

Resource Materials:

Chalk/marker, white/blackboard, Science Textbook, Prism

Warm-up Activities 5mins

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: What do you know about reflection of light? Wait for their responses.

Teaching and Learning Activities: 25mins

- Write the topic name 'Rainbow Formation' on the board.
- Tell students rainbow is formed after rain, in presence of sunlight.
- When light strikes water droplet, dispersion occurs. Water droplet act as prism and splits sunlight into its seven colors.
- Ask the students: How is a rainbow formed? Wait for their responses.
- Write the answer on the board: 'After rain, sunlight falls on the water droplets suspended in the air. These droplets behave like tiny prisms. When light passes through these water droplets, the rays of different colors bend differently and we can see the seven colors of a rainbow in the sky.
- Ask students to write seven colors of rainbow in their notebooks. Check their notebooks.
- Ask students to open their textbooks and do activity. Tell them to draw rainbow with correct sequence of colors in your sketchbook.

Review: 3mins

Explain the main points about rainbow.

Evaluation: 5mins

To check the understanding of students, ask them:

- How is rainbow formed?
- What is rainbow?

Homework: 2mins

Ask the students to learn the topic. Write the answer of Q3 (v) of Exercise in their notebooks.

Lesson Plan

Grade: Four	**Subject:** Science	**Term:** 2nd	**Time:** 40min
Teacher's Name: _____		**Week:** 4	**Day:** 5
Chapter 5: Forms of Energy and Energy Transfer		**Topic:** Sound Energy, Echo	

Objective(s):

At the end of this period, the students will be able to:

- Relate familiar physical phenomena (i.e., vibrating objects and echoes) to the production and behavior of sound.

Resource Materials:

Chalk/marker, white/blackboard, Science Textbook, Tuning fork

Warm-up Activities 5mins

- Before beginning the lesson, ask students to say "Tasmiya."
- Ask them: What do you know about rainbow? How rainbow is formed? Wait for their responses.

Teaching and Learning Activities: 25mins

- Write the topic name 'Sound Energy' on the board.
- Tell the students sound is the form of energy.
- Ask the students: You may hear different sounds around you. Ask students to mention some sounds. Let them respond.
- Tell them sound is present all around us. It is produced when something vibrates. Back and forth motion of vibrating body is called vibration.
- Now bring a tuning fork to the class.
- Tell students about it. Strike it hard. Ask students to observe vibrations in it.
- Tell students vibration causes the particles of an object to move and produce sound.
- Tell students sound travels in the form of waves. When an object vibrates, it vibrates the particles of medium. The medium could be solid, liquid or gas. The particles of medium squeeze and expand and transfer energy to next particles and sound wave moves forward. Sound cannot travel through vacuum because there is no particle in vacuum.
- Now explain the students about "Echo." When you speak in an empty hall, your words repeat although you utter them once. Such sound is called echo. An echo is produced when our sound is reflected back after hitting a rigid surface.

Review: 3mins

Explain the main points about sound energy.

Evaluation: 5mins

To check the understanding of students, ask them:

- What is sound energy?
- What are vibrations?

- Why sound cannot travel through a vacuum?

Homework: **2mins**

Ask the students to learn the topic.