

CLASS – VI
LESSON PLAN
CHAPTER-11: LIGHT, SHADOWS AND REFLECTION

Unit	CHAPTER-11 Light shadows and reflection
Class Transaction	Total: 5 periods (approx. 40 min each)
Pre-requisite for the course	The teacher will refer to the prior knowledge. • How do you think we see all objects around us? • How is a shadow formed? • What are luminous objects? (The class will be divided into smaller groups. Each group having 5 members.)
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. Subject enrichment Students would be able to, thereby inculcating competencies like collaboration, critical thinking and creativity
Learning Outcomes	KNOWLEDGE: Students will be able to: • Know how shadows are formed. • Know how light travels. • Know the difference between shadows and image formed by a plane mirror. • Pinhole camera • Differentiate between luminous and non luminous objects. SKILLS and COMPETENCIES 1) Critical thinking and problem solving (working effectively with others), 2) Character building (Taking tasks fearlessly and achieves goals.) 3) Communication (evaluating the information critically and competently. 4) Collaboration (responding open mindedly to different ideas) 5) Creativity (developing ,implementing and communicating new ideas)
Transaction ,Methodology (The teacher can use the mentioned techniques, wherever applicable ,and can use any other too.)	Strategies used- Inductive -deductive reasoning, muddiest point discussion, think pair share. Dimensions Of Learning- D4 (E-I Investigation) D3 (Compare) Transaction would proceed in the following manner- Brain Storming-The class would start with a discussion on what the students have already learned in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying.

	<i>Introduction of the topic-</i> ppt and Digital Content would be shared <i>Guided practice followed by Independent Practice-</i> NCERT questions to be discussed in the classroom. Techniques to be used: Quiz Daily Practice Problem MCQ Peer Assessment Lab Activities Any Other												
Resources	Text Book: NCERT text book for Science												
Self Study,Home work Assignments	Independent Practice: Students would do the given questions and diagrams in their notebooks. Notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 marks On time submission.....1 mark Presentation/ Neatness.....1 mark Content.....3 marks It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.												
Assessments	Through Pen Paper Test Students will be assessed creatively and critically <table> <tr> <td>4 UNIT TESTS</td> <td>25 Marks each</td> </tr> <tr> <td>HALF YEARLY EXAMINATION</td> <td>80 Marks</td> </tr> <tr> <td>ANNUAL EXAMINATION</td> <td>80 Marks</td> </tr> <tr> <td>INTERNAL ASSESSMENT</td> <td>10 Marks</td> </tr> <tr> <td>• Note Book Submission</td> <td>5 Marks</td> </tr> <tr> <td>• Lab Practical (Subject Enrichment)</td> <td>5 Marks</td> </tr> </table> Through lab Practical Students are assessed for Collaboration, Critical thinking.	4 UNIT TESTS	25 Marks each	HALF YEARLY EXAMINATION	80 Marks	ANNUAL EXAMINATION	80 Marks	INTERNAL ASSESSMENT	10 Marks	• Note Book Submission	5 Marks	• Lab Practical (Subject Enrichment)	5 Marks
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	Due to various social backgrounds and multiple intelligences, the classroom might be a diverse arena. The following techniques can be used for various groups:												

Addressing Classroom Diversity	<i>For gifted students:</i> • High order thinking skills questions to be done • Encouragement for referring other resources <i>For weak students:</i> • Short answers to be completed • Buddy help to be provided • Provide grade-up classes <i>For differently abled students:</i> • Ignore spelling mistakes and formulae, if not written • Call parents at regular intervals • Provide grade-up classes • Encourage and motivate them at every level.
Marks	The weightage would be given by CBSE.

	After explaining the concept , the students would be assessed by asking the following questions:
Q1	What is the difference between the light emitted by the moon and the sun?
Q2	Is the shadow of the object coloured? Explain giving reason.
Q3	What are the bright spots created by sun rays entering a room through a small hole in the door or window called? Explain briefly about them.
Q4	Write the steps for the construction of a pin hole camera and draw its diagram.
Q5	Differentiate between a shadow and an image.

TOPIC	DAY ONE :
Pre- Requisite for the course	The students will require the knowledge of transparent , translucent and opaque objects.
Assessment of qualifying knowledge	Questions from the previous class about the related topic would be asked for the whole class group.
Objective	The students will classify various objects on the bases of transparent, translucent or opaque objects.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and understand: ● Transparent, translucent or opaque objects. <u>SKILLS and COMPETENCIES</u>- Students will be able to: ● Collaboratively discuss about the transparent, translucent or opaque objects. ● Critically analyse about classifying materials on the basis of

	transparent, translucent and opaque objects.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Think pair share. Dimensions Of Learning- D1, D2 Transaction would proceed in the following manner- Anticipatory Set: 10 min The facilitator initiates a conversation with the learner by asking about how are we able to see objects around us. After the conversation the facilitator will ask whether the objects are visible in a dark room or not. The facilitator will now discuss about the objects which emit their own light and list the examples on the board. The facilitator will explain the difference between transparent, opaque and translucent objects. And will classify various objects on the bases of transparent, translucent or opaque objects. Discussion of topic and Guided Practice 20 min <u>Inquiry based learning</u> (Critical Thinking and Problem Solving) The students will attempt questions from the textbook. The facilitator would take rounds and help the students in solving the questions. Independent Practice: Students will go through the activities in NCERT text book. Closure: 5 min A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for Science
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their notebooks.
Assessments	Oral Test (5 minutes)
TOPIC	DAY TWO
Pre- Requisite for the course	This topic requires basic knowledge of luminous and non luminous objects.
Assessment of qualifying knowledge	Questions from the previous class about the related topic would be asked for the whole class group.
Objective	The students will be able to know about luminous and non luminous objects.
Learning Outcomes	<u>KNOWLEDGE</u>- The students will be able to know what are luminous and non luminous objects <u>SKILLS and COMPETENCIES</u>- Critically analyse about classifying

	materials on the basis of luminous and non luminous.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Think pair share. Dimensions Of Learning- D1,D2 Transaction would proceed in the following manner- Recapitulation: 5 min Brainstorming on the previously taught concept would be done by asking some Questions like: Q1. What are opaque objects? Q2. Give 2 examples of transparent materials. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) The facilitator initiates a conversation asking about the difference between the light produced by sun and the moon. The facilitator will then explain what are luminous and non luminous objects and hence classify objects on their basis. Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from the textbook in their notebook in the class. The teacher would ensure that each student tries to be independent at the work as well as be under the teacher's guidance. Independent Practice: Students will complete the question and answers in the notebook. Students who would have difficulty in answering the questions would solve with the help of their buddies. Closure: 5 min A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for science
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks.
Assessments	Oral quiz (5 minutes)
TOPIC	DAY THREE
Pre- Requisite for the course	This topic requires basic knowledge of what are shadows.
Assessment of qualifying knowledge	Knowledge testing by asking students to write factors effecting the formation of shadows.
Objective	The students will be able to know what are shadows and how are they formed.
Learning Outcomes	<u>KNOWLEDGE</u>- The students will be able to know what are shadows and how are they formed. <u>SKILLS and COMPETENCIES</u>- Critically analyse the things required to

	form a shadow.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Think pair share. Dimensions Of Learning- D1,D2 The facilitator initiates a conversation asking about the shadow they observe around them. The facilitator will discuss about what are shadows and how are they formed. The facilitator will list down things required to form a shadow. The facilitator will use digital content and explain the topic. By drawing diagrams and tables. It will be followed by explanation and reading of the chapter . Recapitulation: 5 min Oral test on the previous concept would be taken up. Discussion of topic through Collaborative Learning: 15 min (Critical thinking) Activities would be discussed and students would solve different questions per group and then the questions would be crosschecked. Digital content would be used. The facilitator would take rounds and help students with their doubts. Guided Practice: 15 min The students will answer the questions in their notebook in the class with the help of their teacher. The teacher would ensure that each student tries to be independent at the work as well as be under the teacher's guidance. Independent Practice: Students will complete the diagrams and revise the answers done in the notebook. A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for science
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their notebooks.
Assessments	Written test (5 minutes)

TOPIC	DAY FOUR
Pre- Requisite for the course	This topic requires basic knowledge of pinhole camera.
Assessment of qualifying knowledge	Questions from the previous class about the related topic would be asked for the whole class group.
Objective	The students will be able to know about the working of pinhole camera.
Learning Outcomes	KNOWLEDGE- The students will be able to know what is pinhole camera and how is it used. SKILLS and COMPETENCIES- Critically analyse about the images

	formed by a pinhole camera.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Think pair share. Dimensions Of Learning- D1,D2 Transaction would proceed in the following manner- Recapitulation: 5 min Brainstorming on the previously taught concept would be done by asking some Questions like: Q1. How are shadows formed? Q2. What are the three things required for the formation of shadow? Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) The facilitator will discuss about the pinhole camera and it's working. The facilitator will show how can we prepare a pinhole camera and what kind of images are formed. Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from the textbook in their notebook in the class. The teacher would ensure that each student tries to be independent at the work as well as be under the teacher's guidance. Independent Practice: Students will complete the question and answers in the notebook. Students who would have difficulty in answering the questions would solve with the help of their buddies. Closure: 5 min A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for science
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks.
Assessments	Written test (5 minutes)
TOPIC	DAY FIVE
Pre- Requisite for the course	This topic requires knowledge of reflection.
Assessment of qualifying knowledge	Knowledge testing by asking students to discuss about reflection of light.
Objective	The students will be able to know about: Reflection of light
Learning Outcomes	KNOWLEDGE- The students will be able to know about the term reflection of light.

	<u>SKILLS and COMPETENCIES</u>- Critically analyse the term reflection of light with the help of activities.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies used- Think pair share. Dimensions Of Learning- D1,D2 Transaction would proceed in the following manner- Recapitulation: <u>5 min</u> Brainstorming on the previously taught concept would be done by asking some Questions like: Q1. Explain the working of pinhole camera. Q2. What kind of images are formed by pinhole camera? Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical Thinking, Collaboration) The facilitator will explain the term reflection of light. The facilitator will also show the activity that clearly explains the reflection of light. Guided practice: <u>15 min</u> The students, with the help of the facilitator, will solve the questions from the textbook in their notebook in the class. The teacher would ensure that each student tries to be independent at the work as well as be under the teacher's guidance. Independent Practice: Students will complete the question and answers in the notebook. Students who would have difficulty in answering the questions would solve with the help of their buddies. Closure: <u>5 min</u> A short oral test would be taken to check proper assimilation of the topic discussed.
Resources	Text Book: NCERT text book for science
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks.
Assessments	Written test (5 minutes)