

CLASS – VII
LESSON PLAN
Ch 15 Light

Unit	Chapter 15 (Light)
Class Transaction	Total: 11 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. Group Discussion 4. HW notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand reflection of light. They would be able to understand convex lens and concave lens with 90% accuracy.
	DoL- D1, D2, D3, D4
Learning Outcomes	<u>KNOWLEDGE-</u> Students will know and understand • Students will be able to define reflection of light. • Students will be able to classify different types spherical mirror and lens. • Students will be able to compare and contrast convex and concave mirror. • Students will be able to value convex and concave lens in daily life. • Students will be able to examine dispersion of light. • Students will be able to construct Newton’s disc. <u>SKILLS AND COMPETENCIES-</u> Students would be able to • Critically analyze the difference between a)convex lens b) concave lens • Appreciate importance of light energy Collaboratively. • Collaborate in groups and experiment the image formation by convex and concave mirrors.. • Design Creative methods to construct Newton’s disc. • Built Character amongst themselves by discussing importance of spherical mirror. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.

	<u>ATTITUDES AND BELIEFS</u> – Students will be able to Develop citizenship by visualizing and observing day to day phenomena and present it in form of skit to sensitize others.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active Learning- <i>Frayer Model</i> on light. (Critical Thinking) Group Learning- The class will be divided into eight groups. <i>Jigsaw</i> Expert Group: The group will be given worksheet spherical mirrors Learning Group: Students will teach each other the concave and convex mirror. (Communication, Collaboration) Differentiation- The students in groups of 8 will be demonstrating the image formation by concave and convex lens. (Character, Communication) Questioning- Multiple level question- Teacher will prepare a list of question about light and its phenomenon and will ask these questions after discussion. (Critical Thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared. Facilitation of content The facilitator will enable the learners to understand the fundamental concept of Heat. He/ She will compare and contrast different modes of transfer of heat. Approaches The facilitator should apply some or all the approaches while administering the teaching learning process. • Didactic Approach • Summarizing Approach • Feedback Approach Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing

	• Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table,compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice- NCERT questions to be discussed in the classroom.</i>
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content(critical thinking and creativity).....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	4 UNIT TESTS25 Mark each=100 Marks HALF YEARLY EXAMINATION80+20 (internal)=100 Marks ANNUAL EXAMINATION 80+20(internal)=100 Marks By administering pen paper test, we assess creativity and critical thinking. INTERNAL ASSESSMENT20 Marks in each Term • Subject Enrichment Activity 10 Marks With the help of subject enrichment activities we assess communication, collaboration, character building and citizenship (Demonstration and implementation of on force and pressure in our daily life). The students in a group of 5 will be demonstrating the activity.

	Note Book Submission 10 Marks
Addressing Classroom Diversity	It's a different classroom today: As the kids are from different socio-economic background, So are their needs, demands and aspirations. Today all kinds of students including the gifted, the average and the differently able are mainstreamed into one class. So the teaching learning process must be devised in such that can cater to the needs and aspirations of students of abilities . The following techniques can be used for different groups: <i>For the gifted:</i> - Preparing a debate - Making PPT - Designing an exhibit - Writing a report - Preparing a talk - Encouragement for referring other resources <i>For the average/slow learners:</i> - Making a Chart/diagram/poster/ flashcards - Buddy system help to be provided - Provide grade-up classes <i>For differently able:</i> - Ignore grammatical inaccuracy - Call parents at regular intervals - Provide grade-up classes
Marks	The weight age would be given by CBSE.
	Q1. Why convex mirror is used as a side/rear view mirror? Q2. Write five characteristics of the image formed by a plane mirror. Q3. Differentiate between concave and convex lens Q4. How will you prove that light consists of seven colours using Newton's colour disc? Q5. Explain how we are able to see table lying in the room though it does not give out its own light? Q6. You are provided with (a) plane mirror (b) concave mirror (c) convex mirror. How will you distinguish them without touching?

Unit	Day 1 (Light travels in a straight line)
Class Transaction	40 min
Pre-requisite for the course	. This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand propagation of light with 90% accuracy
DOL	D1, D2,D3
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> Students will be able to • Recall propagation of light. • Demonstrate light travels in a straight path Students' responses will be listed on the blackboard by using the KWL chart KWL- <i>What you Know, What you will Learn, What you have learned.</i> <i>Students will be able to</i> Identify direction of light through an activity. • Students will be divided into two groups and will be given bent pipe and a straight pipe and a candle to identify propagation of light. <u>SKILLS AND COMPETENCIES</u>- <i>Students would be able to</i> • Critically analyse propagation of light. • Appreciate the importance of light in Collaboration • Built character amongst themselves by discussing communicating in <i>understanding rectilinear path travelled by light (temperature)</i> Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic. Attitudes and beliefs- <i>Students will be able to</i> • Develop citizenship in doing activity to identify propagation of light by understanding their role and duties.
Transaction Methodology (The teacher can	Transaction would proceed in the following manner- Active learning- <i>Identifying with help of an activity the rectilinear propagation of light (Critical thinking)</i>

use the mentioned techniques, wherever applicable, and can use any other too.)	Questioning- <i>Multiple level question</i>- Teacher will prepare a list of questions based on the activity and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- 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 • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W notebooks as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW 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(creativity).....1 mark Content(critical thinking and

	creativity)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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 2(Reflection of light)
Class Transaction	40 min each
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand reflection of light. They would be able to apply concept in real life with 90% accuracy
	DOL - D1, D2, D3
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Explain reflection of light.. • Discuss the change of path when light bounces back. • Examine the phenomena of light <u>Skills & Competencies-</u> Students would be able to • Critically analyse reflection of light. • In Collaboration they will interpret the reflection of light through an activity • Built character amongst themselves by discussing /communicating in <i>understanding reflection of light</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can	Transaction would proceed in the following manner- Active learning- 5 <i>Why's for gathering information which help in deeper understanding of topic.</i> (Critical thinking)

use the mentioned techniques, wherever applicable, and can use any other too.)	Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about reflection of light... (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic

Unit	Day 3 (Image formation by plane mirror)
Class Transaction	40 min
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to examine image formed by plane mirror with 90% accuracy
	DOL - D1, D2,D3,D4
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Analyse image formation by plane mirror. • Define lateral inversion • Illustrate with examples applications of plane mirror. • Examine characteristics of image formation by plane mirror. <u>Skills & Competencies-</u> Students would be able to • Critically analyse characteristics of image formation by plane mirror • In Collaboration they will be able to understand lateral inversion in an activity using plane mirror. • Built character amongst themselves by discussing /communicating in <i>understanding lateral inversion..</i> Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology	Transaction would proceed in the following manner- Active learning- Activity 15.2 Take a candle and keep it in front a plane mirror. Observe the flame of candle and size. Note your observations

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	(Critical thinking) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about characteristics of image formation by plane mirror and its uses. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom
Resources	Text Book: NCERT text book Reference Books CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark

	Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 4 (Spherical mirrors)
Class Transaction	approx. 40 min each
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand spherical mirrors with 90% accuracy
	DOL -D1, D2,D3,D4
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Analyse different types of mirrors • Examine mirrors and their uses • Interpret spherical mirrors by touching <u>Skills & Competencies-</u> Students would be able to • Critically analyse construction spherical mirrors. • In Collaboration they will be able to distinguish between convex and concave mirrors by sense of touching. • Built character amongst themselves by discussing /communicating in <i>understanding spherical mirrors</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can	Transaction would proceed in the following manner- Active learning- <i>Identifying Concave Mirror/Convex Mirror from the given set of optical instruments by touching it</i> (Critical thinking)

use the mentioned techniques, wherever applicable, and can use any other too.)	Group learning- The class will be divided in eight groups. <i>JIGSAW</i> – Expert Group: The group will be given worksheet by the teacher for different types of mirrors. Learning Group: Students will teach each other spherical mirrors.. (Communication, Collaboration) Questioning- <i>Multiple level question</i>- Teacher will prepare a list of question on the topic and will ask these questions during discussions. (Critical thinking, Communication) <i>Brain Storming</i>-The class would start with a discussion on what the students have already learnt 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 Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice followed by Independent Practice</i>- NCERT questions to be discussed in the classroom
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W notebooks as mentioned in the monthly planner. HW 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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 5(Convex lens)
Class Transaction	(approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to examine convex mirror. They would be able to understand image formation by convex mirror with 90% accuracy
	DOL - D1, D2,D3
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Define convex mirror • Demonstrate image formed by convex mirror • List uses of convex mirror • Construct convex mirror using daily life objects.. <u>Skills & Competencies-</u> Students would be able to • Critically analyse convex mirror. • In Collaboration they will be able to list uses of convex mirror • Built character amongst themselves by discussing /communicating in <i>understanding image formation by convex mirror</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.

Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- The class will be divided in smaller groups of two students each. THINK PAIR SHARE – : The group will be given worksheet by the teacher for interpreting image formation by convex mirrors. Peer Learning: Students will teach each other in understanding convex mirror in pair. Facilitator will help in problem solving and doubt clarification. (Communication, Collaboration) Differentiation- The students experiment image formation by convex mirror work in groups. (Character, Citizenship) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities Guided practice to be followed by Independent Practice- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity

	HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 6 (Concave Mirror)
Class Transaction	(approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand concave mirror with 90% accuracy
	DOL - D1,D2,D3
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Define concave mirror • Demonstrate image formed by concave mirror • List uses of concave mirror • Construct concave mirror using daily life objects.. <u>Skills & Competencies-</u> Students would be able to • Critically analyse concave mirror • In Collaboration they will be able to list uses of concave mirror • Built character amongst themselves by discussing <i>/communicating in understanding image formation by concave</i>

	<i>mirror</i> . Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- <i>CAF(consider all factors)</i> on conductors and insulators of heat. (Critical thinking) Differentiation- The students in a group of 10 will be experimenting for image formation by concave mirror. (Character, Citizenship) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about the conductors and insulators of heat and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Self-Study, Home	Independent Practice: Students would do the questions in their H.W note

Work, Assignments	books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 7 (Image formation by convex lens)
Class Transaction	(approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand image formation by convex lens. They would be able to understand convex lens with 90% accuracy
	DOI - D1, D2,D3,D4
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Define convex lens • Demonstrate image formed by convex lens • List uses of convex lens • Construct convex lens using daily life objects.. <u>Skills & Competencies-</u> Students would be able to

	• Critically analyse convex lens • In Collaboration they will be able to list uses of convex lens • Built character amongst themselves by discussing /communicating in <i>understanding image formation by convex lens</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- The class will be divided in smaller groups of two students each. THINK PAIR SHARE – : The group will be given worksheet by the teacher for interpreting image formation by convex lens. Peer Learning: Students will teach each other in understanding convex lens in pair. Facilitator will help in problem solving and doubt clarification. (Communication, Collaboration) Differentiation- The students experiment image formation by convex lens work in groups. (Character, Citizenship) Brain Storming- The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice-</i> NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar

Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 8 (Image formation by concave lens)
Class Transaction	(approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand concave lens. They would be able to understand convex lens and concave lens with 90% accuracy
	DOL - D1, D2,D3,D4
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Define concave lens • Demonstrate image formed by concave lens • List uses of concave lens • Construct concave lens using daily life objects.. <u>Skills & Competencies-</u> Students would be able to

	• Critically analyse concave lens • In Collaboration they will be able to list uses of concave lens • Built character amongst themselves by discussing /communicating in <i>understanding image formation by concave lens</i>. Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- 5 <i>Why's for gathering information which help in deeper understanding of topic</i> (Critical thinking) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about concave lens will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar

Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 9 (uses of convex and concave lens)
Class Transaction	(approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to understand uses of concave and convex lens. They would be able to understand convex lens and concave lens with 90% accuracy
	DOL -D1,2,3
Learning Outcomes	<u>Knowledge-</u> <i>Students will know and understand</i> Students will be able to • Illustrate with examples uses of concave lens • Illustrate with examples uses of convex lens • Examine importance of concave lens and convex lens <u>Skills & Competencies-</u> Students would be able to

	• Critically analyse uses of concave lens and convex lens. • In Collaboration they will be able to compare and contrast convex and concave lens. • <i>Built character amongst themselves by discussing /communicating in understanding lenses</i> Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- <i>Active learning- 5 Why's for gathering information which help in deeper understanding of topic. (Critical thinking)</i> Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about convex lens and concave lens and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: • Quiz • MCQ • PPT • Computer aided simulation/3D pictures • Skit/Role playing • Group discussion • HOTS questions • Peer Assessment • Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, • Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar

Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 10 (Dispersion of light)
Class Transaction	(approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to examine dispersion of light. They would be able to interpret the dispersion of light using prism with 90% accuracy
	DOL -D1,2,3
Learning Outcomes	Knowledge- <i>Students will know and understand</i> Students will be able to • Understand dispersion of light • Construct a model on dispersion of light. • Appreciate importance of dispersion of light. • List applications of dispersion of light.

	- Analyse white light is made up of seven colors. Skills & Competencies- Students would be able to Critically analyse dispersion of light. - In Collaboration they will be able to examine white light is made up of seven colors through an activity using prism. <i>Built character amongst themselves by discussing /communicating in the model showing dispersion of light</i> Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- Activity 15.11 – Take a glass prism. Allow sunlight to pass through it. Note your observation (Critical thinking) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about dispersion of light.(Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: - Quiz - MCQ - PPT - Computer aided simulation/3D pictures - Skit/Role playing - Group discussion - HOTS questions - Peer Assessment - Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, - Lab Activities <i>Guided practice to be followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.
Resources	Text Book: NCERT text book for Science.

	Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.

Unit	Day 11 (Newton's Disc)
Class Transaction	(approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of source of light. 2. Basic knowledge of rectilinear propagation of light. 3. Basic knowledge of reflection of light. 4. Basic knowledge of luminous and non-luminous objects.
Assessment of qualifying knowledge	Written test Group Discussion Lab activity HW Notebook
Objective	Given the content (chapter) the learners will be able to compare and contrast convex mirror and concave mirror Students will be able to construct Newton's Disc. They would be able to understand Newton's Disc with 90% accuracy
	DOL -D1,2,3
Learning Outcomes	Knowledge- <i>Students will know and understand</i> Students will be able to • Demonstrate dispersion of light with the help of Newton's Disc • Construct Newton's disc

	- Identify seven colors of white light Skills & Competencies- Students would be able to Critically analyse wool seven colors of white light. - In Collaboration they will be able to interpret dispersion of light using Newton's disc <i>Built character amongst themselves by discussing /communicating in understanding Newton's Disc</i> Answer knowledge, understanding, application and diagrammatic skill based questions based on the topic.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Active learning- Activity 15.12 Take a circular cardboard disc of about 10 cm diameter. Divide this disc into seven segments and paint them with seven rainbow colors and place a refill at the centre Rotate the disc in the daylight. Note your observations (Critical thinking) Questioning- Multiple <i>level question</i>- Teacher will prepare a list of question about poor dispersion of light and will ask these questions during discussions. (Critical thinking, Communication) Brain Storming-The class would start with a discussion on what the students have already learnt 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. Introduction of the topic- PPT and Digital Content would be shared Techniques to be used: - Quiz - MCQ - PPT - Computer aided simulation/3D pictures - Skit/Role playing - Group discussion - HOTS questions - Peer Assessment - Student -teacher interaction, Wipro- G.O.s(web chart, flow chart and differentiation table, compare- contrast matrix), silent/ loud reading, collaborative learning, - Lab Activities <i>Guided practice to be followed by Independent Practice-</i> NCERT questions to be discussed in the classroom.

Resources	Text Book: NCERT text book for Science. Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W note books as mentioned in the monthly planner by which we can assess their critical thinking and creativity HW notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 5 Rubrics On time submission.....1 mark Presentation/ Neatness.....1 mark Content (critical thinking and creativity).....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.
Closure	Involving students in summarizing by asking them to prepare questions based on the topic.