

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS – VI
LESSON PLAN
CHAPTER-13 SYMMETRY

Unit	Ch 13 Symmetry
Class Transaction	Total: 4 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires knowledge of different geometrical figures.
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. HW notebook
Objective	Students would be able to draw line of symmetry of different figures, find number of lines of symmetry of given figures, thereby inculcating competencies like collaboration, critical thinking and creativity
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will develop the ability to understand</i> Students will be able to: 1. Identify symmetrical figures and draw line of symmetry. 2. Find figures having: - no line of symmetry - one line of symmetry - two lines of symmetry - three or more lines of symmetry 3. Identify the difference between the original and the Mirror reflection. 4. Create a symmetrical design and explain how it is symmetrical. <u>SKILLS and COMPETENCIES</u>- <i>Students would be able to:</i> 1 Develop the ability to analyze and identify symmetrical figures. 2 Create symmetrical designs and explain how they are symmetrical and develop critical thinking and collaboration in the process.
Transaction Methodology	Transaction would proceed in the following manner-

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes. Students will be shown pictures on smart class project having two identical parts like butterfly, leaves etc. and will be asked some questions pointing towards symmetry. <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 Case Studies Lab Activities Any Other												
Resources	Text Book: NCERT text book for Mathematics Reference Book CBSE Exemplar												
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebook. H.W. notebooks to be marked as per the given plan: <i>Assessment Parameters:</i> The total marks for the activity is 10 marks On time submission.....2 mark Presentation/ Neatness.....2 mark Content.....6 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>20 Marks each</td> </tr> <tr> <td>HALF YEARLY EXAMINATION</td> <td>80 Marks</td> </tr> <tr> <td>ANNUAL BOARD EXAMINATION</td> <td>80 Marks</td> </tr> </table> <table> <tr> <td>INTERNAL ASSESSMENT</td> <td>20 Marks</td> </tr> <tr> <td>• Note Book Submission</td> <td>10 Marks</td> </tr> <tr> <td>• Lab Practical (Subject Enrichment)</td> <td>10 Marks</td> </tr> </table>	4 UNIT TESTS	20 Marks each	HALF YEARLY EXAMINATION	80 Marks	ANNUAL BOARD EXAMINATION	80 Marks	INTERNAL ASSESSMENT	20 Marks	• Note Book Submission	10 Marks	• Lab Practical (Subject Enrichment)	10 Marks
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	Through lab Practical Students are assessed for Collaboration, Character building, Character Building
Addressing Classroom Diversity	Due to various social backgrounds and multiple intelligences, the classroom might be a diverse arena. The following techniques can be used for various groups: <i>For gifted students</i> • Encouragement for referring other resources <i>For weak students:</i> • 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.
ASSESSMENT QUESTIONS	Q1. Fill in the blanks. (i) A scalene triangle has _____ lines of symmetry. (ii) A square has ----- lines of symmetry. (iii) A polygon having eight sides is called _____. (iv) Line of symmetry divides the figure into ----- identical parts. (v) A line segment joining any two points on the circle is called a _____. Q2 Are the two set squares in your geometry box symmetrical? How? Q3 Name three applications of symmetry in everyday life. Q4 How is line of symmetry related to mirror image? Q5 Name some figures with lines of symmetry from architecture.

DAY	ONE
Objective	Through activity like ink-blot devils and inked string pattern the word symmetry and the line of symmetry will be introduced. Students will be asked to identify symmetrical figures from the environment hence developing the art of communication and critical thinking.
Assessment of qualifying knowledge	Quiz on Questions based on Symmetry.

Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and identify the symmetrical figures and draw line of symmetry <u>SKILLS and COMPETENCIES</u> Students would be able to Reason effectively and critically differentiate between symmetrical and non-symmetrical figures.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Anticipatory Set: 10 min Facilitator will ask few questions to introduce the topic Discussion of topic through Collaborative Learning: 15 min <u>Inquiry based learning (Critical Thinking and Problem Solving)</u> Students would be asked to draw some half figures on a square paper and to complete the other half in such a way that both the halves become symmetrical. The facilitator would take rounds and ensure that each learner is engaged. Guided practice: 10 min Class assignment followed by independent practice. . The facilitator would take rounds and help the students in solving the questions. Independent Practice: Students will do Question from 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 Mathematics Reference Book 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks.
Assessments	Oral Test (5 minutes)
DAY	TWO
Objective	Students in groups will discuss and identify figures having more than one lines of symmetry and will be able to identify the lines of symmetry of given figures in collaborative manner .
Assessment of qualifying knowledge	Worksheet on line of symmetry of given figures.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and draw the figures with multiple lines of symmetry. <u>SKILLS and COMPETENCIES</u>- Students will be able to draw lines of symmetry of given figures.

Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: 5 min Brainstorming on the previously taught concept would be done. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) An oral quiz will be taken and students will be asked to identify number of lines of symmetry of given figures. Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from NCERT book 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 remaining HW parts given in in their Math HW notebook. Students who would difficulty in solving the problem 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 Mathematics Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks.
Assessments	Oral quiz (5 minutes)
DAY	THREE
Objective	To be able to draw mirror reflection of different figures. .
Assessment of qualifying knowledge	Worksheet on mirror image by taking into account left- right changes in orientation.
Learning Outcomes	<u>KNOWLEDGE</u> - Students will develop the ability to understand the concept of mirror image and left – right changes in orientation. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations collaboratively
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- Recapitulation: 5 min Oral test on the previous concept would be taken up. Discussion of topic through Collaborative Learning: 15 min (Critical thinking)

	Exercise 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 solve the questions from NCERT book of Exercise 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 remaining parts of Exercise in their Math HW notebook. 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 Mathematics Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks as mentioned in the monthly planner.
Assessments	MCQ (5 minutes)
Resources	Text Book: NCERT text book for Mathematics Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks as mentioned in the monthly planner.
Assessments	Written test (5 minutes)
DAY	FOUR
Objective	To be able to use symmetry for applications in every day life. .
Assessment of qualifying knowledge	Drawing Kolams ,Rangoli design creations using the concept of symmetry,
Learning Outcomes	KNOWLEDGE- <i>Students will develop the ability to apply the concept of symmetry in its applications in everyday life as in art, architecture , textile technology etc.</i> SKILLS and COMPETENCIES - <i>Students would be able to apply the concepts of symmetry in various applications of daily life collaboratively</i>
Transaction Methodology	Transaction would proceed in the following manner- Recapitulation: 5 min Oral test on the previous concept would be taken up.

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical thinking) Exercise 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: <u>15 min</u> The students will solve the questions from NCERT book of Exercise 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 remaining parts of Exercise in their Math HW notebook. 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 Mathematics Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would make Kaleidoscope using mirrors.
Assessments	(5 minutes)