

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS – VIII
LESSON PLAN
CHAPTER-6: ALGEBRA

Unit	Algebra (Chapter 9: Algebra)
Class Transaction	Total: 6 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of variables. 2. Knowledge of addition and subtraction.
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. HW notebook
Objective	Students will be able to: Use a variable to express relations in any practical situations. Form expressions with variables using different operations. Solve equations apply the concept in their day to day life. thereby inculcating competencies like collaboration, critical thinking and creativity
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will develop the ability to understand</i> 1. Different types of variables. 2. The method of adding and subtracting constants and variables <u>SKILLS and COMPETENCIES</u>- <i>Students would be able to:</i> 1. Develop the ability to analyze and differentiate between constant and variables. 2. Perform skills like addition of constant and variables and develop critical thinking and collaboration in the process.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- 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. <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. notebooks. H.W. 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 BOARD EXAMINATION</td> <td>80 Marks</td> </tr> </table> INTERNAL ASSESSMENT 10 Marks - Note Book Submission 05 Marks - Lab Practical (Subject Enrichment) 05 Marks Through lab Practical Students are assessed for Collaboration, Character building, Character Building	4 UNIT TESTS	25 Marks each	HALF YEARLY EXAMINATION	80 Marks	ANNUAL BOARD EXAMINATION	80 Marks
4 UNIT TESTS	25 Marks each						
HALF YEARLY EXAMINATION	80 Marks						
ANNUAL BOARD EXAMINATION	80 Marks						
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. Raman scores 80 marks in English and x marks in Hindi. What is his total score in the two subjects? Write the following using numbers, literal numbers and signs of four fundamental operations. Also state what each letter represents: Q2. The perimeter of a rectangle is twice the sum of its length and breadth. Q3. The distance covered is the product of speed and time. Q4. If x is divided by y, added to the product of x and y. Q5. The product of a and b added to the difference of a and b.

DAY	ONE
Objective	Understand Various patterns using matchsticks.
Assessment of qualifying knowledge	Quiz and knowledge testing on patterns.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and identify types of variables. Use a variable to express relations in any practical situations Form expressions with variables using different operations <u>SKILLS and COMPETENCIES</u> Students would be able to Reason effectively and critically and write down the required expression as asked in the question
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 What is a variable? What is a constant? What is an expression? Discussion of topic through Collaborative Learning: 15 min <u>Inquiry based learning (Critical Thinking and Problem Solving)</u> Through question and answer students will understand algebraic expressions . Guided practice: 10 min The students will solve the questions from NCERT book, solved examples in their notebooks of their facilitator. The facilitator would take rounds and help the students in solving the q Independent Practice: Students will go through the solved examples of 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 CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks as
Assessments	Oral Test (5 minutes)

DAY	TWO
Objective	Students will be able to generalize the situation as per the statement in collaborative manner .
Assessment of qualifying knowledge	Written questions on representing statements as algebraic expression.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and</i> Demonstrate the ability to identify like terms of <u>SKILLS and COMPETENCIES</u>- <i>Students will be able to</i> differentiate and classify various collaboration with each other.
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) The facilitator will conduct One minute recap session following questions to assess the learning of previous day and check the understanding. Students will ask and answer questions given below. What is a variable? What are constant She will then proceed further through think in pair and share (Collaboration , Critical Thinking) perimeter of Square and rectangle will be derived. She will show smart class module and then students will do independent practice the concept of commutativity addition of 2 rows will be introduced Guided practice: 15 min The students, with the help of the facilitator, will solve the questions from NCERT book Exercise 12.1 in the class with the help of their teacher. The teacher would ensure that each student tries to solve the work as well as be under the teacher's guidance. Independent Practice: Students will complete the remaining parts given in the monthly worksheet in their Math HW notebook. Students who would have difficulty in solving the problems will get 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 as assigned.
Assessments	Oral quiz (5 minutes)
DAY	THREE
Objective	To solve the questions of Exercise based on operations on algebraic expressions.
Assessment of qualifying knowledge	Written questions on performing addition and subtraction on algebraic expressions.

Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the addition of expressions using column method. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts collaboratively perform the addition operations on given expressions.
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. The facilitator will quickly conduct recap by asking such questions Write a perimeter of equilateral triangle with sides m cm. She will show a digital content and Through question and answer the concept of expressions be introduced class assignment followed by independent practice. Discussion of topic through Collaborative Learning: 15 min (Critical thinking) Examples related to exercise would be discussed and students would solve different questions questions would be crosschecked. Digital content would be used. The facilitator would take up with their doubts. Guided Practice: 15 min The students will solve the questions from NCERT book Exercise in their notebook in the teacher. The teacher would ensure that each student tries to be independent at the work as teacher's guidance. Independent Practice: Students will complete the remaining Questions in their Math HW 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
Assessments	MCQ (5 minutes)
DAY	FOUR
Objective	To be able to write algebraic expressions for the given situations.
Assessment of qualifying knowledge	Written test
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the statement and write it <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts collaboratively write the algebraic expressions
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 Quick revision on the previous concept would be taken up. Discussion of topic through Collaborative Learning: 15 min (Creativity, Collaboration)

	Examples related to exercise would be discussed and students would solve different questions. Questions would be crosschecked. Digital content would be used. The facilitator would take rounds and help the students in solving the questions. Guided Practice: 15 min The students will solve the questions from NCERT book I.P. Questions in their notebook in the class with the help of their teacher. The teacher will try 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. Closure: 5 min Discussion of muddiest point. .
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 assigned.
Assessments	Written test (5 minutes)
DAY	FIVE
Objective	To understand the equation and to solve it.
Assessment of qualifying knowledge	Written test on solving the equation.
Learning Outcomes	<u>KNOWLEDGE</u>- What is an equation ? <u>SKILLS and COMPETENCIES</u> - Students would be able to Comprehend the equation and collaborative learning process.
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 Quick revision on the previous concept would be taken up. The facilitator will conduct one minute recap to assess the learning of previous day like: If the present age of Sarita is y years. What will be her age after 5 years? She will explain through digital content question and answer the concept of equation will be followed by independent practice. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration) Students will be taught how to write an equation. This would be discussed in detail with v. Guided Practice: 15 min The students will solve the questions from NCERT book in their notebook in the class with the help of their teacher. The facilitator would take rounds and help the students in solving the questions. Independent Practice: Students will solve the Questions from the Exercise. Closure: 5 min Discussion of muddiest point. .
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 HW notebooks.
Assessments	MCQ (5 minutes)
DAY	SIX
Objective	To be able to solve the equations and check the solutions.
Assessment of qualifying knowledge	Written test on solving the equations.
Learning Outcomes	<u>KNOWLEDGE</u> - Students will know and understand the method to write a given question <u>SKILLS and COMPETENCIES</u> - Students would be able to 1. Apply the given knowledge with 100 % accuracy 2. Creatively form questions related to the concept and also solve them.
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 would be taken. The facilitator will conduct recap to assess the learning of previous day . She will give sufficient practice to explain the concept of solution of an equation will be in She will show the smart class module . Class assignment followed by independent practice Class assignment followed by independent practice Discussion of topic through Collaborative Learning: 15 min (Critical Thinking) Guided Practice: 15 min The students will solve the questions from NCERT book. in their notebook in the class with the help of their facilitator. Independent Practice: Students will complete the remaining HW parts in their Math HW Closure: 5 min Summarization, preferably by a student, would be taken to check proper assimilation of the .
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
Assessments	Written test (5 minutes)