

LESSON PLAN
CLASS – VII
CHAPTER-1: INTEGERS

Unit	(Chapter 1: Integers)
Class Transaction	Total: 8 periods (approx. 40 min each)
Pre-requisite for the course	The students will be asked- 1. Question answer on natural numbers. 2. Question answer on whole numbers 3. Properties of whole numbers 4. concepts of addition and subtraction of integers
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. Group Discussion 4. HW notebook
Objective	Students would be able to • Recapitulation of concepts of addition and subtraction of integers. • Word problems based on addition and subtraction of integers. • Find product of two or more integers. • Solve simple problems using multiplication of integers. • Divide two integers and solve word problems based on it.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Compare and order integers. 2. How to add and subtract integers using number line. 3. How to solve problems involving any of the operations i.e., addition, subtraction, multiplication and division. 4. Understand and solve word problem <u>SKILLS</u>- <i>Students would be able to</i> 1. Demonstrate an understanding of addition and subtraction of integers 2. Use properties to simplify. 3. Perform four mathematical operation involving integers. 4. Solve word problems involving integers.
Transaction Methodology (The teacher can use the mentioned	Transaction would proceed in the following manner- <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.

techniques, wherever applicable, and can use any other too.)	<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 Mathematics Reference Book 1. CBSE Exemplar						
Self Study, Home Work, Assignments	Independent Practice: Students would do the questions in their H.W notebooks from their course book. 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.						
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> INTERNAL ASSESSMENT 20 Marks - Note Book Submission 10 Marks - Lab Practical (Subject Enrichment) 10 Marks Through lab Practical Students are assessed for Collaboration, Character building	4 UNIT TESTS	20 Marks each	HALF YEARLY EXAMINATION	80 Marks	ANNUAL BOARD EXAMINATION	80 Marks
4 UNIT TESTS	20 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
Marks	The weightage would be given by CBSE.
Assessment Questions	1. Write the following integers in increasing order: 90, -54, 0, -27, 43, 93, -74, 55, -48 2. Subtract the sum of -74 and 178 from the sum of -195 and 182. 3. The sum of two integers is 238. If one of the integers is -122, determine the other. 4. Evaluate the following: $-5 + 24 - (-31) - 32$ 5. An elevator descends into a mine shaft at the rate of 6m/min. If the descent starts from 20m above the ground level, how long will it take to reach - 370m? 6. A mountain climber started from a height of 1,732m and came down a distance of 1,307 m from the top. How far above the sea level is he now?
DAY	ONE
Objective	Enhance ability to accurately recognize and use appropriate terminology related to integers and developing the art of communication and critical thinking.
Assessment of qualifying knowledge	Quiz and knowledge testing on integers and their operations.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and identify Natural Numbers, whole numbers and integers <u>SKILLS and COMPETENCIES</u> Students would be able to Reason effectively and critically differentiate integers with rational numbers.
Transaction Methodology	Transaction would proceed in the following manner- Anticipatory Set: 10 min

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Facilitator will ask few questions to introduce the topic • What is a whole number? • What is an integer? • What are fractions? • What is natural number? Discussion of topic through Collaborative Learning: <u>15 min</u> <u>Inquiry based learning</u> (Critical Thinking and Problem Solving) Students would be asked to write different type of numbers , represent integers on the number line. The facilitator would take rounds and ensure that each learner is engaged. Guided practice: <u>10 min</u> The students will solve the questions from NCERT book, solved examples before Ex 1.1 in their notebook in the class with the help of their facilitator. The facilitator would take rounds and help the students in solving the questions. Independent Practice: Students will go through the solved examples before Ex 1.1 of NCERT text book. 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 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the remaining questions in their H.W. notebooks from their course book.
Assessments	Oral Test (5 minutes)
DAY	TWO
Objective	Students will be able to identify the type of integer in collaborative manner .
Assessment of qualifying knowledge	Written questions on representing integers for given situations and representing on number line.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and</i> Demonstrate the ability to represent a given situation in form of integers. <u>SKILLS and COMPETENCIES</u>- <i>Students will be able to</i> differentiate and classify various types of numbers, in collaboration with each other.
Transaction Methodology	Transaction would proceed in the following manner-

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Recapitulation: <u>5 min</u> Brainstorming on the previously taught concept would be done. Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical Thinking, Collaboration) An oral quiz will be taken and students will be asked to identify various rational numbers between two given rational numbers and will be able to realize the fact that infinite number of rational numbers can be inserted between two rational numbers and hence like natural numbers and integers there are infinite rational numbers. Guided practice: <u>15 min</u> The students, with the help of the facilitator, will solve the questions from NCERT book of Exercise – 1.1 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 Questions (of the similar type as discussed by the teacher in the class) of Exercise 1.1 in their Math HW notebook. Students who would difficulty in solving the problem 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 Mathematics Reference Book CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the remaining questions in their H.W. notebooks from their course book.
Assessments	Oral quiz (5 minutes)
DAY	THREE
Objective	To solve the questions of Ex- 1.1 based on operations on integers.
Assessment of qualifying knowledge	Written questions on comparing integers and writing a given situation using appropriate integers.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the relationship between natural numbers, whole numbers, integers. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively realize the fact the importance and necessity of negative numbers.
Transaction Methodology	Transaction would proceed in the following manner- Recapitulation: <u>5 min</u>

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Oral test on the previous concept would be taken up. Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical thinking) Exercise 1.1 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 – 1.1 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 Questions (of the similar type as discussed by the teacher in the class) of Exercise 1.1 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.
DAY	FOUR
Objective	Enhance ability to accurately recognize and use appropriate terminology related to integers and their properties and developing the art of communication and critical thinking.
Assessment of qualifying knowledge	Quiz and knowledge testing on integers and their properties.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will know and identify properties of integers. <u>SKILLS and COMPETENCIES</u> Students would be able to Reason effectively and critically verify properties of integers.
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: <u>5 min</u> Brainstorming on the previously taught concept would be done. Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical Thinking, Collaboration) An oral quiz will be taken and students will be asked about the properties of whole numbers such as closure, commutative, distributive etc. Guided practice: <u>15 min</u> The students, with the help of the facilitator, will solve the questions from NCERT book of Exercise – 1.2 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 Questions (of the similar type as discussed by the teacher in the class) of Exercise 1.2 in their Math HW notebook. Students who would have 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 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the remaining questions in their H.W. notebooks from their course book.
Assessments	Oral quiz (5 minutes)
DAY	FIVE
Objective	To understand multiplication of integers.
Assessment of qualifying knowledge	Written questions on multiplying two negative integers.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the Rules of multiplication of integers. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively realize the fact the importance and necessity of negative numbers.
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 1.3 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 – 1.3 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 Questions (of the similar type as discussed by the teacher in the class) of Exercise 1.3 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 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the remaining questions in their H.W. notebooks from their course book.
Assessments	Oral quiz (5 minutes)
DAY	SIX
Objective	To solve the questions of Ex- 1.3 based on operations on multiplication of integers.
Assessment of qualifying knowledge	Written questions on multiplication of integers and writing a given situation using appropriate integers.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the relationship between natural numbers, whole numbers, integers. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively realize the fact the importance and necessity of negative numbers.
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: <u>5 min</u> Oral test on the previous concept would be taken up. Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical thinking) Exercise 1.3 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 – 1.3 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 Questions (of the similar type as discussed by the teacher in the class) of Exercise 1.3 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 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the remaining questions in their H.W. notebooks from their course book.
Assessments	Oral quiz (5 minutes)
DAY	SEVEN
Objective	To understand rules of division on integers.
Assessment of qualifying knowledge	Written questions dividing integers and writing a given situation using appropriate integers.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the Rules of division of integers. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively realize the fact the importance and necessity of negative numbers.
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 1.4 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 – 1.4 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 Questions (of the similar type as discussed by the teacher in the class) of Exercise 1.4 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 1. CBSE Exemplar
Self Study, Home Work, Assignments	Independent Practice: Students would do the remaining questions in their H.W. notebooks from their course book.
Assessments	Oral quiz (5 minutes)
DAY	EIGHT
Objective	To solve the questions of Ex- 1.4 based on division of integers.
Assessment of qualifying knowledge	Written questions on dividing integers and writing a given situation using appropriate integers.
Learning Outcomes	<u>KNOWLEDGE</u> - Students will develop the ability to understand the division of integers. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively realize the fact the importance and necessity of negative numbers.
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 1.4 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 – 1.4 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 Questions (of the similar type as discussed by the teacher in the class) of Exercise 1.4 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 1. CBSE Exemplar

Self Study, Home Work, Assignments	Independent Practice: Students would do the remaining questions in their H.W. notebooks from their course book.
Assessments	Oral quiz (5 minutes)