

CLASS – X
LESSON PLAN
CHAPTER-1: REAL NUMBERS

Unit	Number Systems (Chapter -1 : Real Numbers)
Class Transaction	Total: 14 periods (approx. 40 min each)
Pre-requisite for the course	This lesson requires 1. Basic knowledge of rational and irrational numbers. 2. Knowledge of conversion of rational numbers into decimal notation and vice versa. 3. Knowledge of prime factorization of natural numbers.
Assessment of qualifying knowledge	1. Written test 2. Lab activity 3. HW notebook
Objective	Students would be able to understand the co-relation of rational and irrational numbers and new methods of finding out LCM and HCF of numbers, thereby inculcating competencies like collaboration, critical thinking
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Euclid's division lemma 2. Euclid's division algorithm 3. Fundamental theorem of arithmetic 4. Revisiting irrational numbers 5. Rational numbers and their decimal expansion <u>SKILLS</u>- <i>Students will</i> 1. Develop conceptual understanding to apply algorithm, Euclid's division lemma and Euclid's division algorithm in daily life problems through the co-relation between them. 2. Apply the theorems and and analyze the results 3. Find out HCF and LCM of real numbers through different methods 4. Prove irrational nature of irrational numbers by developing critical thinking 5. Find out decimal expansions of rational numbers in collaboration which will help them in polynomials the next chapter.
Transaction Methodology	Transaction would proceed in the following manner- <u>Strategies Used</u> : Brain Storming, Inductive and Deductive Learning, Muddiest Point Discussion, Think Pair and Share, Inquiry based learning

(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Think Pair and Share: In this activity, students think about a particular question individually, then they form pairs to discuss their answers. Following this, the results are shared in a large classroom discussion. Alternatively, two pairs of students can pair up to compare and discuss answers. This process forces students to think individually, and then allows them to analyze and clarify their response collaboratively. Brain Storming: In this activity, students are asked to generate ideas on a certain topic, category or question while facilitator facilitate and record the answers on the board. Inquiry Based Learning: Inquiry-based learning uses different approaches to learning, including small-group discussion and guided learning. Instead of memorizing facts and material, students learn by doing. This allows them to build knowledge through exploration, experience, and discussion. Inductive and Deductive Learning: In Inductive type students proceed from particular to general statement(example to formula) and in Deductive type students proceed from general to particular. Students are given formula and they solve problems using them. Muddiest Point: Check comprehension and identify confusion, what was most confusing about the material? <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 <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 some questions from NCERT and Exemplar in their H.W notebooks 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																						
Assessments	Through Pen Paper Test Students will be assessed creatively and critically <table> <tr> <td>3 UNIT TESTS (20, 30, 30)</td><td>80 Marks</td></tr> <tr> <td>MID TERM EXAMINATION</td><td>80 Marks</td></tr> <tr> <td>HALF YEARLY EXAMINATION</td><td>80 Marks</td></tr> <tr> <td>PRE BOARD-I EXAMINATION</td><td>80 Marks</td></tr> <tr> <td>PRE BOARD-II EXAMINATION</td><td>80 Marks</td></tr> <tr> <td>ANNUAL BOARD EXAMINATION</td><td>80 Marks</td></tr> </table> PERIODIC TEST Average of the best two tests to be taken that will have a weightage of 10 marks. Best 2 Tests out of: Units tests, Midterm examination, Half Yearly examination. <table> <tr> <td>INTERNAL ASSESSMENT</td><td>20 Marks</td></tr> <tr> <td>• Periodical Test</td><td>10 Marks</td></tr> <tr> <td>• Note Book Submission</td><td>05 Marks</td></tr> <tr> <td>• Lab Practical (Subject Enrichment)</td><td>05 Marks</td></tr> <tr> <td>• Through lab Practical Students are assessed for Collaboration, Character building, Character Building</td><td></td></tr> </table>	3 UNIT TESTS (20, 30, 30)	80 Marks	MID TERM EXAMINATION	80 Marks	HALF YEARLY EXAMINATION	80 Marks	PRE BOARD-I EXAMINATION	80 Marks	PRE BOARD-II EXAMINATION	80 Marks	ANNUAL BOARD EXAMINATION	80 Marks	INTERNAL ASSESSMENT	20 Marks	• Periodical Test	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	
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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> • High order thinking questions from NCERT Exemplar <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	Q1 Use Euclid's division lemma to find HCF of 10224 and 9648. Q2 Find HCF and LCM of 18 and 45 and verify the relationship. Q3 Show that 8^n can not end with the digit zero for any natural number n Q4 Prove that $7 - 2\sqrt{2}$ is irrational. Q5 In a seminar, the number of participants in Hindi, English and Mathematics are 60, 84 and 108 respectively. Find the minimum number of rooms required if in each room the same number of participants are to be seated and all of them being in the same subject.

DAY	ONE
Objective	Enhance ability to accurately recognize and use appropriate terminology related to numbers and developing the art of communication and critical thinking.
Assessment of qualifying knowledge	Quiz and knowledge testing on rational numbers and their operations.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and rewrite long division process in lemma form.</i> <u>SKILLS and COMPETENCIES</u> <i>Students would be able to Reason effectively and critically correlate the long division process with Euclid's Division Lemma</i>
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 are rational numbers? • What are irrational numbers? • What are these numbers together called? • How to convert rational numbers into decimal notation? Strategies Used: Inquiry based learning, Think Pair and share Discussion of topic through Collaborative Learning: 15 min <u>Inquiry based learning</u> (Critical Thinking and Problem Solving) Students would be asked to rewrite the long division process in the form of Lemma. The facilitator would take rounds and ensure that each learner is engaged. Guided practice: 10 min 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: 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Oral Test (5 minutes)
DAY	TWO
Objective	Students will be able to discuss the Euclid's Division Lemma and its mathematical statement in collaborative manner .
Assessment of qualifying knowledge	Written questions on rewriting long division process in the form Euclid's Lemma.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and</i> Demonstrate the ability to write the long division process in the form of Lemma <u>SKILLS and COMPETENCIES</u>- <i>Students will be able to</i> differentiate and classify quotient and remainder in the process of Euclid's Division Lemma, in collaboration with each other. They will
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- <u>Strategies Used :</u> Think pair and Share, Inductive and Deductive learning <u>Recapitulation: 5 min</u> Brainstorming on the previously taught concept would be done. <u>Discussion of topic through Collaborative Learning: 15 min</u> (Critical Thinking, Collaboration) An oral quiz will be taken and students will be asked to divide two positive integers and will be able to realize the fact that there are unique quotient and remainder for given two positive integers. <u>Guided practice: 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. <u>Independent Practice:</u> Students will complete the remaining HW parts given in the monthly planner 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. <u>Closure: 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Oral quiz (5 minutes)
DAY	THREE
Objective	To differentiate between lemma and algorithm and solve the questions of Ex- 1.1.
Assessment of qualifying knowledge	Written questions on applying Lemma and use it to find HCF of two given numbers.
	Difference between lemma and algorithm will be explained along with Euclid's division lemma and Euclid's division algorithm and questions based from Ex.1.1 will be discussed.
Learning Outcomes	<u>KNOWLEDGE</u>- Students will develop the ability to understand the computation of HCF of two given numbers using Euclid's Division Algorithm. <u>SKILLS and COMPETENCIES</u> - Students would be able to critically apply the concepts in given situations and collaboratively compute the HCF of two given numbers and statement problems pertaining to given situations.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used</u> : Think pair and Share, Inductive and Deductive learning Transaction would proceed in the following manner- <u>Recapitulation: 5 min</u> Oral test on the previous concept would be taken up. <u>Discussion of topic through Collaborative Learning: 15 min (Critical thinking)</u> 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. <u>Guided Practice: 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. <u>Independent Practice:</u> Students will complete the remaining HW parts of Exercise 1.1 in their Math HW notebook. <u>Closure: 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	MCQ (5 minutes)
DAY	FOUR
Objective	To understand uniqueness of Fundamental Theorem of Arithmetic and prime factorization of composite numbers.
Assessment of qualifying knowledge	Written test on identifying whether the given number is rational or irrational.
	The fundamental theorem of arithmetic will be explained through examples and activity based on Euclid's algorithm will be done
Learning Outcomes	<u>KNOWLEDGE-</u> <i>Students will develop the ability to understand the Uniqueness of Fundamental Theorem of Arithmetic.</i> <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> Critically do prime factorization of composite numbers and collaboratively realize the fact that this factorization of particular number is unique. Comprehend that prime factorization of every composite number is unique irrespective of the fact in the order in which the factors are written.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used :</u> Think pair and Share, Muddiest Point Discussion 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) Statement of Fundamental Theorem of Arithmetic would be discussed in detail that every composite number can be represented in the form of product of its primes. The order of the prime numbers can be changed but the numbers remain the same. This would be discussed in detail with vivid examples. Guided Practice: 15 min The students will solve the questions from NCERT book, solved examples before Ex 1.2 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 find various ways of representing factors in view of statement of theorem. 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Written test (5 minutes)
DAY	FIVE
Objective	To understand the use of Fundamental Theorem of Arithmetic in various situation.
Assessment of qualifying knowledge	MCQ on prime factorization of composite numbers.
	Examples related to the topic would be done,
Learning Outcomes	<u>KNOWLEDGE</u>- To understand the use of Fundamental Theorem of Arithmetic in computing the LCM and HCF of given numbers. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> Comprehend the given situation in statement problems to analyse and calculate LCM and HCF using prime factorization, through collaborative leaning process.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used :</u> Inductive and Deductive learning, Numbered Heads Transaction would proceed in the following manner- <u>Recapitulation: 5 min</u> Quick revision on the previous concept would be taken up. <u>Discussion of topic through Collaborative Learning: 15 min</u> (Critical Thinking, Collaboration) Various set of numbers would be given to students to calculate their prime factors to know their HCF and LCM. This would be discussed in detail with vivid examples. <u>Guided Practice: 15 min</u> The students will solve the questions from NCERT book, solved examples before Ex 1.2 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. <u>Independent Practice:</u> Students will do prime factorization for HCF and LCM of given numbers. <u>Closure: 5 min</u> 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	MCQ (5 minutes)
DAY	SIX
Objective	Using Fundamental Theorem of Arithmetic Solve Exercise 1.2
Assessment of qualifying knowledge	Written test on representing the composite numbers in the form of product of its primes
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. The method of computing HCF and LCM and using relationship of their product with product of given numbers. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 1. Apply the given knowledge with 100 % accuracy 2. Critically analyse the situation in the form of given problems and differentiate whether to calculate HCF or LCM
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used :</u> Muddiest point discussion, Inductive and Deductive learning Transaction would proceed in the following manner- Recapitulation: 5 min Oral test would be taken. Discussion of topic through Collaborative Learning: 15 min (Critical Thinking) How to analyse the given situation to calculate either HCF or LCM, would be discussed in detail. Guided Practice: 15 min The students will solve the questions from NCERT book of Exercise – 1.2 in their notebook in the class with the help of their facilitator. Independent Practice: Students will complete the remaining HW parts of Exercise 1.2 in their Math HW notebook. Closure: 5 min Summarization, preferably by a student, 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Written test (5 minutes)
DAY	SEVEN
Objective	To solve the questions from NCERT book of Exercise – 1.2

Assessment of qualifying knowledge	Written test on using Fundamental Theorem of Arithmetic in different problems
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Every composite number can be represented as product of its unique factors. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 1. Classify and analyse critically whether the problem requires to compute HCF or LCM 2 Represent composite numbers in the form of the product of their primes.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used</u> : Think pair and Share, Muddiest Point Discussion Transaction would proceed in the following manner- Recapitulation: 5 min Warming session would be taken. Discussion of topic through Collaborative Learning: 15 min (Critical thinking, communication) Solved examples from the book would be taken up. Brainstorming on classification of situation of LCM or HCF would be done. Guided Practice: 20 min The students will solve the questions from NCERT book of Exercise – 1.2 in their notebook in the class with the help of their facilitator. The facilitator would explain the questions from Ex 1.2 with a collaborative approach towards them. Independent Practice: Students will complete the remaining HW parts of Exercise 1.2 in their Math HW notebook. Closure: 5 min Summarization, preferably by a student, 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Written test (5 minutes)

DAY	EIGHT
Objective	To study irrational numbers and their properties.
Assessment of qualifying knowledge	Written test on various operations on irrational numbers.

	Irrational numbers will be explained and proving the irrational nature of them will be discussed.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. Classification of numbers as rationals and irrationals. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 1. Critically visualize the proof of square root prime number being irrational number.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used</u> : Inductive and Deductive learning Transaction would proceed in the following manner- Recapitulation: 5 min One-minute test would be taken. Discussion of topic through Collaborative Learning: 15 min (Creativity) Redefining irrational numbers on the basis of decimal expansion of a Real number. Mind mapping would be used Digital content would be used. Guided Practice: 15 min The facilitator would explain through different examples. Collaborative approach would be taken up. Independent Practice: Students will go through the solved examples before Ex 1.3 of NCERT text book. Closure: 5 min Summarization, preferably by a student, 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Written test (5 minutes)
DAY	NINE
Objective	To solve the questions from NCERT book of Exercise – 1.3
Assessment of qualifying knowledge	Oral test
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and Demonstrate new ways to prove square root of prime number as irrational number.</i> <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 2. Apply critically the knowledge meaningfully and creatively. 3. Develop new technique of method of contradiction and Fundamental Theorem of Arithmetic to show square root of prime number as irrational number.

Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used :</u> Think pair and Share, Inductive and Deductive learning Transaction would proceed in the following manner- Recapitulation: <u>5 min</u> Oral test would be taken. Discussion of topic through Collaborative Learning: <u>10 min</u> (Communication and critical thinking) Solved examples from the book would be taken up. Mind mapping would be used and would discuss different questions Guided Practice: <u>20 min</u> The teacher, as a facilitator, would explain the questions from Ex 1.3 would be taken up and collaborative approach towards them so that the facilitator would help them with their doubts. Independent Practice: Students will complete the remaining parts of Exercise 1.3 in their Math HW notebook. Closure: <u>5 min</u> Summarization, preferably by a student, 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Oral test (5 minutes)
DAY	TEN
Objective	To solve the questions from NCERT book of Exercise – 1.3
Assessment of qualifying knowledge	MCQ test on terminating and non-terminating decimal expansion of given number and inserting numerous numbers between two given numbers.
	apply the knowledge meaningfully and creatively.
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 2. Combination of rationals and irrationals as irrationals. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 4. Develop the method of contradiction to prove irrationality of square root of a prime number critically
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used :</u> Think pair and Share, Sequential Achievement Transaction would proceed in the following manner- Recapitulation: <u>5 min</u> One minute test would be taken. Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical and creative thinking)

	Identifying numbers as rational or irrational depending on the definition done in previous class. Guided Practice: 15 min The facilitator would explain the questions from Ex 1.3 with a collaborative approach towards them. Independent Practice: Students will complete the remaining HW parts given in the monthly planner of Exercise 1.3 in their Math HW notebook. Closure: 5 min Summarization, preferably by a student, 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	MCQ test (5 minutes)
DAY	ELEVEN
Objective	To use decimal expansion of numbers to distinguish between rationals and irrationals.
Assessment of qualifying knowledge	Written test on representing real number on number line through successive magnification.
	Apply the concepts and evaluate the given questions with 90% accuracy
Learning Outcomes	<u>KNOWLEDGE</u>- <i>Students will know and understand</i> 1. The various kind of decimal numbers depending on the number being rational or irrational. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 2. Critically visualize the representation of real numbers using their decimal expansion.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Strategies Used : Inductive and Deductive learning, Discussion of Muddiest Point Transaction would proceed in the following manner- Recapitulation: 5 min Oral Test would be taken up. Discussion of topic through Collaborative Learning: 15 min (Creativity) Redefining rational numbers and irrational numbers on the basis of decimal expansion of a Real number. Mind mapping would be used Digital content would be used. Guided Practice: 15 min The facilitator would explain through different examples. Collaborative approach would be taken up. Independent Practice: Students will go through the solved examples before Ex 1.3 of NCERT text book.

	Closure: <u>5 min</u> Summarization, preferably by a student, 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	MCQ test (5 minutes)
DAY	TWELVE
Objective	To use decimal expansion of numbers to distinguish between rationals and irrationals.
Assessment of qualifying knowledge	Quiz on factorisation and decimal expansion of given numbers.
Learning Outcomes	<u>KNOWLEDGE</u> - <i>Students will know and understand</i> - Operations on real numbers - Factorizing the denominator to check for terminating or non-terminating expansion of rational number. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> Critically rationalize the denominator and analyse the decimal expansion to be terminating or non-terminating recurring
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used :</u> Graphic Organiser, Think Pair Share Transaction would proceed in the following manner- Recapitulation: <u>5 min</u> Oral Test would be taken up. Discussion of topic through Collaborative Learning: <u>15 min</u> (Critical and creative thinking) Operation on real numbers and rationalizing the denominator Guided Practice: <u>15 min</u> The students, with the help of the facilitator, will solve the examples from NCERT book before Exercise – 1.4 in their notebook in the class with the help of their teacher. Independent Practice: Students will complete the remaining HW parts given in the monthly planner in their Math HW notebook. Closure: <u>5 min</u> Summarization, preferably by a student, 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Quiz (5 minutes)
DAY	THIRTEEN
Objective	Revisiting the Rational numbers to classify their decimal expansion.
Assessment of qualifying knowledge	Oral test on prime factorisation
Learning Outcomes	<u>KNOWLEDGE</u> - <i>Students will know and understand</i> 1. Nature of prime factors of denominator of any given rational number. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 1. Critically apply and extend previous knowledge of prime factorizing to rational numbers.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	<u>Strategies Used :</u> Graphic Organiser Transaction would proceed in the following manner- Recapitulation: 5 min Oral Test would be taken up. Discussion of topic through Collaborative Learning: 15 min Decimal Expansion of Rational numbers through prime factorizing the denominator. Guided Practice: 15 min (Communication) The students, with the help of the facilitator, will solve the questions from NCERT book of Exercise – 1.4 in their notebook in the class with the help of their teacher. Independent Practice: Students will complete the remaining HW parts given in the monthly planner of Exercise 1.4 in their Math HW notebook. Closure: 5 min Summarization 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 some of the questions from NCERT in their H.W. notebooks.
Assessments	Oral test (5 minutes)
DAY	FOURTEEN
Objective	Solving various levels of Exemplar
Assessment of qualifying knowledge	Oral test on various concepts being used in chapter.
Learning Outcomes	<u>KNOWLEDGE</u> - <i>Students will know and understand</i>

	2. Various concepts being applied on Rational numbers. <u>SKILLS and COMPETENCIES</u> - <i>Students would be able to</i> 2. Recall the concepts and terms being used in chapter to solve the questions. 3. Critically Apply and solve the questions of NCERT Exemplar
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 would be taken up. Discussion of topic through Collaborative Learning: <u>10 min</u> (Critical) Exemplar Questions would be taken up. Guided Practice: <u>20 min</u> The teacher would explain the questions. Independent Practice: Students would try Long questions from the Exemplar Closure: <u>5 min</u> Summarization, preferably by a student, 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 some of the questions from Exemplar in their H.W. notebooks..
Assessments	Oral test (5 minutes)