

**CLASS – X**  
**LESSON PLAN**  
**CHAPTER-15: PROBABILITY**

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| Unit                                                                                                                       | Geometry (Chapter 15: Probability)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Class Transaction                                                                                                          | Total: 3 periods (approx. 40 min each)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Pre-requisite for the course                                                                                               | This lesson requires <ol style="list-style-type: none"> <li>1. Basic knowledge of Probability</li> <li>2. An outcome and an event in probability.</li> <li>3. Empirical or Experimental Probability.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Assessment of qualifying knowledge                                                                                         | <ol style="list-style-type: none"> <li>1. Written test</li> <li>2. Lab activity</li> <li>3. HW notebook</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Objective                                                                                                                  | <ul style="list-style-type: none"> <li>• Students will be able to understand <b>analyze</b> the Theoretical Probability and <b>critically examine</b> the difference between Experimental and Theoretical Probability.</li> <li>• Students will also understand sure event and impossible event and their probability, thereby inculcating competencies like <b>collaboration, critical thinking and creativity</b></li> </ul>                                                                                                                                                                                                             |
| Learning Outcomes                                                                                                          | <p><u>KNOWLEDGE</u>- Students will <b>develop</b> the ability to <b>understand</b></p> <p>Theoretical approach of Probability</p> <p><u>SKILLS and COMPETENCIES</u>-Students would be able to</p> <ol style="list-style-type: none"> <li>1. Differentiate between Experimental and Theoretical Probability.</li> <li>2. understand sure event and impossible event and their probability.</li> <li>3. Know equally likely outcomes and develop <b>critical thinking and collaboration in the process.</b></li> <li>4. <b>Analyze</b> and solve simple problems on single events.</li> </ol>                                                |
| Transaction Methodology<br>(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.) | <p>Transaction would proceed in the following manner-</p> <p><i>Story Boarding</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.</p> <p><i>Introduction of the topic</i>- ppt and Digital Content would be shared</p> <p><i>Guided practice followed by Independent Practice</i>- NCERT questions to be discussed in the classroom.</p> <p><b>Techniques to be used:</b><br/>Quiz<br/>Daily Practice Problem<br/>MCQ<br/>Peer Assessment</p> |

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|                                    | Case Studies<br>Lab Activities<br>Any Other                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Resources                          | Text Book:<br>NCERT text book for Mathematics<br>Reference Book<br>1. CBSE Exemplar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Self Study, Home Work, Assignments | <b>Independent Practice:</b> Students would do the questions in their H.W notebooks.<br><br>HW notebooks to be marked as per the given plan:<br><i>Assessment Parameters:</i> The total marks for the activity is 5 marks<br>On time submission.....1 mark<br>Presentation/ Neatness.....1 mark<br>Content.....3 marks<br><br>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                        | <b>4 UNIT TESTS</b> 80 Marks<br><b>HALF YEARLY EXAMINATION</b> 80 Marks<br><b>ANNUAL BOARD EXAMINATION</b> 80 Marks<br><br><b>INTERNAL ASSESSMENT</b> 10 Marks<br><ul style="list-style-type: none"> <li>Note Book Submission 05 Marks</li> <li>Lab Practical (Subject Enrichment ) 05 Marks</li> <li>Through lab Practical Students are assessed for <b>Collaboration, Character building</b></li> </ul>                                                                                                                                                                                                                                                                                                                                                      |
| 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:<br><br><i>For gifted students:</i> <ul style="list-style-type: none"> <li>Spiral Level 3 questions to be done</li> <li>Encouragement for referring other resources</li> </ul><br><i>For weak students:</i> <ul style="list-style-type: none"> <li>Spiral Level 1 to be completed</li> <li>Buddy help to be provided</li> <li>Provide grade-up classes</li> </ul><br><i>For differently abled students:</i> <ul style="list-style-type: none"> <li>Ignore spelling mistakes and formulae, if not written</li> <li>Call parents at regular intervals</li> <li>Provide grade-up classes</li> </ul> |
| Marks                              | The weightage would be given by CBSE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Assessment Questions               | 1. A die is thrown 42 times and the outcomes listed in the form of a table as follows:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



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| <b>DAY</b>                                                                                                                        | <b>ONE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Objective</b>                                                                                                                  | <b>Enhance</b> ability to accurately recognize and use appropriate terminology related to probability and developing the art of communication and critical thinking.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Assessment of qualifying knowledge</b>                                                                                         | Quiz and knowledge testing on how to find probability of real life events.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Learning Outcomes</b>                                                                                                          | <u>KNOWLEDGE</u> - Students will know and <b>identify</b> the probability by <b>analyzing</b> to measure the chance of occurrence of a particular outcome in an experiment.<br><u>SKILLS and COMPETENCIES</u> Students would be able to <b>Reason effectively and critically</b> describe probability of real life events.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Transaction Methodology</b><br>(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.) | <p>Transaction would proceed in the following manner-</p> <p><b>Anticipatory Set: 10 min</b><br/>Facilitator will ask few questions to introduce the topic</p> <ul style="list-style-type: none"> <li>•What is chance?</li> <li>•How to measure uncertainty of events?</li> <li>•Examples of probable events in real life?</li> </ul> <p><b>Discussion of topic through Collaborative Learning: 15 min</b><br/><b><u>Inquiry based learning</u></b> (Critical Thinking and Problem Solving)</p> <p>Students would be asked to write different real life situations in which they are supposed to make predictions and examine the probability of the thing. The facilitator would take rounds and ensure that each learner is engaged.</p> <p><b>Guided practice: 10 min</b><br/>The students will solve the questions from NCERT book, solved examples before Ex 15.1 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.</p> <p><b>Independent Practice:</b> Students will go through the solved examples before Ex 15.1 of NCERT text book.</p> <p><b>Closure: 5 min</b><br/>A short oral test would be taken to check proper assimilation of the topic discussed.</p> |
| <b>Resources</b>                                                                                                                  | <p>Text Book:<br/>NCERT text book for Mathematics</p> <p>Reference Book<br/>1.CBSE Exemplar</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Self Study, Home Work, Assignments                                                                                                | <b>Independent Practice:</b> Students would do the given questions in their H.W. notebooks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Assessments</b>                                                                                                                | Oral Test (5 minutes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>DAY</b>                                                                                                                        | <b>TWO</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Objective</b>                                                                                                                  | To solve the questions of Ex- 15.1 based on empirical (or experimental) probability of an event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Assessment of qualifying knowledge</b>                                                                                         | Written questions on probability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Learning Outcomes</b>                                                                                                          | <u>KNOWLEDGE</u> - Students will know and <b>Demonstrate</b> the ability to find probability of an event                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                                                                                                                                   | <b>SKILLS and COMPETENCIES-</b> <i>Students will be able to</i> <b>differentiate</b> and <b>classify</b> the probabilities, in <b>collaboration</b> with each other.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Transaction Methodology</b><br>(The teacher can use the mentioned techniques, wherever applicable, and can use any other too.) | <p>Transaction would proceed in the following manner-</p> <p><b>Recapitulation: <u>5 min</u></b><br/>Oral test on the previous concept would be taken up.</p> <p><b>Discussion of topic through Collaborative Learning: <u>15 min</u></b><br/><b>(Critical thinking)</b><br/>Exercise 15.1 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.</p> <p><b>Guided Practice: <u>15 min</u></b><br/>The students will solve the questions from NCERT book of Exercise – 15.1 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.</p> <p><b>Independent Practice:</b> Students will complete the remaining HW parts given in the monthly planner of Exercise 15.1 in their Math HW notebook.</p> <p><b>Closure: <u>5 min</u></b><br/>A short oral test would be taken to check proper assimilation of the topic discussed.</p> |
| Resources                                                                                                                         | <p>Text Book:<br/>NCERT text book for Mathematics</p> <p>Reference Book<br/>1. CBSE Exemplar</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Self Study, Home Work, Assignments                                                                                                | <b>Independent Practice:</b> Students would do the given questions in their H.W. notebooks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Assessments                                                                                                                       | Oral quiz (5 minutes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |