

## Espalier-The Heritage School

## Annual Academic Planning (2022-23)

Grade: V

Subject : Mathematics

Sr	Name of	Points to cover	Lesson Plan	Methodolo	Teaching	Location	Activities/	Reff books	No. of	Learning Outcome
1	1. Place Value	<p><b>Lesson No/Name :</b> <b>1. Place Value</b></p> <p><b>Learning objective-</b> Pages 7 to 14</p> <ul style="list-style-type: none"> <li>To review the place value concept and numbers up to six digits</li> <li>To build, understand, and compare 7-digit and 8-digit numbers</li> </ul> <p>Pages 15 to 20</p> <ul style="list-style-type: none"> <li>To understand the international system of writing 6-digit numbers</li> <li>To round off numbers to the nearest 10, 100, and 1000</li> <li>To observe and continue number patterns</li> </ul> <p>Pages 21 and 22</p> <ul style="list-style-type: none"> <li>To develop Roman numerals up to 100</li> </ul>	<p>Recapitulation of previous knowledge about place value by questioning.</p> <p>Explanation of building and comparing 6 and 7 digit numbers followed by exercise questions.</p> <p>Explanation of international system of numbers using place value chart and video followed by exercise questions.</p> <p>Explanation of rules of rounding numbers with examples and follow up questions.</p> <p>Recalling of symbols used in Roman numerals followed by questions from the exercises.</p>	Open classroom discussion, explanation, problem solving, reasoning, visualization	PPT, Videos, Charts	Classroom	Math Lab Activity - Number Pattern	Oxford New Enjoying Mathematics	10	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To review the place value concept and numbers up to six digits</li> <li>To build, understand, and compare 7-digit and 8-digit numbers</li> <li>To understand the international system of writing 6-digit numbers</li> <li>To round off numbers to the nearest 10, 100, and 1000</li> <li>To observe and continue number patterns</li> <li>To develop Roman numerals up to 100</li> </ul>
2	2. Addition, Subtraction and their Applications	<p><b>Lesson No/Name :</b> <b>2. Addition, Subtraction and their Applications</b></p> <p><b>Learning objective-</b> Pages 26 to 28</p> <ul style="list-style-type: none"> <li>To revise addition and subtraction of 5- and 6-digit numbers with and without regrouping</li> <li>To use the skill of compensation for addition and subtraction</li> </ul> <p>Pages 29 to 34</p> <ul style="list-style-type: none"> <li>To understand the concept of profit and loss</li> <li>To calculate profit and loss</li> <li>To calculate cost price or selling price of an item</li> </ul> <p>Pages 35 to 38</p> <ul style="list-style-type: none"> <li>To follow the steps of problem solving</li> <li><b>To use</b> models to find missing numbers</li> </ul>	<p>Induction by solving addition and subtraction of 5 and 6 digit numbers.</p> <p>Explanation of addition and subtraction using compensation method followed by questions from the exercise.</p> <p>Explanation of Profit and Loss using daily life examples and a video.</p> <p>Explanation of how to calculate the profit, loss cost price and selling price by working out problems.</p> <p>Explanation and practice of using models to solve word problems.</p>	Open classroom discussion, explanation, problem solving, reasoning, visualization	PPT, Videos, Charts	Classroom	Mental Math sums	Oxford New Enjoying Mathematics	10	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To revise addition and subtraction of 5- and 6-digit numbers with and without regrouping</li> <li>To use the skill of compensation for addition and subtraction</li> <li>To understand the concept of profit and loss</li> <li>To calculate profit and loss</li> <li>To calculate cost price or selling price of an item</li> <li>To follow the steps of problem solving</li> <li>To use models to find missing numbers</li> </ul>

3	9. Shapes, Patterns and Nets	<u>Lesson No/Name :</u> <b>9. Shapes, Patterns and Nets</b> <u>Learning objective-</u> Pages 129 to 131 <ul style="list-style-type: none"> <li>• To understand symmetry and lines of symmetry</li> <li>• To create symmetrical shapes using the line of symmetry</li> </ul> Pages 132 to 136 <ul style="list-style-type: none"> <li>• To understand the concept of rotation</li> <li>• To identify and create shapes that have quarter and half rotation</li> <li>• Creating patterns using rotation</li> </ul> Pages 137 to 139 <ul style="list-style-type: none"> <li>• To recognise <b>nets of cubes</b></li> </ul> * To draw cubes and cuboids	Induction of symmetry by using mirror images. Explanation of line of symmetry, creation of symmetrical images with the help of line of symmetry. Explanation of concept of rotation. Practice to identify the rotation in given figures. Practice of drawing cubes and cuboid and identifying the net of cube using paper folding	Open classroom discussion, explanation, problem solving, reasoning, visualization	PPT, Videos, Charts	Classroom	Worksheet based on rotation of symbols of 12 Zodiac signs.	Oxford New Enjoying Mathematics	10	Children will be able to - To understand symmetry and lines of symmetry To create symmetrical shapes using the line of symmetry To understand the concept of rotation To identify and create shapes that have quarter and half rotation Creating patterns using rotation To recognise nets of cubes To draw cubes and cuboids
4	10. Geometry Basics	<u>Lesson No/Name :</u> <b>10. Geometry Basics</b> <u>Learning objective-</u> Page 143 to 154 <ul style="list-style-type: none"> <li>•To develop the concepts of point, line, and line segment</li> <li>•To introduce the concept of ray and angle</li> <li>•To identify parts of an angle and learn how to name them</li> <li>•To measure and classify angles as right, acute, obtuse, and straight</li> <li>•To measure and construct angles using a protractor</li> </ul>	Introduction of point, line and line segment with examples and video. Introduction and identification of ray and angles. Explanation of different types of angles based on their measurement. Practice of drawing angles of given measure using a protractor.	Open classroom discussion, explanation, problem solving, reasoning, visualization	PPT, Videos, Charts	Classroom	Math Lab Activity - To create and recognise angles through paper folding activity	Oxford New Enjoying Mathematics	10	Children will be able to - To develop the concepts of point, line, and line segment To introduce the concept of ray and angle To identify parts of an angle and learn how to name them To measure and classify angles as right, acute, obtuse, and straight To measure and construct angles using a protractor

5	11. Measurement	<p><b>Lesson No/Name :</b> <b>11. Measurement</b></p> <p><b>Learning objective-</b> Pages 158 to 165</p> <ul style="list-style-type: none"> <li>•To review various units of measurement</li> <li>•To learn about millimetre</li> <li>•To measure objects to the nearest millimetre</li> <li>•To relate mm, cm, m, and km to one another</li> <li>•To convert from one unit into another</li> </ul> <p>Pages 166 to 169</p> <ul style="list-style-type: none"> <li>•To relate and convert units of mass—g and kg to one another</li> <li>•To relate and convert units of capacity—ml and l to one another</li> </ul> <p>Pages 170 to 173</p> <ul style="list-style-type: none"> <li>•To add and subtract measures of length, mass, and capacity</li> <li>•To estimate measures</li> </ul>	<p>Recall the units of measurement studied in previous classes.</p> <p>Explanation of different units of length, mass and capacity with examples using chart and video.</p> <p>Prctice of converting a given unit into other.</p> <p>Solving sums based on addition , subtraction and estimation of measurement.</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Activity on estimating measures</p>	<p>Oxford New Enjoying Mathematics</p>	<p>12</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To review various units of measurement</li> <li>To learn about millimetre</li> <li>To measure objects to the nearest millimetre</li> <li>To relate mm, cm, m, and km to one another</li> <li>To convert from one unit into another</li> <li>To relate and convert units of mass—g and kg to one another</li> <li>To relate and convert units of capacity—ml and l to one another</li> <li>To add and subtract measures of length, mass, and capacity</li> <li>To estimate measures</li> </ul>
6	3. Multiplication, Division and their Applications	<p><b>Lesson No/Name :</b> <b>3. Multiplication, Division and their Applications</b></p> <p><b>Learning objective-</b> Pages 42 to 47</p> <ul style="list-style-type: none"> <li>•To multiply 3- and 4-digit numbers</li> <li>•To divide large numbers by 2-digit divisors</li> <li>•To understand multiplication better</li> <li>•To use the remainder</li> </ul> <p>Pages 48 to 49</p> <ul style="list-style-type: none"> <li>•To understand and use the concept of averages</li> </ul> <p>Pages 50 to 53</p> <ul style="list-style-type: none"> <li>•Building skills in problem solving</li> <li>•Solving problems using models</li> </ul>	<p>Recall the method of multiplication by solving 3 and 4 digit multiplication.</p> <p>Practice of multiplication tables.</p> <p>Solving model sums on division followed by exercise sums.</p> <p>Explanation of meaning and calculation of averaages.</p> <p>Solving problem sums using models.</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Lab Activity - to find average of given numbers using square paper strips.</p>	<p>Oxford New Enjoying Mathematics</p>	<p>9</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To multiply 3- and 4-digit numbers</li> <li>To divide large numbers by 2-digit divisors</li> <li>To understand multiplication better</li> <li>To use the remainder</li> <li>To understand and use the concept of averages</li> <li>Building skills in problem solving</li> <li>Solving problems using models</li> </ul>

7	4. Factors	<p><b>Lesson No/Name :</b> <b>4. Factors</b></p> <p><b>Learning objective-</b> Pages 58 to 65</p> <ul style="list-style-type: none"> <li>•To review the concept of factors</li> <li>•To understand the rules of divisibility for 2, 3, 4, 5, 6, 9, and 10</li> <li>•To understand the concept of prime numbers and composite numbers</li> <li>•To find all prime numbers up to 100</li> <li>•To prime factorise a number</li> <li>•To use factors in real life</li> </ul> <p>Pages 66 and 67</p> <ul style="list-style-type: none"> <li>•To understand the concept of the highest common factor</li> <li>•To find the HCF of two or more numbers</li> <li>•To understand the use of HCF in real life</li> </ul>	<p>Explanation of the meaning of factors with examples and follow up questions.</p> <p>Explanation of divisibility rules by observing number patterns, watching videos and solving sums</p> <p>Activity of finding prime numbers from 1 to 100, meaning of prime numbers.</p> <p>Explanation of the meaning of common factors followed by calculation of HCF.</p> <p>Solve word sums based on real life applications of HCF.</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Lab activity - Finding HCF</p>	<p>Oxford New Enjoying Mathematics</p>	<p>9</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To review the concept of factors</li> <li>To understand the rules of divisibility for 2, 3, 4, 5, 6, 9, and 10</li> <li>To understand the concept of prime numbers and composite numbers</li> <li>To find all prime numbers up to 100</li> <li>To prime factorise a number</li> <li>To use factors in real life</li> <li>To understand the concept of the highest common factor</li> <li>To find the HCF of two or more numbers</li> <li>To understand the use of HCF in real life</li> </ul>
8	5. Multiples	<p><b>Lesson No/Name :</b> <b>5. Multiples</b></p> <p><b>Learning objective-</b> Pages 71 to 74</p> <ul style="list-style-type: none"> <li>•Revise the concept of multiples and common multiples</li> <li>•Understand the concept of lowest common multiple</li> <li>•Use prime factorisation to find the LCM of two or more numbers</li> </ul>	<p>Induction of multiples of a number. Finding common multiples followed by LCM. Calculate the LCM of two or more numbers using prime factorisation method</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Lab activity - Finding LCM</p>	<p>Oxford New Enjoying Mathematics</p>	<p>7</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>Revise the concept of multiples and common multiples</li> <li>Understand the concept of lowest common multiple</li> <li>Use prime factorisation to find the LCM of two or more numbers</li> </ul>
9	6. Fractions	<p><b>Lesson No/Name :</b> <b>6. Fractions</b></p> <p><b>Learning objective-</b> Pages 78 to 86</p> <ul style="list-style-type: none"> <li>•To review the concept of fractions and associated terms</li> <li>•To identify and check equivalent fractions</li> <li>•To reduce a fraction to its lowest term</li> <li>•Comparing and ordering unlike fractions</li> </ul> <p>Pages 87 to 99</p> <ul style="list-style-type: none"> <li>•Addition and subtraction of unlike fractions with problem sums</li> <li>•Multiplication and division of fractions with problem sums</li> </ul>	<p>Induction of fraction and term related to it.</p> <p>Explanation of steps to identify and find the equivalent fractions, reduce to lowest fraction.</p> <p>Practice sums of comparing and ordering fractions.</p> <p>Explanation of steps followed using practice sums to understand addition, subtraction, multiplication and division of fractions.</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Lab activity - Multiplication of fractions.</p>	<p>Oxford New Enjoying Mathematics</p>	<p>15</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To review the concept of fractions and associated terms</li> <li>To identify and check equivalent fractions</li> <li>To reduce a fraction to its lowest term</li> <li>Comparing and ordering unlike fractions</li> <li>Addition and subtraction of unlike fractions with problem sums</li> <li>Multiplication and division of fractions with problem sums</li> </ul>

10	12. Perimeter, Area and Volume	<p><b>Lesson No/Name :</b> <b>12. Perimeter, Area and Volume</b></p> <p><b>Learning objective-</b> Pages 175 to 179</p> <ul style="list-style-type: none"> <li>•To review the concept of area and perimeter</li> <li>•To develop the formula to calculate perimeter of a rectangle and perimeter of a square</li> <li>•To develop the formula to find the area of squares and rectangles</li> </ul> <p>Pages 180 to 186</p> <ul style="list-style-type: none"> <li>•To measure the area of a triangle using its relationship to a square or rectangle</li> <li>•To focus on the different units of area</li> <li>•To measure the area of irregular figures</li> <li>•To explore the relationship between area and perimeter</li> </ul> <p>Pages 186 to 192</p> <ul style="list-style-type: none"> <li>•To develop the concept of volume</li> <li>•To use cubic units as a measure of volume</li> <li>•To develop the formula to calculate volume</li> </ul>	<p>Explanation of concept of area and perimeter with examples and video. Measuring and calculating area and perimeter of square and rectangle. Explanatiopn of finding volume followed by practice sums</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Colouring and comparing the decimal blocks.</p>	<p>Oxford New Enjoying Mathematics</p>	<p>12</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To review the concept of area and perimeter</li> <li>To develop the formula to calculate perimeter of a rectangle and perimeter of a square</li> <li>To develop the formula to find the area of squares and rectangles</li> <li>To measure the area of a triangle using its relationship to a square or rectangle</li> <li>To focus on the different units of area</li> <li>To measure the area of irregular figures</li> <li>To explore the relationship between area and perimeter</li> <li>To develop the concept of volume</li> <li>To use cubic units as a measure of volume</li> <li>To develop the formula to calculate volume</li> <li>To find the volume of other shapes</li> </ul>
11	13. Time and Temperature	<p><b>Lesson No/Name :</b> <b>13. Time and Temperature</b></p> <p><b>Learning objective-</b> Pages 197 to 204</p> <ul style="list-style-type: none"> <li>•To develop the relationship between hours and minutes, and seconds and minutes</li> <li>•To add and subtract measures of time</li> <li>•To calculate the finishing or starting time of an event when the duration is known</li> <li>•To calculate the finishing or starting date of an event when the duration in terms of days is known</li> </ul> <p>Page 205 and 206</p> <ul style="list-style-type: none"> <li>•To develop measurement of temperature using the Celsius scale</li> <li>•To know the range of temperature in the environment—weather, body temperature, freezing and boiling points of water</li> </ul>	<p>Recall the units of time and their conversion. Solve sums based on time, calander etc. Introduction to the units of measuring temperature. Discuss the range of temperture in their surroundings.</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Mental math sums</p>	<p>Oxford New Enjoying Mathematics</p>	<p>7</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To develop the relationship between hours and minutes, and seconds and minutes</li> <li>To add and subtract measures of time•To calculate the finishing or starting time of an event when the duration is known</li> <li>To calculate the finishing or starting date of an event when the duration in terms of days is known</li> <li>To develop measurement of temperature using the Celsius scale</li> <li>To know the range of temperature in the environment—weather, body temperature, freezing and boiling points of water</li> </ul>

12	7. Decimals	<p><b>Lesson No/Name :</b> <b>7. Decimals</b></p> <p><b>Learning objective-</b> Pages 103 to 110</p> <ul style="list-style-type: none"> <li>•To review the concept of decimals and tenths and hundredths</li> <li>•To understand thousandths</li> <li>•To build equivalent decimals</li> <li>•To understand the terms like and unlike decimals and convert one into another</li> <li>•To compare and order the value of two or more decimals</li> <li>•To connect decimals and measurements</li> </ul> <p>Pages 111 to 114</p> <ul style="list-style-type: none"> <li>•To add and subtract decimal numbers</li> </ul>	<p>Explanation of place value of decimal numbers.</p> <p>Understand like decimals and equivalent decimals with examples and practice sums.</p> <p>Solve sums based on comparison and ordering decimal numbers.</p> <p>Using decimals in measurement followed by exercise questions.</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Mental math sums</p>	<p>Oxford New Enjoying Mathematics</p>	<p>9</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To review the concept of decimals and tenths and hundredths</li> <li>To understand thousandths</li> <li>To build equivalent decimals</li> <li>To understand the terms like and unlike decimals and convert one into another</li> <li>To compare and order the value of two or more decimals</li> <li>To connect decimals and measurements</li> <li>To add and subtract decimal numbers</li> </ul>
13	8. More about Decimals	<p><b>Lesson No/Name :</b> <b>8. More about Decimals</b></p> <p><b>Learning Objectives</b> Pages 116 to 121</p> <ul style="list-style-type: none"> <li>• To multiply decimals with whole numbers</li> <li>• To divide decimals by whole numbers</li> </ul> <p>Pages 122 to 124</p> <ul style="list-style-type: none"> <li>• To connect decimals and money</li> <li>• To find the unit price of an item by using division of decimals</li> <li>• To find the price of several items once the unit price is known by using multiplication of decimals</li> <li>• Using the strategy of systematic trails in problem solving</li> </ul>	<p>Explanation and practice of sums based on multiplication and division of decimal numbers.</p> <p>Solving problem sums using strategy of systematic trails</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>		<p>Oxford New Enjoying Mathematics</p>	<p>10</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To multiply decimals with whole numbers</li> <li>To divide decimals by whole numbers</li> <li>To connect decimals and money</li> <li>To find the unit price of an item by using division of decimals</li> <li>To find the price of several items once the unit price is known by using multiplication of decimals</li> <li>Using the strategy of systematic trails in problem solving</li> </ul>
14	14. Mapping skills	<p><b>Lesson No/Name :</b> <b>14. Mapping skills</b></p> <p><b>Learning objective-</b> Pages 209 to 217</p> <ul style="list-style-type: none"> <li>•To understand how to read maps</li> <li>•To understand scales in maps</li> <li>•To understand the usefulness of keys in maps</li> <li>•To understand how to read direction in maps</li> </ul>	<p>Explanation of scales and steps to read a map.</p> <p>Discussion of keys and directions in map.</p>	<p>Open classroom discussion, explanation, problem solving, reasoning, visualization</p>	<p>PPT, Videos, Charts</p>	<p>Classroom</p>	<p>Worksheet based on map</p>	<p>Oxford New Enjoying Mathematics</p>	<p>6</p>	<p>Children will be able to -</p> <ul style="list-style-type: none"> <li>To understand how to read maps</li> <li>To understand scales in maps</li> <li>To understand the usefulness of keys in maps</li> <li>To understand how to read direction in maps</li> </ul>

15	15. Handling Data	<u>Lesson No/Name :</u> <b>15. Handling Data</b> <u>Learning objective-</u> Pages 221 to 228 •To review bar graphs and circle graphs •To understand more about circle graphs •To use tally marks to collect data •To understand the basics of line graphs	Recall the bar graphs and circle graphs with examples. Explanation of formulating a tabular representation of data using tally marks.	Open classroom discussion, explanation, problem solving, reasoning, visualization	PPT, Videos, Charts	Classroom	Lab activity - To recognise the relation between fractions and circle graph	Oxford New Enjoying Mathematics	6	Children will be able to - To review bar graphs and circle graphs To understand more about circle graphs To use tally marks to collect data To understand the basics of line graphs
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