# CURRICULUM MAP

***Curriculum Map Components and Content Sources***

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| Key Stage Standards | Taken from the DepEd MATATAG Curriculum Guide for Mathematics Grade 4 |
| Grade Level Standards | Taken from the DepEd MATATAG Curriculum Guide for Mathematics Grade 4 |
| Content Standards | Taken from the DepEd MATATAG Curriculum Guide for Mathematics Grade 4 |
| Performance Standards | Taken from the DepEd MATATAG Curriculum Guide for Mathematics Grade 4 |
| Content | Taken from the worktext: *Real-Life Mathematics 4* |
| 21st-Century Skills | Taken from the World Economic Forum, *New Vision for Education (2015)* |
| Teaching Strategies/Differentiated Instruction | A variety of author-suggested instructional strategies to help the teacher deliver the lessons at varying levels of difficulty based on the students' learning styles. |
| Assessment | Assessment strategies are categorized as either Diagnostic, Formative, or Summative |
| Values Integration | A list of values that are inherent in the subject and developed through lesson discussions and skills exercises.<br>The teacher, however, is encouraged to emphasize values that are aligned with the school's own core values. |
| Resources | A rundown of suggested instructional materials that may take the form of traditional resources, teacher-made resources, educational software, and other digital learning resources. |


LEARNING SKILLS (**Competencies**): Communication ▪ Collaboration ▪ Critical thinking/problem solving ▪ Creativity
LITERACY SKILLS (**Foundation Literacies**): Literacy and numeracy ▪ Scientific literacy ▪ ICT literacy ▪ Financial literacy ▪ Cultural literacy ▪ Civic literacy
LIFE SKILLS (**Character Qualities**): Initiative ▪ Persistence ▪ Adaptability ▪ Curiosity ▪ Leadership ▪ Social and cultural awareness ▪ Career ▪ Work ethics

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| **Key Stage Standards** | At the end of Grade 6, the learner demonstrates knowledge, skills, and understanding in relation to the curriculum content domains:<br>• Number and Algebra (the four operations with decimals; the four operations with different combinations of fractions, whole numbers and mixed numbers; ratio and proportion; percentages, and their relationships with fractions and decimals; exponential form, including calculation using the GEMDAS rules; greatest common factors and least common multiples);<br>• Measurement and Geometry (right, acute, and obtuse; tessellation of shapes; resulting figure after translation, reflection, and rotation; units of volume and capacity; volume of cubes and rectangular prisms; properties of triangles and quadrilaterals; perimeter and area of triangles, parallelograms, and trapezoids; parts of a circle, including circumference; area of a circle; composite figures composed of any two or more of: triangle, square, rectangle, circle, semi-circle; prisms and pyramids; surface area of solid figures; symmetric figures and designs; 12- and 24- hour time, and world time zones); and<br>• Data and Probability (presentation and interpretation of data in tabular form and in a single line graph; double bar graphs and double line graphs; theoretical probability; pie graphs).<br><br>This knowledge, skills and understanding is applied, with the use of technology, to the processes within Mathematics of critical thinking, problem-solving, communicating, reasoning, and making connections between topic areas. |

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| **Grade Level Standards** | The learner demonstrates knowledge, skills, and understanding in relation to the curriculum content domains:<br>• Number and Algebra (whole numbers up to 1 000 000; addition of numbers with sums up to 1 000 000 and subtraction of numbers where both numbers are less than 1 000 000; multiplication of whole numbers with products up to 1 000 000; division of up to 4-digit numbers by up to 2-digit numbers, and the MDAS rules; addition and subtraction of similar fractions, including mixed numbers; dissimilar and equivalent fractions; factors and multiples of numbers up to 100; addition and subtraction of dissimilar fractions; simple patterns; number sentences; decimal numbers and their relationship to fractions);<br>• Measurement and Geometry (right, acute, and obtuse angles; properties of triangles and quadrilaterals; perimeter of quadrilaterals, and composite figures composed of triangles and quadrilaterals; conversion of units of length, mass, capacity, and time; symmetric figures and designs; reflection with shapes); and<br>• Data and Probability (presentation and interpretation of data in tabular form and in a single line graph).<br><br>This knowledge, skills, and understanding is applied, with the use of technology, to the processes within Mathematics of critical thinking, problem-solving, communicating, reasoning, and making connections between topic areas. |

# 1st Quarter

| Chapter 1: *Geometry* | | Time Frame: 10 days | |
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| **Content Standards** | The learners should have knowledge and understanding of . . .<br>• measures of angles;<br>• properties of triangles and quadrilaterals; and<br>• perimeter of quadrilaterals, and composite figures composed of triangles and quadrilaterals. | **Performance Standards** | The learners . . .<br>• illustrate and measure different angles;<br>• classify triangles and quadrilaterals, and differentiate quadrilaterals, by applying their properties; and<br>• find the perimeter of quadrilaterals and composite figures composed of triangles and quadrilaterals. |

| Content | MATATAG Learning Competency/ies | Learning Objective/s | Essential Question/s | Enduring Understanding/s | 21st-Century Skills | Teaching Strategies/ Differentiated Instruction | Assessment | Values Integration | Materials and Resources |
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| **Lesson 1**<br>*Rays and Angles* | Illustrate different angles (right, acute, and obtuse) using models | • Describe and illustrate the different angles (right, acute, and obtuse) using models<br>• Identify parts of an angle<br>• Name angles using notations such as ∠*ABC*, etc. | • What is a ray?<br>• How do you describe an angle?<br>• How is an angle named?<br>• What are the different types of angles? | • A *ray* is a part of a line. It has one endpoint and extends in only one direction.<br>• An *angle* is a figure formed when two rays meet at a common endpoint. The two rays are called the *sides of an angle*. The point where the two rays meet to form an angle is called its *vertex*.<br>• An angle can be named by its vertex or by its sides.<br>• A *right angle* forms a square corner. Its | **Literacy and Numeracy**<br>• Naming rays<br>• Naming angles in different ways<br>• Naming the parts of the angles<br><br>**Critical Thinking**<br>Describing and illustrating different types of angles<br><br>**Collaboration**<br>Working with a partner in naming angles and their types | **Review**<br>Activating prior knowledge on naming rays<br><br>**Demonstration**<br>• Forming rays<br>• Forming different types of angles<br><br>**Discussion**<br>• Naming angles<br>• Identifying the parts of an angle<br>• Identifying types of angles | **Diagnostic**<br>• Chapter Pretest<br><br>**Formative**<br>• *Let Us Talk About It*<br>Answering essential questions<br>• *Let Us Practice*<br>○ *Get Ready*<br>Naming angles in different ways<br>○ *Work Together*<br>Identifying angles and classifying them as *right*, *obtuse*, or *acute*<br>○ *Work Alone*<br>Naming the two sides of an angle and its | Accuracy in naming rays and angles | • real or improvised protractor<br>• envelope<br>• geostrips<br>• mobile phone/tablet<br>• YouTube video: "Angles: measuring angles and their names! \| Educational Videos for Kids" by Happy Learning English |

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| | | | | measure is exactly 90°.<br>• An *acute angle* has a measure greater than 0° but less than 90°.<br>• A *straight angle* measures exactly 180°.<br>• An *obtuse angle* has a measure greater than 90° but less than 180°.<br>• A *reflex angle* has a measure greater than 180° but less than 360°. | | | vertex<br>• *Let Us Solve* Answering questions about the angles in a given diagram<br>• *Let Us Check Your Understanding*<br>○ Determining if the given angle is *greater than*, *less than*, or *equal to* a right angle<br>○ Identifying angles in a triangle<br>○ Drawing the named angles<br>• Naming the sides and vertex of an angle<br>• Watching an online video on naming and measuring angles | | |
| **Lesson 2**<br>*Measuring and Drawing Angles* | Measure and draw angles using a protractor | • Measure and draw angles using a protractor<br>• Enumerate steps in measuring and | • What do you use to measure and draw an angle?<br>• How do you measure an angle? | • You use a *protractor* to measure and draw an angle.<br>• To measure an angle using a protractor, | **Literacy and Numeracy**<br>• Measuring given angles<br>• Drawing angles given their measures using | **Review**<br>Recalling prior knowledge on naming angles<br><br>**Motivation**<br>• Initial discussion | **Diagnostic**<br>Review on naming angles<br><br>**Formative**<br>• *Let Us Discover*<br>○ Measuring | Accuracy in drawing and measuring angles | • manila paper or cartolina<br>• improvised or a real protractor<br>• set square<br>• mobile phone/tablet |

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| | | drawing angles using a protractor | • How do you draw an angle? | follow these steps.<br>1. Place the center mark of the protractor over the vertex of the angle.<br>2. Place the zero edge of the protractor over one ray of the angle.<br>3. Read clockwise or counterclockwise and stop at the degree mark where the other ray falls on the inner or outer scale of the protractor.<br>• To draw an angle using a protractor, follow these steps.<br>1. Using a ruler, draw a ray which will be one of the sides of the angle. Mark | a protractor<br>• Naming drawn angles<br><br>**Critical Thinking and Problem-Solving**<br>Solving word problems involving measures of angles<br><br>**Collaboration**<br>Working with peers in measuring angles given their measures, and drawing angles and naming them | on forming different angles<br>• Having the learners illustrate different angles<br><br>**Demonstration**<br>• Showing how to use a protractor in measuring different types of angles<br>• Using a protractor in drawing angles of different measures<br>• Measuring angles using a protractor<br><br>**Practice and Drill**<br>Measuring given angles using a protractor | given angles using a protractor<br>○ Drawing and naming angles given their types and measures<br>• *Let Us Talk About It*<br>Answering essential questions<br>• *Let Us Practice*<br>○ *Get Ready*<br>Measuring angles using a protractor<br>○ *Work Together*<br>Working collaboratively with a partner on:<br>– Measuring angles<br>– Drawing angles using a protractor then naming them<br>○ *Work Alone*<br>– Measuring angles | | • online websites:<br>○ "Measuring angles \| Mighty Owl Math \| 4th Grade" by Mighty Owl<br>○ "Drawing angles – Corbettmaths" by corbettmaths |

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| | | | | a point on the ray and another point as the vertex of the angle to be drawn.<br>2. Place the center mark of the protractor at the vertex and along the ray.<br>3. Starting from 0° at the point on the ray, read clockwise or counterclockwise on the outer or inner scale to locate the degree mark for the desired size of the angle. Mark the third point.<br>4. Using the edge of the protractor, draw the second ray from the vertex to the third point. | | | – Drawing angles using a protractor then naming them<br>• *Let Us Solve* Answering problems on measures of angles<br>• *Let Us Check Your Understanding*<br>○ Measuring angles<br>○ Drawing and naming angles given their measures<br>• Watching online videos about measuring and drawing angles | | |

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| **Lesson 3**<br>*Triangles and Quadrilaterals as Polygons* | Draw and state the properties of triangles and quadrilaterals | Describe the attributes or properties of triangles and quadrilaterals using concrete objects or models | • What is a plane figure?<br>• How do you describe a polygon?<br>• How are polygons grouped or classified? | • A *plane figure* is a shape that can be drawn on a flat surface.<br>• A *polygon* is a closed plane figure formed by three or more line segments. It has three parts: *sides*, *angles*, and *vertices*.<br>• Polygons are grouped according to their number of sides and angles. A *triangle* is a three-sided polygon while a *quadrilateral* is a four-sided polygon. | **Literacy and Numeracy**<br>• Identifying what a polygon is, specifically triangles and quadrilaterals<br>• Naming the parts of a triangle and quadrilateral<br>• Matching the names with the correct figure of the polygons<br><br>**Critical Thinking**<br>• Grouping polygons as triangles or quadrilaterals<br>• Identifying the kind of polygon/s in an object<br>• Drawing triangles and quadrilaterals based on the description given<br>• Comparing triangles and quadrilaterals based on the number of sides, angles, | **Review**<br>Finding the measures of the given angles<br><br>**Discussion**<br>• Grouping real objects into those that are flat and those that are not, leading to the introduction to polygons<br>• Discussing the different attributes of triangles and quadrilaterals<br><br>**Hands-on Cooperative Learning**<br>• Grouping cutouts of objects according to the number of sides, leading to the concept of quadrilaterals<br>• Giving examples of objects that are polygons<br>• Comparing triangles and | **Diagnostic**<br>Board work or seatwork on getting the measures of the given angles<br><br>**Formative**<br>• *Let Us Talk About It*<br>Answering essential questions<br>• *Let Us Practice*<br>○ *Get Ready*<br>Matching the name of the polygon to its corresponding figure<br>○ *Work Together*<br>Working collaboratively with a partner on:<br>– Identifying and naming a polygon through its association with the given common objects<br>– Naming an object that has the | Accuracy on describing the properties of triangles and quadrilaterals | • objects (ex., frame, book, triangular ruler, ball, box, cakes, and cans)<br>• cutouts (square, rectangle, triangle, and parallelogram)<br>• magnetic board<br>• ruler or protractor<br>• mobile phone/tablet<br>• online website: "Quadrilaterals" by iknowit.com |

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| | | | | | and vertices for each type<br><br>**Critical Thinking and Collaboration**<br>• Associating a polygon, the shape of a given object based on the latter's attributes<br>• Naming an object that has the shape of the given figure<br><br>**ICT Literacy**<br>Learning more about quadrilaterals from an online interactive assessment | quadrilaterals based on the corresponding number of sides, angles, and vertices | shape of the given object<br>○ *Work Alone*<br>Answering questions about polygons<br>• *Let Us Solve*<br>Identifying the kind of polygon shown in each object<br>• *Let Us Check Your Understanding*<br>Drawing a polygon as described using a ruler or a protractor<br>• Playing an online game to learn more about quadrilaterals | | |
| **Lesson 4**<br>*Triangles and Their Kinds* | Classify triangles and quadrilaterals according to sides and angles | Identify and describe triangles according to sides and angles | • What is a triangle?<br>• What are congruent line segments?<br>• How are triangles classified? | • A *triangle* is a polygon with three sides, three angles, and three vertices.<br>• Line segments with equal measures are *congruent*.<br>• Triangles are classified | **Literacy and Numeracy**<br>Accuracy in drawing and measuring triangles based on the given classification on sides or angles<br><br>**Critical Thinking and Problem-** | **Review**<br>Identifying plane figures and polygons using cutouts<br><br>**Discussion and Demonstration**<br>• Identifying parts of triangles<br>• Classifying triangles | **Formative**<br>• *Let Us Talk About It*<br>Answering essential questions<br>• *Let Us Practice*<br>○ *Get Ready*<br>– Naming triangles according to sides | Accuracy, patience, and diligence in measuring, naming, and drawing triangles | • cutouts of triangles<br>• magnetic board<br>• mobile phone/tablet<br>• online website: "Triangles" by cardgames.io |

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| | | | | according to the lengths of their sides and the measures of their angles. | **Solving**<br>• Classifying triangles according to sides or angles<br>• Applying the concepts of classifying triangles based on the given description, angles, or sides<br>• Answering questions about classification of triangles based on the given figures<br><br>**Collaboration**<br>Working with peers in accomplishing activities on the classification of triangles | according to its sides<br>• Classifying triangles according to angles | – Classifying triangles according to angles<br>○ *Work Together* Drawing triangles according to the given type based on sides, angles, or both<br>○ *Work Alone* Finding and counting the triangles in the given figure<br>• *Let Us Solve* Answering questions about triangles based on the given figure<br>• *Let Us Check Your Understanding* Classifying triangles according to sides and angles<br>• Drawing as many triangles as one can in an | | |

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| | | | | | | | online game, either individually or in pairs | | |
| **Lesson 5**<br>*Quadrilaterals and Their Kinds* | Differentiate quadrilaterals | • Identify and describe the different kinds of quadrilaterals: *square*, *rectangle*, *parallelogram*, *trapezoid*, and *rhombus*<br>• Relate triangles to quadrilaterals<br>• Relate one quadrilateral to another quadrilateral (e.g., square to rhombus) | • What is a quadrilateral?<br>• What are the different kinds of quadrilaterals?<br>• How are quadrilaterals related to one another?<br>• How is a triangle related to a rectangle or a parallelogram? | • A *quadrilateral* is a polygon with four sides, four angles, and four vertices. A *vertex* is the point where the sides of a polygon meet.<br>• A *parallelogram* is a quadrilateral with two pairs of opposite sides that are parallel and congruent. It may be cut along its height and the cut portion moved to the other side to form a rectangle with the same size or area.<br>• A *rectangle* is a parallelogram with four right angles. It may be cut diagonally to form two congruent triangles. | **Literacy and Numeracy**<br>Learning to be careful and accurate in drawing and measuring triangles<br><br>**Critical Thinking and Problem-Solving**<br>Citing evidence in identifying quadrilaterals<br><br>**Collaboration**<br>Working with peers in accomplishing activities | **Review**<br>Reviewing different geometric figures<br><br>**Practice and Drill**<br>Identifying quadrilateral through a game and other objective activities<br><br>**Discussion**<br>• Identifying the characteristics of quadrilaterals<br>• Identifying the different types of quadrilaterals<br><br>**Hands-on Minds-on Activities**<br>Deepening understanding of the concepts on quadrilaterals through a collaborative activity | **Formative**<br>• *Let Us Discover*<br>Naming the different quadrilaterals<br>• *Let Us Talk About It*<br>Discussing the answers to the most essential questions<br>• *Let Us Practice*<br>○ *Get Ready*<br>Naming each given quadrilateral<br>○ *Work Together*<br>– Drawing quadrilaterals collaboratively<br>– Copying quadrilaterals than can be found on the figure<br>○ *Work Alone*<br>Answering True or False questions<br>• *Let Us Solve*<br>Answering questions about | Accuracy, patience, and diligence in identifying quadrilaterals | • handkerchief or hand towel<br>• cutouts of quadrilaterals<br>• mobile phone/tablet<br>• YouTube video: “Polygon Song” by Have Fun Teaching (via Lucky Little Learners) |

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| | | | | • A *square* is a rectangle with four congruent sides.<br>• A *rhombus* is a parallelogram with four congruent sides. It may be cut along its height and the cut portion moved to the other side to form a square. Both the rhombus and the square have two pairs of parallel sides, and all four sides of equal length.<br>• A *trapezoid* is a quadrilateral with one pair of parallel opposite sides. | | | quadrilaterals<br>• *Let Us Check Your Understanding* Filling in the blanks with the correct answers to make the statements about quadrilaterals true<br>• Listening to a song about quadrilaterals | | |
| **Lesson 6** *Perimeter of Quadrilaterals and of Composite Figures* | • Find the perimeter of quadrilaterals that are not squares or rectangles.<br>• Find the perimeter of composite figures | • Measure the perimeter of quadrilaterals and some composite figures<br>• Calculate the perimeter of composite figures | • What is a perimeter?<br>• How do you find the perimeter of a quadrilateral?<br>• What is a composite figure?<br>• How do you find the perimeter of | • *Perimete*r is the distance around a closed plane figure.<br>• To obtain the perimeter of a quadrilateral, add the measures of all of its sides. | **Literacy and Numeracy**<br>• Identifying perimeter and the formula in looking for it<br>• Computing for the perimeter of quadrilaterals and composite | **Review**<br>Conducting a drill to review concepts on quadrilaterals<br><br>**Motivation**<br>Introducing the lesson through an interactive activity | **Formative**<br>• *Let Us Discover* Solving the perimeter of the given figure<br>• *Let Us Talk About It* Answering and discussing the lesson's most | • Accuracy, patience, and diligence in finding the perimeter of quadrilaterals and composite figures<br>• Teamwork and collaboration | • cutouts of quadrilateral<br>• ruler<br>• mobile phone/tablet<br>• YouTube videos:<br>○ "Perimeter" by Marty Brandl<br>○ "Perimeter Of Compound |

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| | composed of triangles and quadrilaterals. | | a composite figure? | • A *composite figure* is a figure or shape made up of two or more geometric figures.<br>• The perimeter of a composite figure can be calculated by adding all side lengths together. | figures<br><br>**Critical Thinking and Problem-Solving**<br>• Computing for the perimeter of given figures<br>• Computing for the perimeter in word problems<br><br>**Collaboration**<br>Working with a peer on finding the perimeter of given figures | **Demonstration**<br>Using model cutouts to identify the different kinds of quadrilaterals<br>Measuring quadrilaterals and composite figures using a ruler<br><br>**Discussion**<br>Applying the formula for computing for the perimeter of quadrilaterals and composite figures<br><br>**Practice and Drill**<br>Using activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Assigning tasks which will require the learners to work together to come-up with an agreed solution to given problems<br><br>**Synthesis**<br>Allowing the learners to | essential questions<br>• *Let Us Practice*<br>○ *Get Ready*<br>Finding the perimeter of quadrilateral and composite figures<br>○ *Work Together*<br>Working with a peer in finding the perimeter of quadrilateral and composite figures<br>○ *Work Alone*<br>Determining the perimeter of quadrilaterals and composite figures independently<br>• *Let Us Solve*<br>Solving for the perimeter of quadrilaterals and composite figures in word problem forms<br>• *Let Us Check* | • Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | Shapes // Finding Perimeter with Missing Sides" by Maths Tutor Tom |

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| | | | | | | summarize their learnings on their own words<br><br>**Connect-to-Life**<br>Letting the learners to apply their learnings in real-life context. | *Your Understanding*<br>Computing for the perimeter of the given quadrilaterals and other figures<br>• Watching a video to find the perimeter of common polygons and other shapes of composite figures | | |
| **Lesson 7**<br>*Word Problems Involving Perimeter of Quadrilaterals and of Composite Figures* | Solve word problems involving perimeter of quadrilaterals (that are not squares or rectangles), and composite figures | • Analyze and solve word problems involving perimeter of quadrilaterals (that are not squares or rectangles), and composite figures<br>• Use appropriate strategies in solving word problems | • What are the steps in problem-solving?<br>• What other strategies can you use to solve problems involving perimeter? | • The four steps in problem solving are:<br>1. Understand the problem.<br>2. Plan what to do.<br>3. Solve the problem.<br>4. Look back. Check your answer.<br>• When solving problems that involve perimeter, draw a picture to help you. | **Literacy and Numeracy**<br>• Identifying the important elements in the word problem to solve for the perimeter<br>• Computing for the perimeter of quadrilaterals and composite figures<br><br>**Critical Thinking and Problem-Solving**<br>• Using the steps in problem-solving<br>• Computing for | **Motivation**<br>Conducting a drill on measuring the perimeter of quadrilaterals and composite figures<br><br>**Demonstration**<br>Illustrating the steps in solving word problems through a sample material<br><br>**Discussion**<br>Going deeper on the steps of answering word problems | **Formative**<br>• *Let Us Discover*<br>Determining the four steps in problem-solving<br>• *Let Us Talk About It*<br>Answering and discussing the lesson's most essential questions about solving word problems involving perimeter<br>• *Let Us Practice*<br>○ *Get Ready*<br>Answering comprehension questions and | • Accuracy, patience, and diligence in analyzing word problems and finding the perimeter of quadrilaterals and composite figures<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in answering word | • drawing of different quadrilaterals<br>• mobile phone/tablet<br>• YouTube video: "Perimeter of a Polygon \| Word Problems Involving Perimeter \| Grade 4 Math - Onwards" by Math O' clock |

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| | | | | | the perimeter in word problems<br><br>**Collaboration**<br>Working with a peer to analyze word problems and solve for the perimeter of quadrilaterals and composite figures<br><br>**ICT Literacy**<br>Utilizing ICT resources and tools to deepen understanding on solving problems involving the perimeter of polygons | **Practice and Drill**<br>Providing more activities and examples to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Assigning learners in groups to come-up with solutions to the given word problems<br><br>**Synthesis**<br>Encouraging learners to express what they've learned in their own words<br><br>**Connect-to-Life**<br>Allowing learners to put their knowledge into practice in everyday contexts | solving for the given word problem<br>○ *Work Together*<br>Following activity instructions involving perimeter in groups of five<br>○ *Work Alone*<br>Determining the answer to the given word problems independently<br>• *Let Us Solve*<br>Finding what is asked in each item from a given word problem<br>• *Let Us Check Your Understanding*<br>Solving for word problems involving the perimeter of given quadrilaterals and other figures<br>• Watching a video to deepen | problems | |

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| | | | | | | | understanding on solving problems involving the perimeter of a polygon<br><br>**Summative**<br>• *Have Fun! You Can Do More!*<br>• *Chapter Test* Gauging learning through an objective test<br>• *Math Reflection* Answering exit ticket about the chapter<br>• Summative Test | | |

| **Chapter 2: *Whole Numbers*** | | **Time Frame**: 14 days | |
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| **Content Standards** | The learners should have knowledge and understanding of…<br>• whole numbers up to 1 000 000; and<br>• addition of numbers with sums up to 1 000 000 and subtraction of numbers where both numbers are less than 1 000 000. | **Performance Standards** | The learners are able to…<br>• read, write, and compare whole numbers up to 1 000 000; and<br>• performs addition of numbers with sums up to 1 000 000 and subtraction of numbers where both numbers are less than 1 000 000. |

| **Content** | **MATATAG Learning Competency/ies** | **Learning Objective/s** | **Essential Question/s** | **Enduring Understanding/s** | **21st-Century Skills** | **Teaching Strategies/ Differentiated Instruction** | **Assessment** | **Values Integration** | **Materials and Resources** |
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| **Lesson 1**<br>*Numbers Through Millions* | *(none)* | • Visualize numbers up to 1 000 000 with emphasis on numbers 10 001 to 1 000 000;<br>• Give the place value and value of a digit in numbers up to 1 000 000<br>• Write numbers in standard and expanded forms | • How do you group the digits in a number?<br>• How many digits are in each group?<br>• How do you get the value of a digit in a number?<br>• How many digits are in a number in millions? in a hundred thousand? in ten thousands? in one thousand?<br>• How do you express a number in expanded form? | • The digits of a number are grouped into threes. Each group is called a *period*.<br>• The value of a digit in a number depends on the place it occupies. To get the value of a digit, multiply it by its place value.<br>• A number in millions has seven digits, six digits when in hundred thousand, five digits when in ten thousand, and four digits when in | **Literacy and Numeracy**<br>• Grouping digits in a number group<br>• Providing the value places to numbers up to 1 000 000<br><br>**Critical Thinking and Problem-Solving**<br>• Identify the value of a digit in number<br>• Write numbers in standard and expanded form<br><br>**Collaboration**<br>Working with a peer in identifying place values of a given digit | **Review/ Motivation**<br>• Conducting a drill on reading three-to-four-digit numbers<br>• Reviewing how to identify the periods and values of digits in ten thousands<br><br>**Demonstration**<br>Using sample situations to better illustrate the concepts of the lesson<br><br>**Discussion**<br>Utilizing interactive dynamics and questioning to discuss number value and how to | **Diagnostic**<br>• Answering the Chapter Pretest<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the values of digits and the standard and expanded forms of writing numbers<br>• *Let Us Talk About It*<br>Answering and discussing the lesson's most essential questions about place value and the two forms of writing numbers<br>• *Let Us Practice*<br>○ *Get Ready*<br>Answering | • Accuracy, patience, and diligence in identifying place value and writing numbers in standard and extended forms<br>• Teamwork and collaboration | • pocket place value chart<br>• sets of cards with the number 0 to 9<br>• flash cards with large numbers<br>• mobile phone/tablet<br>• online websites:<br>○ "Place Values Chart Up to Millions \| 4th & 5th Grade Math \| Tutway" by TutWay7<br>○ "Place Value of Digits up to a million" by Lguglielmi |

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| | | | | thousand.<br>• The expanded form of a number is a way of writing a number as a sum of the values of its digits. | **ICT Literacy**<br>Utilizing ICT resources and tools that include games to deepen understanding on numbers and place value | write in expanded form<br><br>**Practice and Drill**<br>Providing more activities and examples to reinforce mastery of the lesson<br><br>**Cooperative Learning**<br>Assigning learners to work together on drills about place value and writing numbers in expanded form<br><br>**Synthesis**<br>Allowing learners to articulate their knowledge through personal phrasing<br><br>**Connect-to-Life**<br>Enabling learners to apply their lessons to practical, real-world examples | questions on identifying place value of given digits<br>○ *Work Together*<br>– Working with a peer in identifying number values<br>– Writing the standard form of each number in expanded form<br>○ *Work Alone*<br>Determining independently the answers to the given questions<br>• *Let Us Solve*<br>Supplying the correct response to the questions involving place value and writing numbers in expanded form<br>• *Let Us Check Your* | | |

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| | | | | | | | *Understanding*<br>Supplying the correct response to complete the sentences<br>• Watching a video to deepen understanding on numbers and number value<br>• Playing an online game to reinforce learning about place values up to million | | |
| **Lesson 2**<br>*Reading and Writing Large Numbers* | Read and write numbers up to 1 000 000 in numerals and in words | Read and write numbers through millions in symbols and in words | • How many digits are in each period? Can you name the first two periods beginning from the right?<br>• How do you read numbers?<br>• How do you write large numbers in figures and words? | • A *period* is composed of three digits. The first three periods, beginning from the right, are *units*, *thousands period*, and *millions period*.<br>• Read the digits in each period as one number. Then say the period where the digits are. No need to name the units period.<br>• When writing | **Literacy and Numeracy**<br>• Identifying number values<br>• Writing large numbers in figures and words correctly<br>• Reading number figures up to 1 000 000<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing number figures and identifying their value<br>• Citing visual | **Review**<br>Looking back at the previous lesson about numbers up to million<br><br>**Motivation**<br>Presenting samples of number values and letting the learners read them<br><br>**Demonstration**<br>• Showing how numbers are written on the place value | **Formative**<br>• *Let Us Discover*<br>Determining the proper way of reading number values and writing them in standard and expanded forms<br>• *Let Us Talk About It*<br>Answering and discussing the lesson's most essential questions about reading and writing numbers up to 1 000 000<br>• *Let Us Practice* | • Accuracy, patience, and diligence in identifying place value by writing numbers in standard and extended forms<br>• Teamwork and collaboration | • pocket place value chart<br>• sets of cards with the number 0 to 9<br>• mobile phone/tablet<br>• online websites:<br>○ "How to Write Numbers in Word Form \| Read and Write Numbers To a Million" by Doodles and Digits \| Educational Math Videos<br>○ "Numbers to |

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| | | | | large numbers in figures, leave spaces between the periods. When writing large numbers in words, use a comma to separate the periods. | cues to indicate number value<br><br>**Collaboration**<br>Working with a peer in recognizing cues in identifying/writing number values<br><br>**ICT Literacy**<br>Using ICT tools like videos and online worksheets to reinforce learning | chart<br>• Pointing out how the value of a digit is obtained<br>• Guiding pupils in identifying and reading different periods, place values, and values in the place value chart<br><br>**Discussion**<br>Using guided instruction through in-text examples to further strengthen concept building in assigning number values and writing them in standard and extended forms<br><br>**Practice and Drill**<br>Allocating more activities and examples to reinforce mastery of the lesson on reading and writing numbers up to 1 000 000 | ○ *Get Ready*<br>– Reading numbers aloud<br>– Writing numbers by grouping the digits into periods<br>○ *Work Together*<br>– Working with a peer in writing numbers in figures<br>– Identifying the period where the underlined digits belong<br>○ *Work Alone*<br>Writing numbers independently in words and in figures<br>• *Let Us Solve*<br>Supplying what is asked in each item related to reading and writing large numbers<br>• *Let Us Check Your* | | 10 million" by Vũ Tuyết Lệ at Live Worksheets |

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| | | | | | | **Cooperative Learning**<br>Assigning learners to work together on drills which involve identifying number values and writing them in both standard and expanded form<br><br>**Synthesis**<br>Providing the learners with the chance to describe their understanding on their own words<br><br>**Connect-to-Life**<br>Providing learners with the opportunities to share how they will apply their knowledge in real-life situations | *Understanding*<br>Supplying the correct form of number values<br>• Watching a video to deepen understanding of writing big numbers<br>• Answering an online worksheet about writing big numbers | | |
| **Lesson 3**<br>*Rounding Off Large Numbers* | Round numbers to the nearest hundred thousand | • Round numbers to the nearest hundred thousand<br>• Decide when to round up or round down a number | • What digit do you look at when rounding off a number to any given place?<br>• When do you round up? | • When rounding off numbers to any given place, look at the digit to the right of the rounding place.<br>• Round up when | **Literacy and Numeracy**<br>Locating number values and rounding them off<br><br>**Critical Thinking and Problem-** | **Review**<br>• Recalling concepts on place value<br>• Assessing learners' working knowledge on | **Formative**<br>• *Let Us Discover*<br>Determining the steps in identifying place values and rounding off numbers | • Accuracy, patience, and diligence in identifying place value and rounding off numbers<br>• Teamwork and | • pocket place value chart<br>• sets of cards with the numbers 0 to 9<br>• mobile phone/tablet<br>• online website: |

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| | | | When do you round down? | the digit to the right of the rounding place is 5 or more. Round down when the digit is less than 5. | **Solving** Analyzing number values and applying the steps in rounding off big numbers<br><br>**Collaboration** Working with a peer in locating number values and rounding them off<br><br>**ICT Literacy** Reinforcing mastery of the lesson on rounding off large numbers through answering online worksheets | place value and the steps in rounding off numbers<br><br>**Motivation** Introducing the lesson through letting the learners round off whole numbers to the nearest ten, hundred, or thousand<br><br>**Discussion** Making use of the learners' prior knowledge in identifying place values and recalling the rules in rounding off<br><br>**Practice and Drill** Giving more examples by writing different numbers on the board and instructing the learners to round each number according to the target place value | • *Let Us Talk About It* Clarifying questions about rounding off numbers<br>• *Let Us Practice*<br>○ *Get Ready* Rounding off numbers to the place of identified number value<br>○ *Work Together* Working with a peer in rounding off big numbers<br>○ *Work Alone* Rounding off numbers to the indicated place value<br>• *Let Us Solve* Identifying the greatest possible number whose rounded value is shown<br>• *Let Us Check Your Understanding* Supplying the correct form of rounded off number value | collaboration | "Rounding numbers (up to millions)" by K5 Learning |

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| | | | | | | **Cooperative Learning**<br>Assigning learners to work together on exercises about rounding off numbers in different place value<br><br>**Synthesis**<br>Enabling learners to explain concepts in their own words<br><br>**Connect-to-Life**<br>Supporting learners in sharing how will they apply their understanding to real-world contexts | • Answering an online worksheet about rounding off big numbers | | |
| **Lesson 4**<br>*Comparing and Arranging Numbers in Order* | Compare numbers up to 1 000 000 using =, < and > | • Compare numbers up to 1 000 000 using relation symbols<br>• Order numbers up to 1 000 000 in increasing or decreasing order | • How do you compare numbers?<br>• What symbols are used to compare numbers?<br>• How can numbers be arranged? | • To compare numbers, compare the digits in the greatest place value. If they are the same, compare the digits in the next place value until coming up to a place value where the digits | **Literacy and Numeracy**<br>• Identifying place value of numbers<br>• Writing the symbols used in comparing number values<br><br>**Critical Thinking and Problem-Solving** | **Review**<br>• Recalling concepts on identifying the digit in a given place value<br>• Evaluating learners' working knowledge on place values<br><br>**Motivation** | **Formative**<br>• *Let Us Discover*<br>Determining the steps in comparing big numbers using place value<br>• *Let Us Talk About It*<br>Clarifying questions about comparing numbers | • Accuracy, patience, and diligence in arranging big numbers<br>• Teamwork and collaboration<br>• Time management<br>• Hard work and love of local products | • pocket place value chart<br>• mobile phone/tablet<br>• online website: "Rounding numbers (up to millions)" by K5 Learning |

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| | | | | are different.<br>• The symbols >, <, and = are used to compare numbers.<br>• Numbers can be arranged from least to greatest (*increasing order*) or from greatest to least (*decreasing order*). | • Comparing numbers according to place value<br>• Writing number sentences using the symbols for comparing number values correctly<br>• Arranging numbers in increasing and decreasing orders<br><br>**Collaboration**<br>Working with a peer in arranging numbers in increasing order<br><br>**ICT Literacy**<br>Reinforcing mastery of the lesson on comparing and arranging large numbers through answering of online worksheets | Introducing the lesson by presenting drills on comparing numbers up to 10 000<br><br>**Discussion**<br>Presenting number values on the board and giving the rules in comparing numbers using the symbols >, < and =<br><br>**Practice and Drill**<br>Reinforcing concept building by letting the learners arrange numbers in ascending and descending orders<br><br>**Cooperative Learning**<br>Giving the learners the opportunity to work together in comparing large numbers<br><br>**Synthesis**<br>Allowing learners | • *Let Us Practice*<br>○ *Get Ready*<br>Using the symbols >, < and = in comparing big numbers<br>○ *Work Together*<br>Working with a peer in arranging numbers in ascending order<br>○ *Work Alone*<br>– Comparing numbers by using the symbols >, <, and = correctly<br>– Arranging the numbers in decreasing order<br>• *Let Us Solve*<br>Arranging the numbers that are asked in decreasing and increasing orders.<br>• *Let Us Check Your Understanding* | | |

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| | | | | | | to summarize key points in their own words<br><br>**Connect-to-Life**<br>Letting learners share how will they transfer their learning into practical, real-life use | Strengthening understanding of the concepts through the allocation of more activities on arranging numbers<br>• Answering online worksheets about comparing and ordering numbers | | |
| **Lesson 5**<br>*Estimating Sums and Differences* | Estimate the sum and difference of two 5- to 6-digit numbers by rounding the addends to the nearest large place value of the numbers | • Estimate numbers to the indicated place value<br>• Estimate the sum or difference of two 5- to 6 -digit numbers | How do you estimate the sum or difference of whole numbers? | • To estimate the sum or difference of whole numbers, round off the numbers to the highest place value, then add or subtract the rounded-off numbers.<br>• Sometimes estimating can be done to the highest place value of the smaller number. | **Literacy and Numeracy**<br>Estimating whole numbers<br><br>**Critical Thinking and Problem-Solving**<br>• Identifying number values<br>• Adding and subtracting estimated number values<br><br>**Collaboration**<br>Working with a peer in arranging numbers in solving for the estimated sum and difference | **Review**<br>• Recalling concepts on estimating the sum and difference of two numbers with up to 4 digits<br>• Evaluating learners' working knowledge on estimating number value<br>• Estimating number value by rounding-off<br><br>**Motivation**<br>Providing drills on rounding off numbers to the | **Formative**<br>• *Let Us Discover*<br>Determining the steps in estimating number value and looking for the estimated sum and difference<br>• *Let Us Talk About It*<br>Clarifying questions about how to estimate the sum or difference of whole numbers<br>• *Let Us Practice*<br>○ *Get Ready*<br>– Rounding off numbers | • Accuracy, patience, and diligence in estimating sums and differences<br>• Teamwork and collaboration<br>• Time management<br>• Cleanliness and charity | • mobile phone/tablet<br>• online website: "Estimating Sums and Differences" by Talesof4thGrade |

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| | | | | | **ICT Literacy** Encouraging mastery of the lesson by watching an online video | highest place value<br><br>**Discussion** Using sample exercises, provide the steps in estimating number values and solving for their sum and difference<br><br>**Practice and Drill** Deepening understanding by giving more drills and examples for the learners to work on<br><br>**Cooperative Learning** Providing the learners the opportunity to work together in estimating values and computing for the sum and difference<br><br>**Synthesis** Supporting the learners in capturing their learnings by expressing it in | to the highest value<br>– Supplying the missing parts in the number sentence<br>○ *Work Together* Working with a partner in estimating given numbers and their sums and differences<br>○ *Work Alone* Solving for the estimated sum or difference independently<br>• *Let Us Solve* Computing for estimated values in word problems<br>• *Let Us Check Your Understanding*<br>○ Estimating the sum or difference<br>○ Solving a word problem | | |

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| | | | | | | their own terms<br><br>**Connect-to-Life**<br>Helping the learners connect their classroom knowledge to real-world applications | • Watching a video about how to estimate sums and differences | | |
| **Lesson 6**<br>*Adding Whole Numbers* | Add numbers with sums up to 1 000 000 and subtract numbers where both numbers are less than 1 000 000, with and without regrouping | Add numbers with sums up to 1 000 000 with and without regrouping | How do you add large numbers? | To add large numbers, write them in columns, aligning the digits with the same place value. Then add the digits in the ones, the tens, the hundreds, and the thousands, up to the leftmost place. Regroup when necessary. | **Literacy and Numeracy**<br>Adding whole numbers correctly<br><br>**Critical Thinking and Problem-Solving**<br>• Identifying number values<br>• Implementing the steps in adding large numbers<br><br>**Collaboration**<br>Working with a peer in adding large numbers<br><br>**ICT Literacy**<br>Solidifying understanding of the lesson by accessing an online worksheet | **Review**<br>Recalling concepts on estimating numbers<br><br>**Demonstration**<br>Presenting drills on adding numbers with sums up to 10 000 with or without regrouping<br><br>**Discussion**<br>• Aligning numbers according to place value<br>• Computing for the sum with and without regrouping<br><br>**Practice and Drill**<br>• Solving for the sum of big numbers<br>• Solving for the | **Formative**<br>• *Let Us Discover*<br>Determining the difference of big numbers<br>• *Let Us Talk About It*<br>Clarifying the concept on adding large numbers<br>• *Let Us Practice*<br>○ *Get Ready*<br>Adding numbers with up to seven digits<br>○ *Work Together*<br>Working with a partner in adding big numbers<br>○ *Work Alone*<br>– Finding the sum of numbers with up to six digits | • Accuracy, patience, and diligence in adding big numbers<br>• Teamwork and collaboration<br>• Time management | • flash cards of basic addition facts<br>• mobile phone/tablet<br>• online website: “Adding 5- & 6-digit numbers in columns (3 addends)” by K5 Learning |

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| | | | | | | sum of small numbers<br><br>**Cooperative Learning**<br>Providing the learners the opportunity to work together in adding big numbers<br><br>**Synthesis**<br>Encouraging the learners to paraphrase their knowledge in a way that feels natural to them | – Solving for the sum as asked<br>• *Let Us Solve*<br>Analyzing word problems and solving for the sum<br>• *Let Us Check Your Understanding*<br>○ Calculating for the sum of the given figures<br>○ Solving for the sum in the word problem<br>• Answering an online worksheet on adding large numbers | | |
| **Lesson 7**<br>*Subtracting Whole Numbers* | Subtract numbers where both numbers are less than 1 000 000 with and without regrouping | Subtract whole numbers where both numbers are less than 1 000 000 without and with regrouping | How do you subtract whole numbers? | To subtract whole numbers, write the numbers in a column. Be sure to align the digits with the same place value. Subtract first the ones place, then the tens place, then the hundreds place, and so on. Regroup when necessary. | **Literacy and Numeracy**<br>Subtracting whole numbers correctly<br><br>**Critical Thinking and Problem-Solving**<br>• Identifying number values<br>• Implementing the steps in subtracting large numbers | **Review**<br>Recalling concepts on adding large numbers<br><br>**Demonstration**<br>Presenting drills on subtracting numbers, where both numbers are less than 10 000 with or without regrouping | **Formative**<br>• *Let Us Discover*<br>Determining the difference of big numbers<br>• *Let Us Talk About It*<br>Clarifying the concept on subtracting large numbers<br>• *Let Us Practice*<br>○ *Get Ready*<br>Subtracting | • Accuracy, patience, and diligence in subtracting big numbers<br>• Teamwork and collaboration<br>• Time management | • flash cards<br>• mobile phone/tablet<br>• online website: “Subtracting 5- & 6-digit numbers” by K5 Learning |

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| | | | | | **Collaboration**<br>Working with a peer in finding the difference of large numbers<br><br>**ICT Literacy**<br>Enhancing understanding of the lesson by accessing an online worksheet | **Discussion**<br>• Aligning numbers according to place value<br>• Computing for the difference with and without regrouping<br><br>**Practice and Drill**<br>• Solving for the difference of big numbers<br>• Solving for the difference of small numbers<br>• Looking for the difference in the word problem<br><br>**Cooperative Learning**<br>Providing the learners with the opportunity to work together in subtracting big numbers<br><br>**Synthesis**<br>Helping the learners to summarize their lessons with personalized | numbers with up to six digits<br>○ *Work Together*<br>Working with a partner in subtracting big numbers<br>○ *Work Alone*<br>– Arranging six-digit numbers in columns and subtracting them<br>– Solving for the difference as asked<br>• *Let Us Solve*<br>Analyzing word problems and identifying the difference<br>• *Let Us Check Your Understanding*<br>Calculating for the difference of the given figures<br>• Answering an online worksheet on subtracting large numbers | | |

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| | | | | | | phrasing | **Summative**<br>• *Have Fun You Can Do More!*<br>• *Chapter Test*<br>• *Math Reflection* Writing an exit ticket about the lessons in the chapter<br>• Summative Test | | |

# 2nd Quarter

| Chapter 3: *Multiplication of Whole Numbers* | | **Time Frame**: 12 days | |
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| **Content Standard** | The learners should have knowledge and understanding of multiplication of whole numbers with products up to 1 000 000. | **Performance Standard** | The learners are able to perform multiplication of whole numbers with products up to 1 000 000. |

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| **Lesson 1**<br>*Multiplying Numbers by One-Digit Multipliers* | Multiply two numbers with and without regrouping:<br>3- to 4-digit numbers by a 1-digit number | Multiply 3- to 4-digit numbers by a one-digit multiplier without and with regrouping | • How do you multiply a number by a 1-digit multiplier?<br>• When do you regroup when multiplying by a 1-digit multiplier? | • To multiply a number by a 1-digit multiplier, multiply the ones digit, then the tens, then the hundreds, and so on, by the multiplier.<br>• Regroup when the product in a certain place is 10 and above. Regroup to the next higher place. | **Literacy and Numeracy**<br>Multiplying whole numbers by 1-digit multiplier correctly<br><br>**Critical Thinking and Problem-Solving**<br>• Implementing the steps in multiplying numbers with 1-digit multipliers<br>• Multiplying numbers with and without regrouping with ease<br><br>**Collaboration**<br>Working with a peer in finding the product of the given items<br><br>**ICT Literacy**<br>Watching an online video to enhance | **Schema Activation/ Motivation**<br>• Recalling concepts on multiplication<br>• Conducting a drill on basic multiplication facts using the multiplication table<br>• Having the learners demonstrate working knowledge of the lesson by providing them exercises on multiplying 2-digit numbers by a 1-digit multiplier<br><br>**Discussion**<br>• Discussing the lesson through the presentation of the steps in | **Diagnostic**<br>• Answering the *Chapter Pretest*<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the steps in finding the product of numbers with a 1-digit multiplier<br>• *Let Us Talk About It*<br>Clarifying the steps on multiplying numbers by a 1-digit multiplier and the cases to which regrouping is needed<br>• *Let Us Practice*<br>○ *Get Ready*<br>Multiplying numbers with a 1-digit multiplier<br>○ *Work* | • Accuracy, patience, and diligence in multiplying numbers with a 1-digit multiplier<br>• Teamwork and collaboration<br>• Time management | • multiplication table<br>• mobile phone/tablet<br>• YouTube video: “Math Antics - Multi-Digit Multiplication Pt 1” by mathantics |

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| | | | | | understanding of multiplying a number by a 1-digit multiplier | multiplying numbers<br>• Showing more examples using algorithm, including those that needed regrouping<br><br>**Cooperative Learning**<br>Assigning learners to work together on drills about multiplying numbers<br><br>**Synthesis**<br>Letting the learners convey what they've learned in their own terms | *Together*<br>Working with a partner in finding the product of the given items<br>○ *Work Alone*<br>Arranging numbers in column and multiplying them to find the product<br>• *Let Us Solve*<br>Analyzing a word problem to identify the product<br>• *Let Us Check Your Understanding*<br>Calculating for the product of the given items<br>• Watching a video to reinforce knowledge of multiplying with a 1-digit multiplier | | |
| **Lesson 2**<br>*Multiplying Numbers by Two-Digit Multipliers* | Multiply two numbers with and without regrouping:<br>2- to 3-digit numbers by 2-digit | Multiply 2-to 3-digit numbers by two-digit multiplier with products up to 1 000 000, without and with | • How do you multiply a number by a 2-digit multiplier?<br>• What do you do with the partial | • To multiply a number by a 2-digit multiplier, multiply each digit by the ones digit of the | **Literacy and Numeracy**<br>Multiplying whole numbers by a 2-digit multiplier correctly | **Schema Activation**<br>Conducting a drill on multiplying numbers with a 2-digit multiplier | **Formative**<br>• *Let Us Discover*<br>Determining the steps in finding the product of numbers with a | • Accuracy, patience, and diligence in multiplying numbers with 2-digit multiplier | • poster or picture of children planting<br>• mobile phone/tablet<br>• YouTube video: |

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| | numbers, with products up to 1 000 000 | regrouping | products to get the final product? | multiplier first, then by the tens digit of the multiplier. Regroup as needed.<br>• Add the partial products to obtain the final product. | **Critical Thinking and Problem-Solving**<br>• Implementing the steps in multiplying numbers with 2-digit multipliers<br>• Multiplying numbers with and without regrouping with ease<br><br>**Collaboration**<br>Working with a peer in finding the product of the given items<br><br>**ICT Literacy**<br>Watching an online video to enhance understanding of multiplying a number by a 2-digit multiplier | **Discussion**<br>• Discussing the lesson through the presentation of the steps in multiplying numbers<br>• Showing more examples in multiplying numbers with and without regrouping<br><br>**Cooperative Learning**<br>Assigning the learners to work together on drills about multiplying numbers<br><br>**Synthesis**<br>Giving the learners space to describe their learnings in their their own words | 2-digit multiplier<br>• *Let Us Talk About It*<br>Clarifying the steps on multiplying numbers by a 2-digit multiplier<br>• *Let Us Practice*<br>○ *Get Ready*<br>− Writing the missing digits in each equation before solving for the product<br>− Multiplying numbers with a 2-digit multiplier<br>○ *Work Together*<br>Working with a partner in writing each given equation in column to find its product<br>○ *Work Alone*<br>Solving for the product<br>• *Let Us Solve*<br>Analyzing a word problem to identify the product | • Teamwork and collaboration<br>• Time management | "3-Digit by 2-Digit Multiplication \| Math with Mr. J" by Math with Mr. J |

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| | | | | | | | • *Let Us Check Your Understanding* Finding the product of the assigned items<br>• Watching a video to reinforce knowledge of multiplying with a 2-digit multiplier | | |
| **Lesson 3**<br>*Estimating Products* | Estimate the result of multiplying two numbers where the product is less than 1 000 000 | Estimate the product of two numbers where the product is less than 1 000 000 | • How do you estimate the product of two numbers?<br>• What do you do with the rounded-off numbers?<br>• When do you say that an estimate is reasonable? | • To estimate the product, round off the factors to their greatest place value, then multiply the rounded-off numbers.<br>• An estimated product is reasonable if it is close to the actual product. | **Literacy and Numeracy**<br>Estimating products correctly<br><br>**Critical Thinking and Problem-Solving**<br>• Identifying number values<br>• Multiplying estimated number values<br><br>**Collaboration**<br>Working with a peer in solving for the estimated product<br><br>**ICT Literacy**<br>Encouraging mastery of the lesson by | **Review**<br>Recalling concepts on rounding numbers to the greatest place value<br><br>**Motivation**<br>Providing drills on estimating the product of 2- to 3-digit numbers by 1- to 2-digit numbers by estimating the factors using multiples of 10<br><br>**Discussion**<br>Using sample exercises, providing the steps in estimating factors and | **Diagnostic**<br>Evaluating learners' working knowledge on rounding off number values<br><br>**Formative**<br>• *Let Us Discover* Determining the steps in estimating the number value and looking for the estimated product<br>• *Let Us Talk About It* Clarifying questions about how to find the estimated product<br>• *Let Us Practice* | • Accuracy, patience, and diligence in solving for the estimated product<br>• Teamwork and collaboration<br>• Time management | • picture of a school library with bookshelves<br>• mobile phone/tablet<br>• YouTube video: "Grade 4 Math 3.2, Estimate Products for 2 digit Multiplication" by JoAnn's School |

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| | | | | | watching an online video | solving for the estimated product<br><br>**Cooperative Learning**<br>Providing the learners the opportunity to work together in estimating values and computing for the product<br><br>**Synthesis**<br>Enabling learners to recap the lesson in their own words | ○ *Get Ready* Rounding off factors to estimate the product<br>○ *Work Together* Working with a partner in identifying the estimated product of the given items<br>○ *Work Alone* Solving for the estimated product independently<br>• *Let Us Solve* Solving for estimated values in word problems<br>• *Let Us Check Your Understanding* Finding the estimated product of the assigned items<br>• Watching a video about estimating products | | |

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| **Lesson 4**<br>*Mental Multiplication* | none | Mentally multiply two-to three-digit numbers by powers of 10 and by multiples of 10, 100, and 1000 | • How do you multiply numbers mentally by powers of 10?<br>• How do you multiply mentally two factors that are both multiples of 10?<br>• How do the properties of multiplication help you multiply mentally?<br>• Can you think of other ways of multiplying mentally? | • When multiplying a number by a power of 10 mentally, write the multiplicand as the product with as many zeros at the end as there are in the power of 10.<br>• When multiplying two factors that are both multiples of 10, multiply the nonzero digits first, then put the total number of zeros found in both factors at the end of the product.<br>• Using the properties of multiplication helps you multiply mentally. You may rearrange or regroup factors that can be multiplied easily.<br>• Knowing and memorizing basic | **Literacy and Numeracy**<br>• Recognizing numerical patterns<br>• Approximating products mentally with ease<br><br>**Critical Thinking and Problem-Solving**<br>• Identifying number values and relationships<br>• Breaking down problems into smaller components<br>• Spatial Reasoning<br><br>**Collaboration**<br>Working with a peer in performing multiplication mentally<br><br>**ICT Literacy**<br>Encouraging mastery of the lesson by watching an online video | **Schema Activation**<br>• Conducting a drill on multiplication facts using flash cards<br>• Recalling the properties of multiplication and using them in mental multiplication<br><br>**Discussion**<br>Providing the steps on how to multiply mentally with ease using the concept on the properties of multiplication<br><br>**Cooperative Learning**<br>Assigning the learners pair-work activities which involve mental multiplication<br><br>**Synthesis**<br>Encouraging the learners to summarize what they've learned in their own words | **Diagnostic**<br>Evaluating learners' knowledge on basic facts of multiplication through drills<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the steps in multiplying mentally<br>• *Let Us Talk About It*<br>Clarifying questions about mental multiplication<br>• *Let Us Practice*<br>○ *Get Ready*<br>Multiplying mentally<br>○ *Work Together*<br>Completing equations by multiplying mentally<br>○ *Work Alone*<br>Solving for the given items mentally<br>• *Let Us Solve*<br>Computing for | • Accuracy, patience, and diligence in answering items which require mental multiplication<br>• Teamwork and collaboration<br>• Time management | • flash cards of basic multiplication facts<br>• picture card of three baskets with 24 mangoes each<br>• mobile phone/tablet<br>• YouTube video: "4th grade GoMath 2.8 - Multiplying using Mental Math" by Monique Eick |

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| | | | | multiplication facts helps in mental multiplication. | | | the answer in the word problems through mental multiplication<br>• *Let Us Check Your Understanding* Providing the most appropriate response to the presented items by multiplying mentally<br>• Watching a video about mental multiplication | | |
| **Lesson 5**<br>*One-Step Word Problems Involving Multiplication* | Solve routine and nonroutine problems involving multiplication of whole numbers including money using appropriate problem-solving strategies and tools | Analyze and solve routine and nonroutine word problems involving multiplication of whole numbers, including money, using appropriate problem-solving strategies and tools | • What do you do before solving a word problem?<br>• What are the steps in solving a word problem?<br>• What can help you decide what operation to use in solving a word problem? | • You must understand a word problem well before attempting to solve it.<br>• The steps in solving word problems are:<br>1. Understand the problem.<br>2. Plan what to do.<br>3. Solve the problem.<br>4. Look back. Check your answer. | **Literacy and Numeracy**<br>• Comprehending mathematical language<br>• Understanding quantitative reasoning and relationship<br><br>**Critical Thinking and Problem-Solving**<br>• Distinguishing and judging data<br>• Applying logical reasoning | **Schema Activation**<br>• Recalling multiplication basic facts through drills<br>• Reviewing multiplying whole numbers by numbers with up to two digits<br><br>**Discussion**<br>• Analyzing the problem to find out what it asks for, its given facts, and its | **Diagnostic**<br>Assessing learners' working knowledge on basic facts of multiplication through drills<br><br>**Formative**<br>• *Let Us Discover* Determining the steps in solving one-step word problems involving multiplication<br>• *Let Us Talk About It* | • Accuracy, patience, and diligence in analyzing and solving one-step word problems involving multiplication<br>• Teamwork and collaboration<br>• Time management | • flash cards or window cards<br>• picture of a man buying a car<br>• mobile phone/tablet<br>• YouTube video: "Solving Problems involving Multiplication of Whole Numbers" by Teacher Jhoycee |

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| | | | | • Clue words can help you decide what operation to use. | • Evaluating varied approaches in problem-solving<br><br>**Collaboration**<br>Working with a peer to solve one-step word problems involving multiplication<br><br>**ICT Literacy**<br>Reinforcing mastery of the lesson by watching an online video | clue words for solution<br>• Identifying what operation is required to answer the problem<br>• Solving sample items through modeling<br>• Checking whether the answer is correct<br><br>**Cooperative Learning**<br>Allocating learners collaborative tasks on solving one-step word problems involving multiplication<br><br>**Synthesis**<br>Allowing learners to communicate their understanding with their own phrasing | Answering the most essential questions about solving one-step word problems involving multiplication<br>• *Let Us Practice*<br>○ *Get Ready* Analyzing a word problem and answering questions about it<br>○ *Work Together* Supplying what is asked in each given item by examining the given word problem<br>○ *Work Alone* Analyzing and solving word problems independently<br>• *Let Us Solve* Interpreting and solving word problems<br>• *Let Us Check Your Understanding* Providing the | | |

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| | | | | | | | most appropriate response to the items by analyzing and solving word problems<br>• Watching a video about solving one-step word problems involving multiplication | | |
| **Lesson 6**<br>*Multistep Word Problems Involving Multiplication* | Solve multistep problems involving multiplication and addition or subtraction using appropriate problem-solving strategies and tools | Analyze and solve multistep routine and nonroutine multistep problems involving multiplication and addition or subtraction using appropriate problem-solving strategies and tools | • How does drawing a picture help in solving a two-step word problem?<br>• What do you need to find first when solving a two-step word problem?<br>• How do you write the number sentence or equation for a two-step word problem? | • When solving a two-step word problem, drawing a picture helps in visualizing it.<br>• Find and answer the hidden question first before solving for the answer to the problem.<br>• To write the number sentence for a two-step word problem, enclose the operation for the hidden question in parentheses. | **Literacy and Numeracy**<br>• Comprehending mathematical language<br>• Identifying implicit details<br>• Understanding quantitative reasoning and relationship<br><br>**Critical Thinking and Problem-Solving**<br>• Distinguishing and judging data<br>• Applying logical reasoning<br>• Evaluating varied approaches in problem-solving | **Schema Activation**<br>• Recalling basic multiplication facts through drills<br>• Reviewing multiplying whole numbers by numbers with up to two digits<br><br>**Discussion**<br>• Analyzing the problem to find out what it asks for, its given facts, and its clue words for solution<br>• Looking for the hidden question in the word problem | **Diagnostic**<br>Assessing learners' working knowledge of the basic facts of multiplication through drills<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the steps in solving multistep word problems involving multiplication<br>• *Let Us Talk About It*<br>Answering the most essential questions about solving multistep word problems | • Accuracy, patience, and diligence in analyzing and solving multistep word problems involving multiplication<br>• Teamwork and collaboration<br>• Time management<br>• Helpfulness | • window cards<br>• charts containing steps in problem-solving<br>• mobile phone/tablet<br>• YouTube video: "Grade 4 Math 2.9, Multi-step Multiplication Problems" by JoAnn's School |

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| | | | | | **Collaboration**<br>Working with a peer to solve multistep word problems involving multiplication<br><br>**ICT Literacy**<br>Reinforcing mastery of the lesson by watching an online video | • Identifying the operations required to answer the problem<br>• Solving sample items through modeling<br>• Checking whether the answer is correct<br><br>**Cooperative Learning**<br>Assigning the learners collaborative tasks on solving multistep word problems involving multiplication<br><br>**Synthesis**<br>Encouraging the learners to express their understanding in their own words | involving multiplication<br>• *Let Us Practice*<br>○ *Get Ready* Analyzing and solving the given word problem<br>○ *Work Together* Supplying what is asked in each given item by examining the given word problem<br>○ *Work Alone* Analyzing and solving word problems independently<br>• *Let Us Solve* Interpreting and solving word problems<br>• *Let Us Check Your Understanding* Providing the most appropriate response to the items by analyzing and solving word problems<br>• Watching a | | |

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| | | | | | | | video about solving multistep word problems involving multiplication<br><br>**Summative**<br>• *Have Fun! You Can Do More!*<br>• *Chapter Test*<br>• *Math Reflection* Writing an exit ticket about the lessons in the chapter<br>• *Summative Test* | | |

| **Chapter 4: *Division of Whole Numbers*** | | **Time Frame**: 14 days | |
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| **Content Standards** | The learners should have knowledge and understanding of…<br>• division of up to 4-digit numbers by up to 2-digit numbers; and<br>• the MDAS rules. | **Performance Standards** | The learners are able to…<br>• perform division of up to 4-digit numbers by up to 2-digit numbers; and<br>• perform different operations by applying the MDAS rules. |

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| **Lesson 1**<br>*One- to Two-Digit Divisors* | Divide two numbers with and without regrouping:<br>a. 3- to 4-digit numbers by 1-digit numbers; and<br>b. 2- to 3-digit | Divide three- to four-digit numbers by one- or two-digit numbers without or with remainder | • What are the steps in performing division?<br>• How do you estimate the quotient when the divisor has two digits? | • The steps in performing division are *divide, multiply, subtract,* and *bring down the next digit*.<br>• When dividing by 2-digit | **Literacy and Numeracy**<br>Dividing whole numbers by 1- to 2-digit divisors correctly<br><br>**Critical Thinking and Problem-** | **Schema Activation**<br>• Conducting a drill on basic multiplication and division facts using fact triangles<br>• Reviewing how | **Diagnostic**<br>• Answering the Chapter Pretest<br>• Revisiting fundamental concepts of division and exploring methods for | • Accuracy, patience, and diligence in dividing numbers with 1- to 2-digit divisors<br>• Teamwork and collaboration | • fact triangles for multiplication and division<br>• slates<br>• mobile phone/tablet<br>• online website: "Divide Decimals" by |

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| | numbers by 2-digit numbers | | • What is a trial divisor?<br>• How do you check the answer in division? | divisors, rounding off the divisor to the nearest tens can help estimate the quotient.<br>• A *trial divisor* is the rounded off number.<br>• The *remainder* is the number that is left over when a number is divided by another number.<br>• To check the answer in division, multiply the quotient and the divisor. Add the remainder, if there is any. The result should be equal to the dividend. | **Solving**<br>• Implementing the steps in dividing numbers with 1- to 2-digit divisors<br>• Dividing numbers with and without remainder with ease<br><br>**Collaboration**<br>Working with a peer in finding the quotient of the given items<br><br>**ICT Literacy**<br>Watching an online video to enhance understanding of dividing numbers with 1- to 2-digit divisors | to divide 3- to 4-digit numbers by 1- digit numbers with and without remainder<br><br>**Discussion**<br>• Presenting the steps in dividing numbers<br>• Dividing small numbers with 1-digit divisor<br>• Showing more examples in dividing numbers with and without remainder<br><br>**Cooperative Learning**<br>Assigning the learners to work together on drills about dividing numbers<br><br>**Synthesis**<br>Encouraging the learners to articulate their ideas with their personal language | dividing numbers, both with and without remainders<br><br>**Formative**<br>• *Let Us Discover* Determining steps in dividing number with 1-digit divisor<br>• *Let Us Talk About It* Answering essential questions about the steps in performing division<br>• *Let Us Practice*<br>○ *Get Ready*<br>– Supplying the missing digit and dividing the numbers<br>– Determining the rounded off trial divisor<br>○ *Work Together* Collaborating with a partner to determine the quotient and checking the accuracy | • Time management<br>• Dental care | BYJU'S MATH |

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| | | | | | | | of the result<br>○ *Work Alone* Calculating for the quotient independently<br>• *Let Us Solve* Analyzing and solving word problems involving division<br>• *Let Us Check Your Understanding* Finding the quotient of the assigned items<br>• Reinforcing knowledge of the lesson by accessing the online worksheet | | |
| **Lesson 2**<br>*Dividing by 10, 100, and 1000* | Divide 3- to 4-digit numbers by tens or hundreds or by 1000 without and with remainder | Divide three- to four-digit numbers by 10, 100, and 1000 without and with remainder, and with speed and accuracy | • How do you divide numbers with terminal zeros by 10, 100, or 1000?<br>• How do you divide numbers with no terminal zeros by 10, 100, or 1000?<br>• How do you divide numbers with terminal | • To divide numbers having terminal zeros:<br>○ by 10, cancel one terminal zero in both the dividend and the divisor;<br>○ by 100, cancel two terminal zeros in both the | **Literacy and Numeracy**<br>• Dividing whole numbers with terminal zeros by 10, 100, or 1000<br>• Dividing whole numbers with no terminal zeros by 10, 100, or 1000<br>• Dividing | **Schema Activation**<br>• Conducting a drill on division basic facts using window cards<br>• Reviewing multiplying whole numbers by 10, 100, and 1000 through exercises | **Diagnostic**<br>Recalling fundamental concepts on division<br><br>**Formative**<br>• *Let Us Discover* Determining the procedures in dividing numbers with and without terminal zeros in | • Accuracy, patience, and diligence in dividing numbers with and without terminal zeros by multiples of 10, 100, and 1000<br>• Teamwork and collaboration<br>• Time | • window card<br>• mobile phone/tablet<br>• online website: "Dividing by 10 and 100" by K5 Learning |

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| | | | zeros by multiples of 10, 100, or 1000? | dividend and the divisor; and<br>○ by 1000, cancel three terminal zeros in both the dividend and the divisor.<br>• To divide a number with no terminal zeros by 10, 100, or 1000, remember the following:<br>○ to divide by 10, write the ones digit as the remainder and the number formed by the rest of the digits as the quotient;<br>○ to divide by 100, write the number formed by the tens and ones digits as the remainder and the number formed by | numbers in multiples of 10, 100, or 1000<br><br>**Critical Thinking and Problem-Solving**<br>• Implementing the steps in dividing numbers with and without terminal zeros<br>• Dividing numbers in multiples of 10, 100, or 1000 with ease<br><br>**Collaboration**<br>Working with a pair to divide numbers with and without terminal zeros in multiples of 10, 100, or 1000<br><br>**ICT Literacy**<br>Answering online worksheets about dividing numbers by 10 and 100 | • Allowing the learners to infer on the shortcut in multiplying whole numbers by 10, 100, and 1000<br><br>**Discussion**<br>• Introducing the steps in dividing numbers with and without terminal zeros<br>• Presenting the rules in dividing numbers by 10, 100, and 1000<br>• Showing more examples in dividing numbers<br><br>**Cooperative Learning**<br>Assigning the learners to work together on drills about dividing numbers<br><br>**Synthesis**<br>Encouraging learners to articulate their ideas with their personal language | multiples of 10, 100, or 1000<br>• *Let Us Talk About It*<br>Answering essential questions about the steps in performing division<br>• *Let Us Practice*<br>○ *Get Ready*<br>– Cancelling the correct number of terminal zeros<br>– Determining the quotient<br>○ *Work Together*<br>Collaborating with a partner to supply the missing information in the table using division<br>○ *Work Alone*<br>Completing the table by providing the needed information<br>• *Let Us Solve*<br>Analyzing and solving word | management | |

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| | | | | the rest of the digits as the quotient; and<br>○ to divide by 1000, write the number formed by the hundreds, tens, and ones digits as the remainder and the number formed by the rest of the digits as the quotient.<br>• To divide numbers with terminal zeros by multiples of 10, 100, or 1000, cancel the same number of terminal zeros in both the dividend and the divisor, and then divide the nonzero digits. | | | problems involving division<br>• *Let Us Check Your Understanding* Finding the quotient of the given items<br>• Reinforcing knowledge of the lesson by accessing the online worksheet on dividing numbers by 10 and 100 | | |
| **Lesson 3** *Estimating Quotients* | Estimate the quotient when dividing 3- to 4- | Estimate the quotient of three- to four-digit | • When a word problem asks for about how | • When a word problem asks for *about how many*, | **Literacy and Numeracy** Estimating | **Review** Recalling basic facts about | **Diagnostic** Assessing learners' working | • Accuracy, patience, and diligence in | • fact triangles<br>• slates<br>• mobile |

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| | digit dividends by 1- to 2-digit divisors, by first estimating the dividends and divisors using multiples of 10 | dividends by one- to two-digit divisors with reasonable results | many, what does it mean?<br>• What are compatible numbers?<br>• How do you estimate quotients?<br>• How do you check if an estimated quotient is reasonable or not? | it is asking for an estimated answer.<br>• *Compatible numbers* are numbers that can be divided easily.<br>• To estimate a quotient, round off the divisor to the nearest tens, hundreds, or thousands. Then, round off the dividend to the closest compatible multiple of the rounded-off divisor. You may choose not to round off a 1-digit divisor.<br>• To check if the estimated quotient is reasonable, compare it with the actual quotient. | quotients correctly<br><br>**Critical Thinking and Problem-Solving**<br>• Identifying number values<br>• Dividing estimated number values<br>• Implementing the steps in solving for the estimated quotient<br><br>**Collaboration**<br>Working with a peer in solving for the estimated quotient<br><br>**ICT Literacy**<br>Reinforcing mastery of the lesson by watching an online video on the ways to find the estimated quotient | division and multiplication<br><br>**Schema Activation**<br>Providing exercises in dividing numbers with three or four digits by multiples of 10<br><br>**Discussion**<br>Providing the steps in estimating the dividend and divisor leading to the computation of the estimated quotient using sample exercises<br><br>**Cooperative Learning**<br>Providing the learners the opportunity to work together in estimating values and computing for the quotient<br><br>**Synthesis**<br>Letting the learners to recap their lesson | knowledge on basic concepts about division and multiplication<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the steps in estimating the number value and looking for the estimated quotient<br>• *Let Us Talk About It*<br>Clarifying questions about how to find the estimated quotient<br>• *Let Us Practice*<br>○ *Get Ready*<br>Changing the dividend to the closest multiple of the divisor<br>○ *Work Together*<br>Working with a partner in identifying the estimated quotient of the given items<br>○ *Work Alone* | estimating quotients<br>• Teamwork and collaboration<br>• Time management | phone/tablet<br>• YouTube video: “Estimating Quotients \| MathDali Shorts \| Grade 4 Math” by Knowledge Channel |

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| | | | | | | through their personal words | Solving for the estimated quotient independently<br>• *Let Us Solve* Estimating the answers to each given word problem<br>• *Let Us Check Your Understanding* Finding the estimated quotient of the assigned items<br>• Watching a video about estimating quotient | | |
| **Lesson 4**<br>*Mental Division* | Divide mentally 2- to 3-digit numbers by 1-digit numbers without remainder using appropriate strategies | Mentally divide 2- to 3-digit numbers by one-digit numbers without remainder using appropriate strategies | What are the ways by which you can divide numbers mentally? | • To divide numbers mentally, express the dividend as a sum of two addends that are exactly and easily divisible by the divisor. Divide each addend by the divisor and add the results. Remember to do the calculation in | **Literacy and Numeracy**<br>• Recognizing numerical patterns<br>• Approximating quotients mentally with ease<br><br>**Critical Thinking and Problem-Solving**<br>• Identifying number values and relationships | **Schema Activation**<br>• Conducting a drill on division on facts using fact triangles<br>• Recalling the concept compatible numbers through drills<br><br>**Discussion**<br>Using the concept on compatible numbers, provide the steps on how | **Diagnostic**<br>Evaluating the learners' working knowledge of the basic facts of division<br><br>**Formative**<br>• *Let Us Discover* Determining the steps in dividing mentally<br>• *Let Us Talk About It* Clarifying a question about mental division | • Accuracy, patience, diligence in dividing mentally<br>• Teamwork and collaboration<br>• Time management | • fact triangles<br>• show-me-boards<br>• mobile phone/tablet<br>• online website: "Decimals Worksheet" by HomeSchoolMath |

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| | | | | your head.<br>• When expressing a number as a sum of two numbers, you can make one of the addends a multiple of 10 for easy computation.<br>• You can determine patterns to divide two numbers easily. | • Breaking down problems into smaller components<br>• Spatial reasoning<br><br>**Collaboration**<br>Working with a peer in performing division mentally<br><br>**ICT Literacy**<br>Encouraging mastery of the lesson by accessing an online worksheet | to divide mentally with ease<br><br>**Practice and Drill**<br>Providing more examples to better illustrate the lesson<br><br>**Cooperative Learning**<br>Assigning the learners a collaborative work which involves mental division<br><br>**Synthesis**<br>Encouraging the learners to summarize what they've learned in their own words | • *Let Us Practice*<br>○ *Get Ready*<br>Expressing the dividend as the sum of two numbers and dividing mentally<br>○ *Work Together*<br>Computing for the quotient mentally with a partner<br>○ *Work Alone*<br>Solving for the given items mentally<br>• *Let Us Solve*<br>Computing for the answer in the word problems through mental division<br>• *Let Us Check Your Understanding*<br>Providing the most appropriate response to the presented items by dividing mentally<br>• Accessing an | | |

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| | | | | | | | online worksheet about mental division | | |
| **Lesson 5**<br>*One-Step Word Problems Involving Division* | Represent situations involving one or more of the four operations using a number sentence | Solve routine and nonroutine problems involving division of 4- to 5-digit numbers by 1- to 2-digit numbers, including money, using appropriate problem-solving strategies and tools | How do you solve a word problem? | • In solving a word problem, use the four steps to determine the answer.<br>• Always state your complete answer in a sentence. | **Literacy and Numeracy**<br>• Comprehending mathematical language<br>• Understanding quantitative reasoning and relationship<br><br>**Critical Thinking and Problem-Solving**<br>• Distinguishing and judging data<br>• Applying logical reasoning<br>• Evaluating varied approaches in problem-solving<br><br>**Collaboration**<br>Working with a peer to solve one-step word problems involving division<br><br>**ICT Literacy**<br>Reinforcing mastery of the lesson by | **Schema Activation**<br>• Recalling multiplication and division basic facts through fact triangles<br>• Reviewing dividing whole numbers by 1- to 2-digit divisors<br><br>**Discussion**<br>• Analyzing the problem to find out what it asks for, its given facts, and its clue words for solution<br>• Identifying the operation to use to answer the problem<br>• Solving sample items through modeling<br>• Checking if the answer is correct<br><br>**Cooperative** | **Diagnostic**<br>Assessing the learners' working knowledge of the basic facts of multiplication and division<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the steps in solving one-step word problems involving division<br>• *Let Us Talk About It*<br>Answering the most essential question about solving one-step word problems involving division<br>• *Let Us Practice*<br>○ *Get Ready*<br>Analyzing the given word problem<br>○ *Work Together*<br>Supplying what is asked | • Accuracy, patience, and diligence in solving one-step word problems involving division<br>• Teamwork and collaboration<br>• Time management<br>• Share with others | • fact triangles<br>• show-me-boards<br>• picture of a relief operation<br>• mobile phone/tablet<br>• online website: "Word Problems" on Division by Math-Only-Math |

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| | | | | | accessing online resources | **Learning**<br>Allocating learners collaborative tasks on solving one-step word problems involving division<br><br>**Synthesis**<br>Allowing the learners to communicate their understanding with their own phrasing | in each given item by examining the given word problem<br>○ *Work Alone*<br>Analyzing and solving word problems independently<br>• *Let Us Solve*<br>Interpreting and computing to solve word problems<br>• *Let Us Check Your Understanding*<br>Providing the most appropriate response to the items by analyzing and solving word problems<br>• Utilizing an online resource about solving one-step word problems involving division | | |

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| **Lesson 6**<br>*Multistep Word Problems Involving Division* | Represent situations involving one or more of the four operations using a number sentence | • Represent situations involving division with any one or more of the other operations using a number sentence<br>• Solve multistep routine and nonroutine problems involving division and any of the other operations, including money, using appropriate problem-solving strategies and tool | • What part of the word problem tells you the operation to be used?<br>• What can you do to check whether your answer to a word problem is correct? | • In solving word problems, read the problems carefully and look for the words that will tell you what operation to use.<br>• In a two- or three-step word problem, solve for the hidden question/s first before finding the answer. Upon solving, work backward to check if your answer is correct. | **Literacy and Numeracy**<br>• Comprehending mathematical language<br>• Identifying implicit details<br>• Understanding quantitative reasoning and relationship<br><br>**Critical Thinking and Problem-Solving**<br>• Distinguishing and judging data<br>• Applying logical reasoning<br>• Evaluating varied approaches in problem-solving<br><br>**Collaboration**<br>Working with a peer to solve multistep word problems involving division<br><br>**ICT Literacy**<br>Strengthening mastery of the lesson by watching an online | **Schema Activation**<br>• Recalling division basic facts through fact triangles<br>• Reviewing the steps in problem-solving<br><br>**Discussion**<br>• Analyzing the problem to find out what it asks for, its given facts, and its clue words for solution<br>• Looking for the hidden question in the word problem<br>• Identifying the operations to use to answer the problem<br>• Solving sample items through modeling<br>• Checking whether the answer is correct<br><br>**Cooperative Learning**<br>Assigning learners | **Diagnostic**<br>Assessing learners' working knowledge of the basic facts of division<br><br>**Formative**<br>• Recalling procedures in problem-solving<br>• *Let Us Discover*<br>Determining the steps in solving multistep word problems involving division<br>• *Let Us Talk About It*<br>Answering the most essential questions about solving multistep word problems involving division<br>• *Let Us Practice*<br>○ *Get Ready*<br>Answering the questions about the given word problem<br>○ *Work Together* | • Accuracy, patience, and diligence in solving multistep word problems involving division<br>• Teamwork and collaboration<br>• Time management | • fact triangles<br>• slates<br>• picture of a grandmother giving money to her grandchildren<br>• mobile phone/tablet<br>• YouTube video: "How to solve multi step word problem using division and addition" by Mr. Speller's Math Tutorials |

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| | | | | | video | collaborative tasks on solving multistep word problems involving division<br><br>**Synthesis**<br>Encouraging learners to express their understanding in their own words | Supplying what is asked in each item by examining the given word problem<br>○ *Work Alone*<br>Analyzing and solving word problems independently<br>• *Let Us Solve*<br>Interpreting and solving word problems involving division<br>• *Let Us Check Your Understanding*<br>Providing the most appropriate response to the items by analyzing and solving word problems<br>• Utilizing an online video tutorial about solving multistep word problems involving division | | |

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| **Lesson 7**<br>*The Four Operations and the MDAS Rule* | Perform two or more different operations by applying the MDAS rules | • Represent and explain multiplication, division, addition, subtraction (MDAS) correctly<br>• Perform a series of two or more operations | • When addition and subtraction come in a row in a number expression, how do you perform the operations?<br>• When multiplication and division come in a row in a number expression, how do you perform the operations?<br>• When all four operations are in a number expression, how do you go about performing the operations? | • When addition and subtraction come in a row, perform the operations as they occur.<br>• When multiplication and division are in a row, perform the operations as they occur.<br>• When all four operations—addition, subtraction, multiplication, and division—are together in a number expression, apply the MDAS rule. First perform multiplication, and division in the order in which they occur and then addition and subtraction in the order of their occurrence from left to right. | **Literacy and Numeracy**<br>• Comprehending mathematical language<br>• Utilizing the four operations with ease<br>• Understanding quantitative reasoning and relationship<br><br>**Critical Thinking and Problem-Solving**<br>• Utilizing the MDAS rule correctly and efficiently<br>• Applying logical reasoning<br><br>**Collaboration**<br>Working with a peer in using the four operations observing the MDAS rule<br><br>**ICT Literacy**<br>Strengthening mastery of the lesson by watching an online video about the order of | **Motivation**<br>Letting the learners tell a number story using a perception card<br><br>**Discussion**<br>• Presenting the rules on the order of operations<br>• Elaborating through the discussion on the steps on how to use the MDAS rule correctly<br><br>**Cooperative Learning**<br>Assigning learners collaborative tasks on using the MDAS rule<br><br>**Synthesis**<br>Letting the learners to express their understanding in their own words | **Diagnostic**<br>• Assessing learners' working knowledge of the basic facts of the order of operations<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the steps in observing the MDAS rule<br>• *Let Us Talk About It*<br>Answering the most essential questions about using the MDAS rule<br>• *Let Us Practice*<br>○ *Get Ready*<br>Identifying the order of operations<br>○ *Work Together*<br>Working with a peer in finding the answer to the given equations<br>○ *Work Alone*<br>Solving for | • Accuracy, patience, and diligence in using the four operations observing the MDAS rule<br>• Teamwork and collaboration<br>• Time management | • perception cards containing facts about problems<br>• cards containing the pointers on formulating word problems<br>• mobile phone/tablet<br>• YouTube video: "Order of Operations for Kids" by Miacademy Learning Channel |

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| | | | | | operations | | the equations applying the MDAS rule<br>• *Let Us Solve* Interpreting and solving word problems using the correct order of operations<br>• *Let Us Check Your Understanding* Providing the most appropriate response to the items by observing the MDAS rule<br>• Watching an online video tutorial about the order of operations<br>**Summative**<br>• *Have Fun! You Can Do More!*<br>• *Chapter Test*<br>• *Math Reflection* Writing an exit ticket about the lessons in the chapter<br>• *Summative Test* | | |

| **Chapter 5: *Measures of Length, Mass, Capacity, and Time*** | | **Time Frame**: 14 days | |
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| **Content Standard** | The learners should have knowledge and understanding of conversion of units of length, mass, capacity, and time. | **Performance Standard** | The learners are able to convert units of length, mass, capacity, and time. |

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| **Lesson 1**<br>*Converting Units of Length* | • Convert common units of measure from larger to smaller units, and vice versa:<br>a. meter and centimeter; and<br>b. kilometer and meter<br>• Solve problems involving conversion of units of length | • Convert common units of length such as meter to centimeter and vice versa<br>• Convert kilometer to meter and vice versa<br>• Analyze and solve problems involving conversion of units of length | • What units are used to measure length?<br>• How do you convert one unit of length to another? What operations do you use? | • *Meter* (m) and *centimeter* (cm) are commonly used to measure length. Other units of length are *decimeter* (dm) and *kilometer* (km).<br>• Multiplication is used when converting from a bigger unit to a smaller unit of measure. Division is used when converting from a smaller unit to a bigger unit of measure.<br>○ To convert centimeters to meters, divide the number of centimeters by 100. To convert meters to centimeters, | **Literacy and Numeracy**<br>• Understanding and using mathematical vocabulary<br>• Following instructions and step-by-step processes<br>• Performing arithmetic operations<br><br>**Critical Thinking and Problem-Solving**<br>• Deciding on appropriate units<br>• Breaking down complex problems<br>• Using logical reasoning<br><br>**Collaboration**<br>Working with a peer to work on activities which | **Review**<br>Recalling the use of the centimeter ruler<br><br>**Motivation**<br>Introducing the units of length through modeling<br><br>**Demonstration**<br>Strengthening concept building by demonstrating the actual length of each unit using ruler, meterstick, etc.<br><br>**Discussion**<br>Presenting the differences between the units of length and the steps on how to convert one to another and vice versa<br><br>**Practice and Drill**<br>Using activities to | **Diagnostic**<br>• Answering Chapter Pretest<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the different units of length and the steps in converting one unit to another<br>• *Let Us Talk About It*<br>Answering essential questions on converting units of length<br>• *Let Us Practice*<br>○ *Get Ready*<br>Choosing the appropriate unit for each given measure<br>○ *Work Together*<br>Working with a partner to convert units | • Accuracy, patience, and diligence in converting units of length<br>• Teamwork and collaboration<br>• Time management and attention to details | • ruler<br>• meterstick<br>• strips of paper (10 cm long)<br>• buttons<br>• paper clips<br>• book<br>• mobile phone/tablet<br>• online website: "Measuring Units Worksheet" by homeschoolmath.net |

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| | | | | multiply the number of meters by 100.<br>○ To convert centimeters to decimeters, divide the number of centimeters by 10. To convert decimeters to centimeters, multiply the number of decimeters by 10.<br>○ To convert meters to kilometers, divide the number of meters by 1000. To convert kilometers to meters, multiply the number of kilometers by 1000. | requires collaboration in converting each measure to the given unit<br><br>**ICT Literacy**<br>Utilizing online worksheets to reinforce learning on converting units of length | reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Assigning tasks that require the learners to work together to come-up with an agreed solution to given items<br><br>**Synthesis**<br>Allowing the learners to summarize their learnings in their own words | of length<br>○ *Work Alone*<br>Finding the missing number to complete the given conversion<br>• *Let Us Solve*<br>Answering questions involving conversion of units of length<br>• *Let Us Check Your Understanding*<br>Converting the given measure to the indicated unit<br>• Answering online worksheets on conversion of units of length | | |
| **Lesson 2**<br>*Converting Units of Mass* | • Convert common units of measure from larger to smaller | • Convert kilogram to gram and vice-versa | • What units are used to measure mass?<br>• What do you | • *Kilogram* (kg), *gram* (g), and *milligram* (mg) are used to | **Literacy and Numeracy**<br>• Understanding and using | **Schema Activation**<br>Conducting a drill on multiplying a | **Diagnostic**<br>Using drills to review multiplication and | • Accuracy, patience, and diligence in converting units | • worktext that weighs about 1 kilogram<br>• paper clip |

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| | units, and vice versa:<br>a. kilogram and gram; and<br>b. gram and milligram<br>• Solve problems involving conversion of units of mass | • Convert gram to milligram and vice versa<br>• Analyze and solve problems involving conversion of units of mass | say when describing an estimate for mass?<br>• How do you convert one unit of mass to another? | measure mass.<br>• When describing an estimate for mass, you say *about*.<br>• Multiplication is used when converting from a bigger unit to a smaller unit of measure. Division is used when converting from a smaller unit to a bigger unit of measure.<br>• To convert milligrams to grams, divide the number of milligrams by 1000. To convert grams to milligrams, multiply the number of grams by 1000.<br>• To convert grams to kilograms, divide the number of grams by 1000. To convert kilograms to grams, multiply | mathematical vocabulary<br>• Following instructions and step-by-step processes<br>• Performing arithmetic operations<br><br>**Critical Thinking and Problem-Solving**<br>• Deciding on appropriate units<br>• Breaking down complex problems<br>• Using logical reasoning<br><br>**Collaboration**<br>• Working with a peer in measuring the mass of objects<br>• Converting each measure to the given unit<br><br>**ICT Literacy**<br>Using online worksheets to reinforce learning in converting units of mass | number by 1000 and dividing a number ending in zeros by 1000<br><br>**Motivation**<br>Introducing the units of mass through modeling<br><br>**Demonstration**<br>Strengthening concept building by demonstrating the actual mass of each unit using weighing scale, worktext, etc.<br><br>**Discussion**<br>Presenting the differences between the units of mass and the steps on how to convert one to another and vice versa<br><br>**Practice and Drill**<br>Using activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning** | division worktext<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the different units of mass and the steps in converting one unit to another<br>• *Let Us Talk About It*<br>Answering essential questions on converting units of mass<br>• *Let Us Practice*<br>○ *Get Ready*<br>Choosing the appropriate unit for each given measure<br>○ *Work Together*<br>Working with a partner in converting units of mass<br>○ *Work Alone*<br>– Finding the mass of various objects using a weighing | of mass<br>• Teamwork and collaboration<br>• Time management and attention to detail | • weighing scale<br>• fruits, sugar, vegetables, medicine tablets, etc.<br>• mobile phone/tablet<br>• online websites:<br>○ “Reading a scale (kilograms)” by K5 Learning<br>○ “Metric units of weight: grams (g) and kilograms (kg)” by K5 Learning |

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| | | | | the number of kilograms by 1000. | | Assigning tasks that require the learners to work together to come-up with an agreed solution to given items<br><br>**Synthesis**<br>Letting the learners summarize their learnings in their own words | scale<br>– Converting measures to the given units<br>• *Let Us Solve* Solving word problems involving conversion of units of length<br>• *Let Us Check Your Understanding* Converting the given measure to the indicated unit<br>• Answering online worksheets about converting units of mass | | |
| **Lesson 3**<br>*Converting Units of Capacity* | Convert common units of measure from larger to smaller units, and vice versa: liter and milliliter<br><br>Solve problems involving conversion of units of capacity | Convert liters to milliliters and vice versa<br><br>Analyze and solve problems involving conversion of units of capacity | • What is capacity?<br>• What are the units for measuring capacity?<br>• What do you say when describing an estimate for capacity measures?<br>• How many | • *Capacity* is the amount of liquid a container can hold.<br>• *Liter* (L) and *milliliter* (mL) are units for measuring the capacity of some containers.<br>• When estimating | **Literacy and Numeracy**<br>• Understanding and using mathematical vocabulary<br>• Following instructions and step-by-step processes<br>• Performing arithmetic operations | **Schema Activation**<br>Recalling multiplying and dividing numbers by 10 and 100<br><br>**Motivation**<br>Introducing the units of capacity through modeling<br><br>**Demonstration** | **Diagnostic**<br>Using drills to review multiplication and division<br><br>**Formative**<br>• *Let Us Discover* Determining the units of capacity and the steps in converting one unit to another | • Accuracy, patience, and diligence in converting units of capacity<br>• Teamwork and collaboration<br>• Time management and attention to detail | • pictures of products sold in liters and milliliters<br>• pictures of containers that hold liters and milliliters<br>• mobile phone/tablet<br>• online websites:<br>○ “Reading jug” by Math |

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| | | | milliliters are in 1 L?<br>• How do you convert liters to milliliters? How about milliliters to liters? | capacity measures, use the word *about*.<br>• One liter (1 L) is equivalent to 1000 mL.<br>• To convert liters to milliliters, multiply the number of liters by 1000.<br>• To convert milliliters to liters, divide the number of milliliters by 1000. | **Critical Thinking and Problem-Solving**<br>• Deciding on appropriate units<br>• Breaking down complex problems<br>• Using logical reasoning<br><br>**Collaboration**<br>Working with a peer on activities in converting capacity measures<br><br>**ICT Literacy**<br>Accessing online worksheets to reinforce learning on converting units of capacity | Strengthening concept building by demonstrating the capacity of each unit using pictures<br><br>**Discussion**<br>Presenting the differences between the units of capacity and the steps on how to convert one to another and vice versa<br><br>**Practice and Drill**<br>Using activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Assigning tasks that require the learners to work together to come-up with an agreed solution to the given items<br><br>**Synthesis**<br>Encouraging the learners to summarize their | • *Let Us Talk About It*<br>Answering essential questions on converting units of capacity<br>• *Let Us Practice*<br>○ *Get Ready*<br>– Choosing the appropriate unit for each given measure<br>– Estimating the capacity described<br>○ *Work Together*<br>Working with a partner to convert units of capacity<br>○ *Work Alone*<br>– Converting the given capacity measures<br>– Estimating and identifying the correct capacity measures<br>• *Let Us Solve*<br>Answering questions | | Worksheets 4Kids<br>○ "Worksheet on Measurement of Capacity" by Math-Only-Math |

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| | | | | | | learnings in their own words | involving conversion of units of capacity<br>• *Let Us Check Your Understanding* Converting the given measure to the indicated unit<br>• Completing online worksheets about converting units of capacity | | |
| **Lesson 4**<br>*Word Problems Involving Conversion of Common Units of Measures* | Solve problems involving conversion of units of length, mass, and capacity | Analyze and solve problems involving conversion of units of length, mass, and capacity using appropriate strategy | • How do you solve word problems?<br>• What should you remember when you are solving word problems about conversion of units of measure?<br>• What other strategies can you use in solving word problems? | • To solve for the answer to a word problem, follow the four steps in problem-solving.<br>• When solving word problems about conversion of units of measure, you should refer to the correct conversion table.<br>• You can use other strategies such as working backward and drawing a | **Literacy and Numeracy**<br>• Following multistep instructions<br>• Understanding unit relationship processes<br>• Performing arithmetic operations<br>• Using proportional reasoning<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing and interpreting information | **Review**<br>• Recalling the conversion of common units of measures from smaller to bigger<br>• Arranging perception cards to recall the four steps in solving word problems<br><br>**Discussion**<br>Presenting the four steps in problem-solving<br><br>**Practice and Drill**<br>Providing more | **Diagnostic**<br>Playing a game to review the conversion of units<br><br>**Formative**<br>• *Let Us Discover* Figuring out how to answer word problems involving conversion of common units of measure<br>• *Let Us Talk About It* Satisfying essential questions on solving word | • Accuracy, patience, and diligence in answering word problems involving conversion of common units of measures<br>• Teamwork and collaboration<br>• Time management and attention to detail | perception cards containing the steps in problem-solving |

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| | | | | diagram to solve word problems. | • Breaking down complex problems<br>• Using logical reasoning<br><br>**Collaboration**<br>Collaborating with a classmate in solving word problems involving conversion of common units of measure | word problems to be analyzed and answered<br><br>**Cooperative Learning**<br>Assigning tasks that require the learners to work together to identify what is asked in the given word problems<br><br>**Synthesis**<br>Encouraging the learners to summarize their learnings in their own words | problems<br>• *Let Us Practice*<br>○ *Get Ready* Analyzing and solving for the given word problems<br>○ *Work Together* Working with a partner to identify the information being asked in the given word problems<br>○ *Work Alone* Converting a word problem into a mathematical equation and solving it<br>• *Let Us Solve* Solving each given problem<br>• *Let Us Check Your Understanding* Solving for the answer in each problem | | |
| **Lesson 5**<br>*Converting Units of Time* | • Convert time measures from smaller to larger units and | • Convert<br>a. seconds to minutes time and vice | • What processes are used to convert one unit of time to | • To convert one unit to another unit of time, you use either | **Literacy and Numeracy**<br>• Understanding and using | **Schema Activation**<br>Using a drill to recall concepts on | **Diagnostic**<br>Using drills to review multiplication and | • Accuracy, patience, and diligence in converting units | • chart containing table of equivalencies (as shown on |

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| | vice versa:<br>a. seconds to minutes;<br>b. minutes to hours;<br>c. hours to days;<br>d. days to weeks;<br>e. weeks to months; and<br>f. months to years<br>• Solve problems involving conversion of units of time | versa;<br>b. minutes to hours and vice versa;<br>c. hours to days and vice versa;<br>d. days to weeks and vice versa;<br>e. weeks to months and vice versa; and<br>f. months to years and vice versa<br>• Analyze and solve problems involving conversion of units of time | another?<br>• How do you convert from a bigger unit to a smaller unit of time?<br>• How do you convert from a smaller unit to a bigger unit of time? | multiplication or division.<br>• To convert a bigger unit to a smaller unit of time, you use multiplication.<br>• To convert a smaller unit to a bigger unit of time, you use division. | mathematical vocabulary<br>• Following instructions and step-by-step processes<br>• Performing arithmetic operations<br><br>**Critical Thinking and Problem-Solving**<br>• Deciding on appropriate units<br>• Breaking down complex problems<br>• Using logical reasoning<br><br>**Collaboration**<br>Discussing an activity which involves converting time measure to a given unit with a peer<br><br>**ICT Literacy**<br>Watching an online video to recall how to express time measures in | multiplication and division<br><br>**Discussion**<br>Presenting the differences between the units of time and the steps on how to convert one to another and vice versa<br><br>**Practice and Drill**<br>Using activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Assigning tasks which will require the learners to work together to come-up with an agreed solution to the given items<br><br>**Synthesis**<br>Encouraging the learners to summarize their learnings | division<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the different units of time and the steps in converting one unit to another<br>• *Let Us Talk About It*<br>Addressing the most essential questions on converting units of time<br>• *Let Us Practice*<br>○ *Get Ready*<br>Answering questions involving time measures<br>○ *Work Together*<br>Working with a partner to convert units of time<br>○ *Work Alone*<br>Converting and identifying the correct time measures<br>• *Let Us Solve*<br>Solving | of time<br>• Teamwork and collaboration<br>• Time management and attention to detail | page 221 of the worktext)<br>• mobile phone/tablet<br>• YouTube video: "Time Conversion (Hours \| Minutes \| Seconds) Math - Tutway" by Tutway |

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| | | | | | hours, minutes, and seconds | | problems involving the conversion of units of time<br>• *Let Us Check Your Understanding* Matching the time to its equivalent time in a bigger unit<br>• Using an online video to recall how to express time measures | | |
| **Lesson 6**<br>*Exact Time Between Dates* | Find the elapsed time<br><br>Solve problems involving elapsed time | • Describe elapsed time<br>• Find the exact time between dates<br>• Analyze and solve problems involving conversion of units of time | • How do you write the dates when finding the exact time between them?<br>• How do you find the exact time between dates? | • When finding the exact time between dates, write the dates in their numerical equivalent in columns, starting with the year, followed by the month, and then the day.<br>• To find the exact time between dates:<br>○ Subtract the days, followed by the months, and then the years. | **Literacy and Numeracy**<br>• Understanding time-related vocabulary<br>• Understanding units of time<br>• Following instructions and step-by-step processes<br>• Performing arithmetic operations<br><br>**Critical Thinking and Problem-Solving**<br>• Deciding on appropriate units<br>• Breaking down | **Motivation**<br>Showing pictures depicting certain events of the year and talking about celebrations and holidays<br><br>**Discussion**<br>Presenting the steps on how to solve for the elapsed time<br><br>**Practice**<br>Using activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning** | **Formative**<br>• *Let Us Discover* Determining the steps in solving for the elapsed time<br>• *Let Us Talk About It* Figuring out the most essential questions about elapsed time<br>• *Let Us Practice*<br>○ *Get Ready* Writing the dates in their numerical equivalent<br>○ *Work Together* Working with a partner to | • Accuracy, patience, and diligence in solving for the elapsed time<br>• Teamwork and collaboration<br>• Time management and attention to detail | • pictures depicting important events or holidays<br>• mobile phone/tablet<br>• YouTube video: "SOLVING FOR APPROXIMATE TIME AND ACTUAL TIME" by MATHStorya |

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| | | | | ○ Rename and regroup the years to months or the months to days, as needed. | complex problems<br>• Using logical reasoning<br>• Handling different units of time with ease<br><br>**Collaboration**<br>Pairing with a classmate to accomplish tasks that involve identifying elapsed time<br><br>**ICT Literacy**<br>Accessing an online video to reinforce learning on solving for the estimated and actual times between two given dates | Providing tasks which will require the learners to work together to come-up with an agreed solution to given items<br><br>**Synthesis**<br>Letting the learners summarize their learnings | find the exact time between given dates<br>○ *Work Alone* Finding the exact time between the given dates<br>• *Let Us Solve* Solving problems involving computation for the elapsed time<br>• *Let Us Check Your Understanding* Completing the table by finding the exact time between the dates<br>• Watching an online video to reinforce knowledge in solving for the estimated and actual times between two given dates | | |

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| **Lesson 7**<br>*Word Problems Involving Time Measures* | Solve problems involving time measure including elapsed time | Analyze and solve problems involving time measure including elapsed time using appropriate strategy | • What should you remember when solving word problems about the conversion of time measures?<br>• What are the four steps in solving word problems? | • When solving word problems about the conversion of units of time measures, you should refer to the correct conversion table.<br>• The four steps in solving word problems are:<br>1. *Understand the problem.* Read the problem carefully. Make sure you understand every word in the problem.<br>2. *Plan what to do.*<br>– Know what is asked.<br>– Know the given facts. Check if they are enough to solve the problem.<br>– Tell if there is a hidden fact. | **Literacy and Numeracy**<br>• Following multistep instructions<br>• Understanding unit relationship processes<br>• Performing arithmetic operations<br>• Using proportional reasoning<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing and interpreting information<br>• Breaking down complex problems<br>• Using logical reasoning<br><br>**Collaboration**<br>Collaborating with a classmate to complete tasks in solving word problems involving time measures<br><br>**ICT Literacy**<br>Accessing an | **Schema Activation**<br>• Having a drill on telling time before and after a specific time using a toy clock<br>• Eliciting responses about the learners' experiences on their vacation with emphasis on how long they stayed in a particular place, what activities they did, and how much was spent on such activities<br><br>**Discussion**<br>• Presenting the four steps in problem-solving<br>• Utilizing boardworks to assess the learners' capacity to follow the steps in solving word problems | **Formative**<br>• *Let Us Discover* Figuring out how to answer word problems involving time measures<br>• *Let Us Talk About It* Satisfying essential questions on solving word problems<br>• *Let Us Practice*<br>○ *Get Ready* Analyzing and solving a given word problem<br>○ *Work Together* Working with a partner to identify the information being asked after analyzing a word problem<br>○ *Work Alone* Analyzing and solving the given word problems<br>• *Let Us Solve* Solving each | • Accuracy, patience, and diligence in solving for word problems involving time measures<br>• Teamwork and collaboration<br>• Time management and attention to detail | • toy clock<br>• picture of a man boarding a plane<br>• mobile phone/tablet<br>• online website: "Worksheet on Word Problems on Measurement of Time" by Math-Only-Math |

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| | | | | – Identify what operation to use.<br>– Write the number sentence.<br>3. *Solve the problem.* Solve the number sentence.<br>4. *Look back.* Check your answer. | online worksheet to reinforce concept building on the presented lesson | **Practice**<br>Providing more word problems to be analyzed and answered<br><br>**Cooperative Learning**<br>Requiring the learners to work together to identify what is asked in the given word problems<br><br>**Synthesis**<br>Encouraging the learners to summarize their learnings using their own words | given problem<br>• *Let Us Check Your Understanding* Solving for the answer in each problem<br>• Answering an online worksheet to enhance problem-solving skills in problems that discuss time<br><br>**Summative**<br>• *Have Fun! You Can Do More!*<br>• *Chapter Test*<br>• *Math Reflection* Accomplishing an exit ticket for the chapter<br>• *Summative Test* | | |

| **Chapter 6: *Addition and Subtraction of Similar Fractions*** | | **Time Frame**: 5 days | |
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| **Content Standard** | The learners should have knowledge and understanding of addition and subtraction of similar fractions, including mixed numbers. | **Performance Standard** | The learners are able to perform addition and subtraction of similar fractions, including mixed numbers. |

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| **Lesson 1**<br>*Kinds of Fractions* | • Identify proper fractions, improper fractions, and mixed numbers<br>• Rewrite improper fractions into mixed numbers, and vice versa<br>• Plot fractions (proper fractions, improper fractions, and mixed numbers) with denominators 2, 4, 5, and 10 on the number line | • Identify proper fractions, improper fractions, and mixed numbers<br>• Rewrite improper fractions into mixed numbers, and vice versa<br>• Plot fractions (proper fractions, improper fractions, and mixed numbers) with denominators 2, 4, 5, and 10 on the number line | • What are the different kinds of fractions?<br>• How do you tell one kind of fraction from another?<br>• How do you rename an improper fraction as a mixed number? How about a mixed number as an improper fraction?<br>• How do you plot a fraction on a number line? | • A *proper fraction* is less than one whole. Its numerator is smaller than its denominator.<br>• An *improper fraction* is greater than or equal to one whole. Its numerator is greater than or equal to its denominator.<br>• A *mixed number* is a whole number and a fraction written together.<br>• To rename an improper fraction as a mixed number, divide the numerator by the denominator. Write the quotient as the whole number part and the remainder as the numerator of the fraction part. Copy the denominator. | **Literacy and Numeracy**<br>• Understanding mathematical vocabulary<br>• Identifying different types of fractions<br>• Recognizing equivalent fractions<br><br>**Critical Thinking and Problem-Solving**<br>• Classifying fractions correctly<br>• Assimilating ideas<br>• Recognizing visual cues<br><br>**Collaboration**<br>Cooperating with a classmate to perform tasks involving kinds of fractions<br><br>**ICT Literacy**<br>Watching an online video about the different kinds of fractions | **Schema Activation**<br>• Conducting a drill on reading fractions correctly<br>• Reviewing how to write fractions<br>• Identifying the learners' working knowledge in reading and writing fractions<br><br>**Discussion**<br>• Presenting the kinds of fractions, putting emphasis on their differentiating qualities<br>• Exploring the ways different fractions are written<br>• Discussing the steps in expressing fractions in a number line<br><br>**Cooperative Learning**<br>Providing collaborative | **Diagnostic**<br>Answering Chapter Pretest<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the kinds of fractions and the ways they are written<br>• *Let Us Talk About It*<br>Addressing the most essential questions on the kinds of fractions<br>• *Let Us Practice*<br>○ *Get Ready*<br>– Identifying the types of fraction given<br>– Marking the point that shows the given fractions in the number line<br>○ *Work Together*<br>Working with a partner in:<br>– Writing the improper | • Accuracy, patience, and diligence in identifying and writing the different kinds of fractions<br>• Teamwork and collaboration<br>• Time management and attention to detail | • rectangular cutouts showing proper fractions, improper fractions, and mixed numbers<br>• picture cards<br>• mobile phone/tablet<br>• online website: "What is Fraction? \| Introduction to Fractions \| Grade 7 Math \| LetsTute" by Let'stute |

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| | | | | • To rename a mixed number as an improper fraction, multiply the whole number by the denominator. Add the product to the numerator and write the sum over the same denominator.<br>• To plot a fraction on a number line, follow these steps.<br>1. Draw a number line.<br>2. Mark the points.<br>3. Draw an equal number of parts corresponding to the denominator of the given fraction.<br>4. Count the number of parts shown by the numerator and then mark the point | | activities on identifying and writing the different kinds of fractions<br><br>**Synthesis**<br>Encouraging the learners to summarize their learnings in their own words | fraction and mixed number for the shaded parts of the provided figures<br>– Renaming mixed fractions to improper fractions and vice-versa<br>– Plotting the given fraction in the number line<br>○ *Work Alone*<br>– Renaming the given fractions<br>– Plotting the given fractions on a number line<br>• *Let Us Solve* Solving word problems involving fractions<br>• *Let Us Check Your Understanding* Renaming the | | |

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| | | | | on the line. | | | given fraction to the indicated fraction<br>• Watching an online video to enhance learning on the different kinds of fraction | | |
| **Lesson 2**<br>*Adding and Subtracting Similar Fractions* | Add and subtract similar fractions:<br>a. Two proper fractions<br>b. Two mixed numbers<br>c. A mixed number and a proper fraction | • Visualize addition and subtraction of similar fractions<br>○ Two proper fractions<br>○ Two mixed numbers<br>○ A mixed number and a proper fraction<br>• Add and subtract similar fractions without and with regrouping | • What are similar fractions?<br>• How do you add or subtract similar fractions?<br>• How do you add or subtract a mixed number and a fraction?<br>• How do you add or subtract two mixed numbers with similar fractions? | • *Similar fractions* are fractions that have the same denominator.<br>• To add or subtract similar fractions, add or subtract the numerators. Write the sum or difference over the same denominator.<br>• To add or subtract a mixed number and a fraction, add or subtract the fractions. Bring down the whole number.<br>• To add or subtract two mixed numbers with similar fractions, add or subtract the | **Literacy and Numeracy**<br>• Understanding mathematical vocabulary<br>• Reading and interpreting word problems<br>• Following multistep instructions<br>• Understanding fraction concepts<br>• Performing basic arithmetic operations<br><br>**Critical Thinking and Problem-Solving**<br>• Classifying fractions correctly<br>• Understanding relationships between fractions | **Schema Activation**<br>• Conducting a drill on identifying similar fractions<br>• Eliciting ideas from the learners on a given scenario<br><br>**Discussion**<br>• Exploring the ways of analyzing word problems<br>• Discussing the steps in adding and subtracting similar fractions<br><br>**Practice**<br>Allocating more exercises to better illustrate the lesson for the day<br><br>**Cooperative** | **Formative**<br>• *Let Us Discover*<br>Figuring out the steps in adding and subtracting similar fractions<br>• *Let Us Talk About It*<br>Addressing the most essential questions in the lesson<br>• *Let Us Practice*<br>○ *Get Ready*<br>Solving for the sum or difference of the given fractions<br>○ *Work Together*<br>Working with a partner in adding or subtracting similar fractions<br>○ *Work Alone* | • Accuracy, patience, and diligence in adding and subtracting similar fractions<br>• Teamwork and collaboration<br>• Time management and attention to detail | • oranges<br>• paper plates cut into fourths<br>• mobile phone/tablet<br>• online websites:<br>○ “FEED ME FRACTIONS - ADDING FRACTIONS” by ABCya<br>○ “Adding Mixed Numbers with Common Denominators - 4.NF.3” by InstructaBeats<br>○ “how do you subtract mixed fractions with the same denominator? ” by VirtualNerd |

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| | | | | fractions first, then add or subtract the whole numbers. | • Interpreting visual aids/cues<br><br>**Collaboration**<br>Working with a classmate on a task which involves adding and subtracting similar fractions<br><br>**ICT Literacy**<br>• Playing an online game to strengthen concept building<br>• Watching online videos about adding and subtracting two mixed numbers | **Learning**<br>Appropriating collaborative activities on adding and subtracting similar fractions<br><br>**Synthesis**<br>Motivating the learners to summarize their learnings using their own words | Finding the sum and difference of the given items<br>• *Let Us Solve*<br>Solving problems involving addition and subtraction of similar fractions<br>• *Let Us Check Your Understanding*<br>Adding and subtracting similar fractions<br>• Accessing online resources like games and videos to strengthen concept building on adding and subtracting similar fractions and mixed numbers | | |
| **Lesson 3**<br>*Adding and Subtracting Fractions and Whole Numbers* | Add and subtract similar fractions:<br>a. whole number and proper fraction; and<br>b. a whole number and a mixed number | • Add a whole number and a proper fraction<br>• Add and subtract whole number and a mixed number | • How do you add a whole number and a fraction?<br>• How do you add a whole number and a mixed number?<br>• When | • To add a whole number and a fraction or a mixed number, add the fractions first before you add the whole | **Literacy and Numeracy**<br>• Understanding mathematical vocabulary<br>• Reading and interpreting word problems | **Schema Activation**<br>• Conducting a drill on reading fractions and mixed numbers<br>• Reviewing expressing | **Diagnostic**<br>Using drills on reading fractions correctly<br><br>**Formative**<br>• *Let Us Discover*<br>Determining the | • Accuracy, patience, diligence in adding and subtracting fractions and whole numbers<br>• Teamwork and | • rectangular regions<br>• mobile phone/tablet<br>• YouTube video: "Subtracting a Fraction from a Whole Number \| |

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| | | | subtracting a fraction or a mixed number from a whole number, what do you do with the whole number? How do you decide on the fraction you will use for the minuend? | numbers.<br>• To subtract a fraction or a mixed number from a whole number, follow these steps.<br>○ Rename the whole number as a mixed number. The fraction part should be equal to 1 whose denominator is the same as that of the subtrahend.<br>○ Subtract the fractions.<br>○ Bring down or subtract the whole numbers. | • Following multistep instructions<br>• Understanding fraction concepts<br>• Performing basic arithmetic operations<br><br>**Critical Thinking and Problem-Solving**<br>• Classifying fractions correctly<br>• Understanding relationships between fractions<br>• Interpreting visual aids/cues<br><br>**Collaboration**<br>Working with a classmate on a task involving adding and subtracting similar fractions and whole numbers<br><br>**ICT Literacy**<br>Watching online videos about adding and subtracting two | whole numbers as fractions equal to one or as mixed numbers<br>• Eliciting ideas from the learners after analyzing a word problem<br><br>**Discussion**<br>• Exploring the ways in analyzing word problems<br>• Discussing the steps in adding and subtracting fractions and whole numbers<br><br>**Practice**<br>Allocating more exercises to better illustrate the lesson for the day<br><br>**Cooperative Learning**<br>Providing collaborative activities on adding and subtracting fractions and | steps in adding and subtracting fractions and whole numbers<br>• *Let Us Talk About It*<br>Addressing the most essential questions in the lesson<br>• *Let Us Practice*<br>○ *Get Ready*<br>Filling in the box with the correct number<br>○ *Work Together*<br>Working with a partner in<br>– Adding fractions<br>– Supplying the missing numbers in the number sentence before subtracting<br>– Subtracting fractions<br>○ *Work Alone*<br>Finding the sum and difference of the given items | collaboration<br>• Time management and attention to detail | Math with Mr. J" by Math with Mr. J |

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| | | | | | mixed numbers | whole numbers<br><br>**Synthesis**<br>Having learners summarize their learnings using their own words | • *Let Us Solve* Solving problems involving addition and subtraction of similar fractions<br>• *Let Us Check Your Understanding* Adding and subtracting similar fractions including mixed and whole numbers<br>• Watching an online video to enhance learning on subtracting a fraction from a whole number<br>**Summative**<br>• *Have Fun! You Can Do More!*<br>• *Chapter Test*<br>• *Math Reflection* Accomplishing an exit ticket for the chapter<br>• Summative Test | | |

# 3rd Quarter

| Chapter 7: *Factors, Multiples, And Dissimilar Fractions* | | **Time Frame**: 10 days | |
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| **Content Standards** | The learners should have knowledge and understanding of . . .<br>• dissimilar and equivalent fractions; and<br>• factors, and multiples of numbers up to 100. | **Performance Standards** | The learners are able to…<br>• represent, compare, and order dissimilar fractions; and<br>• find factors and multiples of numbers up to 100. |

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| **Lesson 1**<br>*Factors and the Greatest Common Factor* | **M4NS-IIa 64**<br>Identifies factors of a given number up to 100<br><br>**M4NS-IIc 68.1**<br>Finds the common factors and the greatest common factor (GCF) of two numbers using the following methods: listing, prime factorization, and continuous division<br><br>*Find all the factors of a given number up to 100*<br><br>*Find the common factors of two or more numbers* | • Find all the factors of a given number up to 100<br>• Find the common factors of two or more numbers up to 100<br>• Find the greatest common factor of two or more numbers up to 100 | • What is a factor pair?<br>• What are common factors?<br>• What is the GCF of two or more numbers? | • A *factor* is a number that gives a product when multiplied with another number.<br>• A *factor pair* is a set of two numbers that are multiplied to obtain a product.<br>• A common factor of two or more numbers is also called a *common divisor* because it divides the given numbers exactly. Two or more numbers may have more than one common factor.<br>• The *greatest common factor* (GCF) of two or more numbers is the largest among all the common factors of those | **Literacy and Numeracy**<br>• Building Mathematical vocabulary<br>• Strengthening number sense<br>• Performing arithmetic operations<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems | **Review**<br>Recalling concepts on identifying factors and products through a game<br><br>**Demonstration**<br>Providing board activities to better illustrate the lesson<br><br>**Discussion**<br>Presenting the steps of finding the greatest common factor (GCF)<br><br>**Practice and Drill**<br>Using more activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Assigning tasks that will require the learners to work together to come-up with an agreed | **Formative**<br>• Let Us Practice<br>○ *Get Ready*<br>A. Filling in the blanks with the correct number<br>B. Writing the factors of specific numbers<br>○ *Work Together*<br>Working with a partner to provide all possible factors of the given items<br>○ *Work Alone*<br>Finding the factors and the GCF<br>• *Let Us Solve*<br>Answering questions involving factors and the GCF<br>• *Let Us Check Your* | • Accuracy, patience, diligence in finding the factors and GCF<br>• Teamwork and collaboration Time management and attention to detail | • cards containing multiplication sentences<br>• cell phone/tablet computer<br>• YouTube video<br>○ "Greatest Common Factor \| How to Find the Greatest Common Factor (GCF)" by Math with Mr. J, https://www.youtube.com/watch?v=crWLFqOQtBA<br>○ "Greatest common factor explained \| Factors and multiples \| Pre-Algebra \| Khan Academy" by Khan |

**Italicized text under MATATAG Learning Competencies are author-created and add-on ones from WT or TG.*

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| | | | | given numbers. | **ICT Literacy**<br>Utilizing online videos to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Applying Mathematical concepts practically | solution to given items<br><br>**Synthesis**<br>Allowing the learners to summarize their learnings using their own words | *Understanding*<br>A. Solving for the GCF<br>B. Analyzing and solving for a word problem that involves factors and the GCF<br><br>• Individual/class exercise<br>– Accessing online videos to further learning<br>– Determining the steps in finding and using the greatest common factor (GCF) correctly<br>– Answering essential questions on the greatest common factor | | Academy, https://www.youtube.com/watch?v=jFd-6EPfnec&t=149s |
| **Lesson 2**<br>*Multiples and the Least Common Multiple* | **M3NS-IIf 47**<br>Visualize and state the multiples of 1- to 2-digit numbers<br><br>**M4NS-IIa 65**<br>Identify the multiples of a given number up to 100<br><br>**M4NS-IIc 69.1**<br>Find the common multiples and least common multiple | • List down multiples of the given numbers up to 100<br>• Find the common multiples of a set of numbers up to 100<br>• Find the least common multiple of a set of numbers up to 100 | • What are multiples of a number?<br>• What are the common multiples of two or more numbers?<br>• What can help you find the multiples and common multiples of two or more numbers? | • The multiples of a number are the products you obtain when you multiply it by the counting numbers 1, 2, 3, 4, and so on. The list of multiples of a number is endless.<br>• The multiples of a number can be | **Literacy and Numeracy**<br>• Building mathematical vocabulary<br>• Strengthening number sense<br>• Performing arithmetic operations<br><br>**Critical Thinking and Problem-** | **Schema Activation**<br>• Practicing skip counting by 3s, 4s, and 5s<br>• Reviewing GCF<br><br>**Demonstration**<br>Using activities to better illustrate the lesson<br><br>**Discussion**<br>• Presenting the | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Finding the multiples of numbers that are less than 100<br>○ *Work Together*<br>A. Listing the first ten multiples of specific numbers | • Accuracy, patience, diligence in finding the multiples and the LCM<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements | • hundred charts on a piece of cartolina<br>• cell phone/tablet computer<br>• YouTube video “Least Common Multiple (LCM) \| Mathematics Grade 4 \| Periwinkle” by Periwinkle, https://www.youtu |

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| | (LCM) of two numbers using the following methods: listing, prime factorization, and continuous division<br><br>*Identify the multiples of given numbers up to 100* | | • What is the LCM of two of more numbers? | divided by its number without leaving any remainder.<br>• The common multiples are multiples that two or more numbers have in common.<br>• Using a hundred chart can help you find multiples. Other ways are by skip counting and by multiplying the given number by counting numbers 1, 2, 3, and so on.<br>• The least common multiple (LCM) of two or more numbers is the smallest among all the common multiples of the given numbers. | **Solving**<br>• Recognizing patterns<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy**<br>Utilizing an online video to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making<br>• Applying mathematical concepts practically | concept of multiples<br>• Providing the steps in finding the LCM<br><br>**Practice and Drill**<br>Using more activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Appropriating tasks which will require the learners to work together to come-up with an agreed solution<br><br>**Synthesis**<br>Encouraging the learners to summarize their learnings using their own words. | B. Finding the first three common multiples of each pairs of numbers and the LCM<br>○ *Work Alone*<br>Looking for the LCM of each pair of numbers<br>• *Let Us Solve*<br>Doing what is asked using a number grid<br>• *Let Us Check Your Understanding*<br>Identifying whether the statements related to the lesson discussed are *True* or *False*<br><br>Individual/class exercises<br>– Watching an online video to reinforce learning about multiples and LCM<br>– Determining the steps in finding multiples and the LCM<br>– Answering essential questions about multiples and the | that are required in accomplishing tasks within a set time frame | be.com/watch?v=CIkDcENjzBA |

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| | | | | | | | LCM | | |
| **Lesson 3**<br>*Comparing Dissimilar Fractions* | **M3NS-IIIc 72.6**<br>Visualize and represent dissimilar fractions<br><br>**M3NS-IIId 77.3**<br>Visualize, represent, and compare dissimilar fractions<br><br>*Compare dissimilar fractions using the symbols =, >, and <.* | • Visualize and represent dissimilar fractions using models or illustrations<br>• Change dissimilar fractions to similar fractions using the LCD<br>• Compare dissimilar fractions using the symbols =, >, and <. | • What are dissimilar fractions?<br>• How do you compare dissimilar fractions? | • *Dissimilar fractions* are fractions with different denominators. They are also called *unlike fractions*.<br>• To compare dissimilar fractions, rename them first as similar fractions by multiplying each fraction by a fraction equal to 1. Then compare the numerators of the renamed similar fractions. | **Literacy and Numeracy**<br>• Strengthening number sense<br>• Applying estimation Skills<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy**<br>Watching online videos to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Applying mathematical concepts practically | **Schema Activation**<br>• Conducting a drill on reading and writing fractions<br>• Reviewing the identification of the different kinds of fractions<br><br>**Demonstration**<br>Using activities to better illustrate the lesson<br><br>**Discussion**<br>Providing the steps in comparing dissimilar fractions<br><br>**Practice and Drill**<br>Using more activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Appropriating tasks that will require the learners to work together to come-up with an agreed solution<br><br>**Synthesis**<br>Asking the learners to summarize their learnings using their own words. | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>A. Identifying what kind of fractions each set has<br>B. Finding the LCM of the denominators of the given pair of dissimilar fractions<br>○ *Work Together*<br>A. Using the symbols >, < and = correctly<br>B. Transforming the given items to similar fractions then comparing them using the symbols >, <, and =<br>○ *Work Alone*<br>Providing correct responses by identifying what is described in the statements<br>• *Let Us Solve*<br>Analyzing and answering the | • Accuracy, patience, and diligence in comparing dissimilar fractions<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • picture cards depicting fractions<br>• plates<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 296, "Comparing fractions visually and on number line \| 3rd grade \| Khan Academy" by Khan Academy, https://www.youtube.com/watch?v=Kt7Dwr7BftE<br>• *Extend Your Learning Experience* QR Code, page 296, 3rd Grade Comparing Fractions with Different Denominators by Nallely Carrillo, https://www.youtube.com/watch?v=FCLqI78ydoQ |

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| | | | | | | | word problems<br>• *Let Us Check Your Understanding* Comparing each pair of fractions<br>• Individual/class exercise<br>– Watching online videos to reinforce learning about comparing dissimilar fractions using number lines or models<br>– Identifying different kinds of fractions<br>– Determining the steps in comparing dissimilar fractions<br>– Answering essential questions about comparing fractions | | |
| **Lesson 4**<br>*Ordering Dissimilar Fractions* | **M3NS-IIIc 72.6**<br>Visualize and represent dissimilar fractions<br><br>**M3NS-IIId 78.3**<br>Visualize, represent, and arrange dissimilar fractions in increasing or | Visualize, represent, and order dissimilar fractions in increasing or decreasing order. | How do you arrange dissimilar fractions in order? | • Dissimilar fractions may be arranged in order from *least to greatest* (increasing order) or from *greatest to least* (decreasing order). | **Literacy and Numeracy**<br>• Strengthening number sense<br>• Applying estimation skills<br><br>**Critical Thinking and Problem-Solving** | **Schema Activation**<br>• Recalling how to name fractions<br>• Reviewing the use of the symbols >, <, and = in comparing whole numbers<br><br>**Demonstration** | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>A. Identifying the greatest fraction in the given set<br>B. Renaming the fractions | • Accuracy, patience, and diligence in ordering dissimilar fractions<br>• Teamwork and collaboration<br>• Time management and | • strips of cartolina<br>• magnetic board<br>• cutouts depicting fractions<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 302, |

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| | decreasing order<br><br>*Order dissimilar fractions from smallest to largest, and vice versa* | | | • To arrange dissimilar fractions in order, first rename them as similar fractions. Compare the fractions two at a time. Then arrange them either in increasing or decreasing order as similar fractions. | • Recognizing patterns<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy**<br>Watching online videos to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making<br>• Applying mathematical concepts practically | Using activities to better illustrate the lesson<br><br>**Discussion**<br>Providing the steps in ordering dissimilar fractions<br><br>**Practice and Drill**<br>Using additional activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Appropriating tasks which will require the learners to work together to come-up with an agreed solution<br><br>**Synthesis**<br>Letting learners summarize what they have learned using their own words. | as similar fractions using the given denominator<br>○ *Work Together*<br>A. Recognizing set of fractions arranged in increasing order<br>B. Arranging set of fractions from greatest to least<br>○ *Work Alone*<br>A. Ordering groups of fractions in decreasing order<br>B. Arranging sets of fractions from least to greatest<br>• *Let Us Solve* Analyzing and answering the word problems<br>• *Let Us Check Your Understanding* Supplying the correct information to complete the number sentence | attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | "Comparing and Ordering Fractions with Different Denominators (fraction strips)" by Let's Do Math, https://www.youtube.com/watch?v=nH7s9SIjwus<br>• *Extend Your Learning Experience* QR Code, page 302, "Comparing and Ordering Fractions \| How to compare fractions \| Fractions from least to greatest Easy" by Math Key, https://www.youtube.com/watch?v=HufkduTGH34 |

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| | | | | | | | • Individual/class exercise<br>– Using online videos to enhance understanding of arranging dissimilar fractions in order<br>– Comparing fractions<br>– Determining the steps in ordering dissimilar fractions<br>– Answering essential questions about ordering fractions | | |
| **Lesson 5**<br>*Equivalent Fractions* | **M3NS-IIIe-72.7**<br>Visualize and generate equivalent fractions<br><br>*Generate equivalent fractions using models* | Visualize and generate equivalent fractions | • What are equivalent fractions?<br>• How do you find equivalent fractions? | • *Equivalent fractions* are fractions that have the same value. They name the same fractional part.<br>• To find a fraction equivalent to a given fraction, multiply or divide the numerator and denominator by the same nonzero number. | **Literacy and Numeracy**<br>• Strengthening number sense<br>• Applying estimation skills<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to Detail | **Schema Activation**<br>Conducting a drill on naming parts of a whole or set<br><br>**Demonstration**<br>Providing activities to better illustrate the lesson through board work and guided dynamics<br><br>**Discussion**<br>Presenting the qualities and steps of finding equivalent fractions<br><br>**Practice and Drill** | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Identifying pairs of fractions as equivalent or not<br>○ *Work Together* Supplying the missing information to complete the number sentence<br>○ *Work Alone* Working with a partner in writing the missing | • Accuracy, patience, and diligence in finding equivalent fractions<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • fraction bars<br>• cutouts of various shapes or sets divided into equal parts<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 307, "Equivalent Fractions. Grade 3" by MATH-N-ROLL, https://www.youtube.com/watch?v=esLplg6VqCw<br>• *Extend Your* |

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| | | | | | **Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy**<br>Watching online videos to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Applying mathematical concepts practically | Using additional activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Appropriating tasks that will require the learners to work together to come up with an agreed solution<br><br>**Synthesis**<br>Letting learners summarize their learnings using their own words. | numerator<br>• *Let Us Solve* Analyzing and answering the word problems<br>• *Let Us Check Your Understanding* Recognizing equivalent fractions<br>• Individual/Class exercise<br>– Using online videos to enhance understanding of equivalent fractions<br>– Comparing fractions<br>– Determining the steps in identifying and finding equivalent fractions<br>– Answering essential questions about equivalent fractions | | *Learning Experience* QR Code, page 307, "Equivalent Fractions \| Math for 3rd Grade \| Kids Academy" by Kids Academy, https://www.youtube.com/watch?v=0JUbXN5accU |

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| **Lesson 6**<br>*Fractions in Lowest Form* | **M4NS-IIe-81**<br>Change fractions to lowest forms<br><br>*Reduce fractions to simplest form* | • Describe a fraction in its simplest form<br>• Reduce fractions to simplest form | • What is the GCF of two or more numbers?<br>• When is a fraction in lowest form?<br>• How do you express a fraction in lowest form? | • The GCF is the biggest factor common to two or more numbers.<br>• A fraction is in the *lowest form* when the numerator and the denominator have no common factors other than 1.<br>• To express a fraction in its lowest form, follow these steps.<br>1. Find the GCF of the numerator and the denominator<br>2. Divide the numerator and denominator by their GCF. | **Literacy and Numeracy**<br>• Strengthening number sense<br>• Applying estimation skills<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy**<br>Playing an online game to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Applying mathematical concepts practically | **Schema Activation**<br>Reviewing GCF through drills<br><br>**Demonstration**<br>Using activities and interactive board work to clarify lesson concepts<br><br>**Discussion**<br>Presenting the steps in reducing fractions to the lowest from<br><br>**Practice and Drill**<br>Offering hands-on activities and visual board work to enrich lesson understanding<br><br>**Cooperative Learning**<br>Designing activities that require teamwork to find a common solution<br><br>**Synthesis**<br>Inspiring learners to express what they have learned personal language | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Writing the factors and identifying the GCF<br>○ *Work Together* Identifying whether the given item is in lowest form<br>○ *Work Alone* Expressing fraction in lowest form<br>• *Let Us Solve* Analyzing and answering the word problems<br>• *Let Us Check Your Understanding*<br>○ Expressing fractions in lowest form<br>○ Solving a problem about a fraction<br>• Individual/class exercise<br>– Accessing an online game to enhance understanding of reducing fractions to lowest terms<br>– Identifying the GCF through drills | • Accuracy, patience, and diligence in reducing fractions in lowest forms<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • cards showing number pairs (for finding the GCF)<br>• circular regions showing $\frac{2}{3}$ and $\frac{4}{6}$ (the regions should have the same size)<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 312, "REDUCE FRACTIONS SPLAT" by Sheppard Software, https://www.sheppardsoftware.com/math/fractions/reduce-splat-game/ |

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| | | | | | | | – Determining the steps in computing for the lowest form in fractions<br>– Answering essential questions about fraction lowest forms<br>– Applying estimating fractions in solving problems<br>– Making an instructional tool (board activities, slide presentations, etc.) to demonstrate knowledge, understanding, and skills in finding the LCM<br>**Summative**<br>• Problem Solving Strategy<br>• Chapter Test<br>• *Math Reflection* Accomplishing an exit ticket for the chapter<br>• *Have Fun! You Can Do More!*<br>• Summative Test | | |

| Chapter 8: *Addition and Subtraction of Dissimilar Fractions* | | **Time Frame**: 12 days | |
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| **Content Standard** | The learners should have knowledge and understanding of addition and subtraction of dissimilar fractions. | **Performance Standard** | The learners are able to perform addition and subtraction of dissimilar fractions, including whole numbers and mixed numbers. |

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| **Lesson 1**<br>*Adding and Subtracting Dissimilar Fractions* | **M4NS-IIg-82.3**<br>Visualizes addition and subtraction of dissimilar fractions<br><br>**M4NS-IIg-83**<br>Performs addition and subtraction of similar and dissimilar fractions<br><br>*Add and subtract dissimilar fractions using models*<br><br>*Add and subtract dissimilar fractions*<br>a. *two proper fractions* | • Visualize addition and subtraction of dissimilar fractions using models or illustrations<br>• Add and subtract dissimilar fractions using models<br>• Add and subtract two dissimilar fractions that are proper fractions | • What are dissimilar fractions?<br>• How do you add or subtract dissimilar fractions?<br>• What is used to rename dissimilar as similar fractions?<br>• How do you express the answer? | • *Dissimilar fractions* are fractions that have different denominators.<br>• To add or subtract dissimilar fractions, rename the fractions as similar fractions using the *least common denominator* (LCD). To do this, multiply each dissimilar fraction by a fraction equal to 1. Then, add or subtract the similar fractions.<br>• Express the answer in lowest form. | **Literacy and Numeracy**<br>• Strengthening number sense<br>• Understanding mathematical vocabulary<br>• Applying addition and subtraction operations with fractions<br>• Applying estimation skills<br>• Estimating results before solving for accuracy checks<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Analyzing the relationships between fractions<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br>• Identifying the steps needed to | **Schema Activation**<br>• Reviewing expressing fractions in lowest form through drills<br>• Recalling concepts on changing dissimilar fractions to similar fractions<br>• Revisiting previous discussions on adding and subtracting fractions<br><br>**Demonstration**<br>Using activities and interactive board work to clarify lesson concepts<br><br>**Discussion**<br>Presenting the steps in reducing fractions to the lowest from<br><br>**Practice and Drill**<br>Using additional activities to reinforce mastery of the discussed concepts | **Diagnostic**<br>• Chapter Pretest<br>• Reviewing previous lessons about fractions<br><br>**Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Finding the LCD of the given items and renaming them as similar fractions<br>○ *Work Together*<br>Working with a partner to add or subtract fractions and expressing them in lowest form<br>○ *Work Alone*<br>Finding the sum/difference of the given numbers<br>• *Let Us Solve*<br>Answering word problems involving addition and subtraction of fractions | • Accuracy, patience, and diligence in adding and subtracting dissimilar fractions<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • paper plates<br>• real objects<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 325, "Adding Fractions with Different Denominators" by Let's Do Math, https://www.youtube.com/watch?v=tDQipFjAoT8<br>• *Extend Your Learning Experience* QR Code, page 325, "Subtracting Fractions" by Let's Do Math, https://www.youtube.com/watch?v=c5dNa2TVHiQ |

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| | | | | | solve fraction problems<br>• Testing solutions by checking that answers make sense in context<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy**<br>Accessing online resources like videos to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | **Cooperative Learning**<br>Encouraging cooperative tasks that lead to a mutually agreed outcome<br><br>**Synthesis**<br>Prompting learners to recap their knowledge in their own words | • *Let Us Check Your Understanding*<br>○ Adding fractions<br>○ Subtracting fractions<br>○ Analyzing and answering a word problem<br>• Individual/class exercise<br>– Watching online videos to reinforce learning about adding and subtracting dissimilar fractions<br>– Determining the procedures in adding and subtracting dissimilar fractions<br>– Answering essential questions on adding and subtracting dissimilar fractions | | |
| **Lesson 2**<br>*Adding and Subtracting Mixed Numbers* | **M6NS-Ia-86**<br>Adds and subtracts simple fractions and mixed numbers without or with regrouping | • Find the LCD of two mixed numbers<br>• Add and subtract two dissimilar fractions that are mixed numbers | • What do you do first with the dissimilar fractions before adding or subtracting mixed numbers? | To add or subtract mixed numbers with dissimilar fractions, follow these steps.<br>1. Rename the fractions as similar | **Literacy and Numeracy**<br>• Strengthening number sense<br>• Understanding mathematical vocabulary | **Schema Activation**<br>• Conducting a drill on adding mixed numbers that have similar fractions<br>• Recalling | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Filling in the boxes with the correct number<br>○ *Work Together* | • Accuracy, patience, and diligence in adding and subtracting mixed numbers<br>• Teamwork and | • pocket chart<br>• regions<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR |

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| | *Add and subtract dissimilar fractions*<br>*a. two mixed numbers* | • Reduce the sum or difference in lowest form | • How do you add or subtract mixed numbers with dissimilar fractions? | fractions by finding the LCD.<br>2. Add or subtract the fractions.<br>3. Add or subtract the whole number<br>4. Express the answer in lowest form if needed. | • Applying addition and subtraction operations with fractions<br>• Applying estimation skills<br>• Estimating results before solving for accuracy checks<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Analyzing the relationships between fractions<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br>• Identifying the steps needed to solve fraction problems<br>• Testing solutions by checking that answers make sense in context<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy** | concepts on subtracting mixed numbers with similar fractions<br>• Changing dissimilar fractions to similar ones<br><br>**Demonstration**<br>Using activities and interactive board work to clarify lesson concepts<br><br>**Discussion**<br>Presenting the steps in adding and subtracting mixed numbers<br><br>**Practice and Drill**<br>Utilizing guided exercises and board demonstrations to illustrate the lesson effectively<br><br>**Cooperative Learning**<br>Giving tasks that prompt learners to work together towards an agreed answer<br><br>**Synthesis**<br>Guiding students to | Working with a partner to add or subtract mixed numbers and expressing them in lowest form<br>○ *Work Alone*<br>Performing the indicated operation and writing the answer in lowest form<br>• *Let Us Solve*<br>Answering word problems involving the addition and subtraction of mixed numbers<br>• *Let Us Check Your Understanding*<br>Solving for the sum/difference of the given items<br>• *Extend Your Learning Experience*<br>– Watching online videos to strengthen learning about adding and subtracting mixed numbers<br>– Determining the procedures in adding and subtracting | collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | Code, page 332, "How to Add Mixed Fractions With Unlike Denominators by The Organic Chemistry Tutor, https://www.youtube.com/watch?v=mSR4sEmgVFU<br>• *Extend Your Learning Experience* QR Code, page 332, "Subtracting Mixed Numbers with unlike denominators by MooMooMath and Science, https://www.youtube.com/watch?v=GrSnM8ip2-s |

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| | | | | | Accessing online resources such as videos to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | summarize lessons using their unique phrasing | mixed numbers<br>– Answering essential questions on adding and subtracting mixed numbers | | |
| **Lesson 3**<br>*Subtracting with Dissimilar Fractions and Whole Numbers* | **M4NS-IIg-83**<br>Performs addition and subtraction of similar and dissimilar fractions<br><br>**M6NS-Ia-86**<br>Adds and subtracts simple fractions and mixed numbers without or with regrouping<br><br>*Add and subtract dissimilar fractions*<br>*a. two mixed numbers*<br>*b. a mixed number and a proper fraction*<br>e. *a whole number and a mixed number* | Subtract dissimilar fractions<br>a. two mixed numbers<br>b. a mixed number and a proper fraction<br>e. a whole number and a mixed number | • How do you subtract a whole number from a mixed number?<br>• How do you subtract a fraction or a mixed number from a mixed number when the fractions are dissimilar?<br>• When do you rename the minuend? | • To subtract a whole number from a mixed number, subtract the whole numbers first, then bring down or copy the fraction.<br>• To subtract a fraction or a mixed number from a mixed number, follow these steps.<br>1. Rename the fractions as similar (if they are dissimilar).<br>2. Rename the fractional part of the minuend, if | **Literacy and Numeracy**<br>• Strengthening number sense<br>• Understanding mathematical vocabulary<br>• Applying addition and subtraction operations with fractions<br>• Applying estimation skills<br>• Estimating results before solving for accuracy checks<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns | **Schema Activation**<br>• Conducting a drill on subtracting mixed numbers with similar fractions<br>• Recalling previous lesson on changing dissimilar fractions to similar ones<br><br>**Demonstration**<br>Utilizing interactive board work and activities to make lesson concepts clearer<br><br>**Discussion**<br>Presenting the steps in subtracting | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>A. Renaming mixed numbers<br>B. Supplying the correct number to complete the number sentence and expressing the answer in simplest form<br>○ *Work Together*<br>Subtracting fractions and expressing answers in simplest form | • Accuracy, patience, and diligence in subtracting with dissimilar fractions and whole numbers<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • paper strip<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 339, "Adding and Subtracting Mixed Numbers" by MATH TEACHER GON, https://www.youtube.com/watch?v=rYFMUsdVtlw |

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| | | | | needed, to make subtraction possible.<br>3. Subtract the fractions. Then bring down or subtract the whole numbers.<br>4. Express the answer in lowest form. | • Analyzing the relationships between fractions<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br>• Identifying the steps needed to solve fraction problems<br>• Testing solutions by checking that answers make sense in context<br><br>**Collaboration**<br>Working with a peer to come up with solutions to the provided problems<br><br>**ICT Literacy**<br>Accessing online resources like video/s to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical | • A whole number from a mixed number<br>• A fraction or a mixed number from a mixed number when the fractions are dissimilar<br><br>**Practice and Drill**<br>Applying dynamic activities and board visuals to strengthen lesson comprehension<br><br>**Cooperative Learning**<br>Encouraging cooperative tasks that lead to a mutually agreed outcomes<br><br>**Synthesis**<br>Encouraging students to articulate their takeaways in their own words | ○ *Work Alone*<br>Performing the indicated operation and expressing the answer in mixed number in lowest form<br>• *Let Us Solve*<br>Answering word problems involving subtracting with dissimilar fractions and whole numbers<br>• *Let Us Check Your Understanding*<br>Solving for the difference of the given items<br>• Individual/class exercise<br>– Watching an online video to strengthen learning about adding and subtracting mixed numbers using two different methods<br>– Determining the procedures in subtracting with dissimilar fractions and whole numbers<br>– Answering | | |

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| | | | | | concepts practically | | essential questions on subtracting with dissimilar fractions and whole numbers | | |
| **Lesson 4**<br>*Word Problems Involving Addition and Subtraction of Dissimilar Fractions* | **M4NS-IIg-82.3**<br>Visualizes addition and subtraction of dissimilar fractions<br><br>**M4NS-IIg-83**<br>Performs addition and subtraction of similar and dissimilar fractions<br><br>*Solve multi-step problems involving addition and/or subtraction of fractions* | Solve problems involving either addition or subtraction of dissimilar fractions | • How do you solve a word problem?<br>• How does a diagram help in solving for the answer to a word problem? | • Follow the four steps in solving a word problem.<br>1. Carefully read to understand the problem.<br>2. Choose the correct operation to use in order to solve the problem. Use a diagram as necessary.<br>3. Perform the operation to find the answer.<br>4. Check if the answer you obtained is correct.<br>• A diagram helps in representing the situation and in writing a number sentence. | **Literacy and Numeracy**<br>• Reading and interpreting word problems accurately<br>• Identifying relevant information and key terms in word problems<br>• Comprehending mathematical language related to fractions<br>• Summarizing word problems to simplify understanding<br>• Applying fraction addition and subtraction<br><br>**Critical Thinking and Problem-Solving**<br>• Evaluating the solution process for accuracy and relevance<br>• Distinguishing between necessary and unnecessary information | **Schema Activation**<br>• Conducting a drill on basic addition and subtraction facts<br>• Reviewing solving one-step number sentences involving the addition or subtraction of fractions<br><br>**Demonstration**<br>Utilizing interactive board work and activities to make lesson concepts clearer<br><br>**Discussion**<br>Presenting the steps in solving word problems involving addition and subtraction of dissimilar fractions<br><br>**Practice and Drill**<br>Incorporating board work and structured activities to deepen lesson clarity<br><br>**Cooperative** | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Providing what is asked after analyzing word problems<br>○ *Work Together* Working with a peer in providing the number sentence and the complete answer for the given items<br>○ *Work Alone* Solving word problems<br>• *Let Us Solve* Answering word problems involving addition and subtraction of fractions<br>• *Let Us Check Your Understandin*g Solving for the sum/difference of the given items<br>• Individual exercise<br>– Watching an online video to | • Accuracy, patience, and diligence in solving one-step problems involving the addition and subtraction of fractions<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • flash cards for basic addition and subtraction facts<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 347, “Solving Real Life Problems Involving Addition and Subtraction of Fractions \| Solving Word Problems” by MATH TEACHER GON, https://www.youtube.com/watch?v=6qOhJacad8I<br>• *Extend Your Learning Experience* QR Code, page 347, “Subtracting mixed numbers word problem \| Fractions \| Pre-Algebra \| Khan Academy” by Khan Academy, https://www.youtube.com/watch?v=tj9oLZYA-AQ |

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| | | | | | • Identifying steps to approach and solve word problems systematically<br><br>**Collaboration**<br>Working alongside a peer on activities that require coordinated effort to solve problems<br><br>**ICT Literacy**<br>Accessing online resources like video/s to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | **Learning**<br>Implementing tasks that drive learners to collaborate and decide together<br><br>**Synthesis**<br>Inviting learners to reflect on and paraphrase their new knowledge | strengthen learning on the lesson discussed<br>– Determining the procedures in analyzing and solving one-step problems involving the addition and subtraction of fractions<br>– Answering essential questions about the lesson | | |
| **Lesson 5**<br>*Two-Step Word Problems Involving Addition and Subtraction of Dissimilar Fractions* | **M4NS-IIg-82.3**<br>Visualizes addition and subtraction of dissimilar fractions<br><br>**M4NS-IIg-83**<br>Performs addition and subtraction of | Analyze and solve multi-step problems involving addition and subtraction of fractions | In solving a two-step word problem, what do you do first to arrive at the final answer? Why should that step be done first? | Since a two-step word problem involves more than one operation, you need to determine the hidden fact first before you proceed with solving the problem. | **Literacy and Numeracy**<br>• Reading and interpreting word problems accurately<br>• Identifying relevant information and | **Schema Activation**<br>• Conducting a drill on basic addition and subtraction facts<br>• Reviewing solving two-step number sentences involving the | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Providing what is asked after analyzing word problems<br>○ *Work Together*<br>Working with a | • Accuracy, patience, diligence in solving two-step problems involving the addition and subtraction of fractions | • strips of cards containing the problem-solving steps placed on a pocket chart<br>• printer<br>• cell phone/tablet computer<br>• online website: |

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| | similar and dissimilar fractions<br><br>*Solve multi-step problems involving addition and/or subtraction of fractions* | | | | key terms in word problems<br>• Comprehending mathematical language related to fractions<br>• Summarizing word problems to simplify understanding<br>• Applying fraction addition and subtraction<br><br>**Critical Thinking and Problem-Solving**<br>• Evaluating the solution process for accuracy and relevance<br>• Distinguishing between necessary and unnecessary information<br>• Identifying steps to approach and solve word problems systematically<br><br>**Collaboration**<br>Facilitating exercises that require consensus-building among learners<br><br>**ICT Literacy**<br>Accessing online | addition or subtraction of fractions<br><br>**Demonstration**<br>Breaking down concepts through board visuals and interactive exercises<br><br>**Discussion**<br>Presenting the steps in solving word problems involving addition and subtraction of dissimilar fractions<br><br>**Practice and Drill**<br>Integrating board work and active dynamics for better concept building<br><br>**Cooperative Learning**<br>Arranging group activities where learners collectively solve problem<br><br>**Synthesis**<br>Supporting students in recapping their understanding with personal wording | peer in solving word problems<br>○ *Work Alone*<br>Solving word problems<br>• *Let Us Solve*<br>Answering two-step word problems involving the addition and subtraction of fractions<br>• *Let Us Check Your Understanding*<br>Finding the solution to the provided two-step word problems<br>• Individual/class exercise<br>– Answering an online worksheet to strengthen learning on solving two-step word problems involving the addition and subtraction of fractions<br>– Determining the procedures in analyzing and solving two-step problems involving the | • Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | ○ "Fraction word problems" by K5 Learning, https://www.k5learning.com/worksheets/math/grade-5-word-problems-adding-subtracting-mixed-numbers-d.pdf |

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| | | | | | worksheets to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | | addition and subtraction of fractions<br>– Answering essential questions about the lesson<br>– Applying choosing the correct operation to use strategy in solving word problems<br>– Making a training schedule that will demonstrate knowledge, understanding and skills on fractions<br>**Summative**<br>• *Problem Solving Strategy*<br>• *Chapter Test*<br>• *Have Fun! You Can Do More!*<br>• *Math Reflection* Accomplishing an exit ticket for the chapter<br>• Summative Test | | |

| CHAPTER 9: *Polygons and Symmetry* | | **Time Frame**: 7 days | |
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| **Content Standards** | The learners should have knowledge and understanding of . . .<br>• *polygons*,<br>• symmetric figures with respect to a line of symmetry, and<br>• resulting images after applying reflection with respect to a line of reflection. | **Performance Standards** | The learners are able to…<br>• *describe and compare properties of polygons (regular and irregular polygons)*<br>• identify symmetry with respect to a line, and create figures that have line of symmetry; and<br>• perform reflection with respect to a line, including glide reflection, to obtain images of shapes. |

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| **Lesson 1**<br>*Polygons with Five or More Sides* | **M5GE-IIIc-19**<br>Visualize, name, and describe polygons with 5 or more sides<br><br>**M5GE-IIIc-21**<br>Draw polygons with 5 or more sides<br><br>**M7GE-IIIj-1**<br>Solve problems involving sides and angles of a polygon<br><br>*Draw and describe regular and irregular polygons with 5 or more sides based on measurements of sides and angles using a ruler and protractor* | • Visualize, name, and describe polygons with five or more sides<br>• Describe and compare properties of polygons (regular and irregular polygons)<br>• Draw polygons with five or more sides. | • What is a polygon? How do you describe it?<br>• What is a regular polygon? How is it different from an irregular polygon? | • A *polygon* is a plane figure whose sides are line segments that meet at points called *vertices*.<br>• A *regular polygon* is a polygon whose sides have the same length and whose interior angles have equal measure. | **Literacy and Numeracy**<br>• Recognizing and using terminology, which involves polygons, correctly and easily<br>• Describing polygon properties and characteristics<br>• Interpreting instructions and visual representations of polygons<br><br>**Critical Thinking and Problem-Solving**<br>• Classifying polygons based on their number of sides<br>• Analyzing similarities and differences | **Schema Activation**<br>Recalling lessons about polygons from previous grades<br><br>**Demonstration**<br>Making lessons more understandable with guided board work and activities<br><br>**Discussion**<br>Presenting the characteristics and kinds of polygons<br><br>**Practice and Drill**<br>Facilitating understanding with board-based illustrations and interactive activities<br><br>**Cooperative Learning**<br>Setting tasks for students to brainstorm and | **Diagnostic**<br>• Chapter Pretest<br>• Reviewing polygons from previous grade levels<br><br>**Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Identifying polygons<br>○ *Work Together* Matching polygons with their descriptions<br>○ *Work Alone* Drawing polygons<br>• *Let Us Solve* Answering questions involving polygons<br>• *Let Us Check Your Understanding*<br>○ Using ruler and | • Accuracy, patience, diligence in identifying and drawing polygons<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • sets of cutouts of polygons with more than five sides<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 366, “POLYGONS \| GRADE 5” by Sheena Doria, https://www.youtube.com/watch?v=HPrtEPkA_g4 |

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| | | | | | between different polygons<br><br>**Collaboration**<br>Working with a classmate to do the activities<br><br>**ICT Literacy**<br>Accessing an online video to enhance learning on the lesson<br><br>**Life Skills**<br>• Enhancing spatial awareness by working with shapes and angles<br>• Strengthening attention to detail<br>• Applying mathematical concepts practically | reach a unified solution<br><br>**Synthesis**<br>Challenging students to describe their knowledge in their own words | protractor to illustrate the required type of polygon<br>○ Answering a word problem that involves polygons<br>• Individual/class exercise<br>– Watching videos about polygons<br>– Answering essential questions about polygons | | |
| **Lesson 2**<br>*Congruent Figures* | **M5GE-IIId-22**<br>Visualize congruent polygons<br><br>**M5GE-IIIc-21**<br>Draw polygons with 5 or more sides<br><br>*Describe congruent polygons* | Visualize and describe congruent figures; and draw congruent figures. | What are congruent figures? When do you say that two figures are congruent? | Two figures are said to be *congruent* if the measures of their corresponding angles and sides are equal. | **Literacy and Numeracy**<br>• Recognizing and using terminology, which involves polygons, correctly and easily<br>• Describing polygon properties and characteristics<br>• Interpreting | **Schema Activation**<br>• Recalling concepts of congruence<br>• Naming and describing different kinds of polygons<br><br>**Demonstration**<br>Illustrating key points with interactive board tasks and group exercises | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Identifying congruent polygons<br>○ *Work Together*<br>Recognizing congruent elements in polygons<br>○ *Work Alone*<br>Matching congruent | • Accuracy, patience, and diligence in identifying and proving congruency in polygons<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in | • shoebox<br>• sets of cutouts of triangles and squares of different sizes<br>• sets of cutouts of congruent triangles and squares<br>• cell phone/tablet computer<br>• YouTube video: *Extend Your Learning* |

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| | | | | | instructions and visual representations of polygons<br><br>**Critical Thinking and Problem-Solving**<br>• Classifying polygons based on their number of sides<br>• Analyzing similarities and differences between different polygons<br><br>**Collaboration**<br>Collaborating with a friend to address activities<br><br>**ICT Literacy**<br>Accessing an online video to enhance learning on the lesson<br><br>**Life Skills**<br>• Enhancing spatial awareness by working with shapes and angles<br>• Strengthening attention to detail<br>• Applying Mathematical concepts practically | **Discussion**<br>• Presenting the characteristics of congruent polygons<br>• Measuring and comparing angles to establish congruency<br><br>**Practice and Drill**<br>Leveraging activities and board visuals to enhance lesson delivery<br><br>**Cooperative Learning**<br>Requiring learners to work in groups to arrive at a consensus<br><br>**Synthesis**<br>Having learners reformulate lesson highlights in their words | figures<br><br>• *Let Us Solve*<br>Answering questions involving congruent polygons<br><br>• *Let Us Check Your Understanding*<br>○ Proving congruency<br>○ Using ruler and protractor to illustrate the required type of polygon<br><br>• Individual/class exercise<br>– Accessing online resources about congruent polygons<br>– Answering the most essential question about congruent polygons | accomplishing tasks within a set time frame | *Experience* QR Code, page 373, "What are Congruent and Similar Figures?" by Miacademy Learning Channel, https://youtu.be/qOMaccG-xEg |

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| **Lesson 3**<br>*Symmetry* | **M2GE-IIIh-7.1**<br>Identify shapes/figures that show symmetry in a line<br><br>**M2GE-IIIh-7.4a**<br>Identify and draw the line of symmetry in a given symmetrical figure<br><br>**M2GE-IIIh-7.2**<br>Create figures that show symmetry in a line<br><br>**M3GE-IIIg-7.4**<br>Identify and draw the line of symmetry in a given symmetrical figure<br><br>**M3GE-IIIh-7.5**<br>Complete a symmetric figure with respect to a given line of symmetry<br><br>*Identify symmetry with respect to a line*<br><br>*Complete a figure that is symmetric with respect to a line* | • Identify and visualize symmetry in the environment and in design<br>• Identify and draw the line of symmetry in a given symmetrical figure<br>• Complete a symmetric figure with respect to a given line of symmetry | • When is a figure symmetrical?<br>• What is a line of symmetry? | • A figure is *symmetrical* when it can be divided into two equal parts that match or fit each other exactly.<br>• A *line of symmetry* is an imaginary line that divides a figure into two, so that the two parts are mirror images of each other. | **Literacy and Numeracy**<br>• Recognizing and using terminology, which involves symmetry, correctly and easily<br>• Interpreting instructions and visual representations<br>• Enhancing spatial awareness<br>• Recognizing patterns<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing the properties of different figures<br>• Practicing logical reasoning to form conclusions about symmetrical properties<br><br>**Collaboration**<br>Structuring tasks that involve shared problem-solving and agreement<br><br>**ICT Literacy**<br>Accessing online videos to enhance learning on the lesson | **Schema Activation**<br>Reviewing the kinds of lines<br><br>**Demonstration**<br>Breaking down concepts through board visuals and interactive exercises<br><br>**Discussion**<br>• Introducing the functions of the line of symmetry<br>• Discussing the steps in identifying and checking for symmetry<br><br>**Practice and Drill**<br>Supporting the lesson with visual board work and structured activities<br><br>**Cooperative Learning**<br>Assigning activities that call for cooperative decision-making<br><br>**Synthesis**<br>Engaging students to explain their learning in a way that's natural for them | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Identifying symmetry in polygons<br>○ *Work Together* Illustrating the missing parts to come-up with symmetrical figures<br>○ *Work Alone* Recognizing symmetry in everyday objects<br>• *Let Us Solve* Drawing symmetrical polygons<br>• *Let Us Check Your Understanding*<br>○ Recognizing line of symmetry<br>○ Drawing line of symmetry<br>○ Completing symmetrical figure illustrations<br>• Individual/class exercise<br>– Accessing online resources about symmetrical objects | • Accuracy, patience, and diligence in identifying symmetry in polygons through the line of symmetry<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • picture of a children's playground<br>• paper<br>• pair of scissors<br>• picture of a butterfly<br>• cutouts<br>• guava leaf<br>• mirror<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 382, "Intro to Symmetry: All About Symmetry for Kids – Free School" by Free School, https://www.youtube.com/watch?v=YFzktJNmnPU<br>• *Extend Your Learning Experience* QR Code, page 382, "Line Of Symmetry \| Mathematics Grade 4 \| Periwinkle" by Periwinkle, https://www.youtube.com/watch?v=_Xs56r9o3Tw |

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| | | | | | **Life Skills**<br>• Strengthening attention to detail<br>• Applying mathematical concepts practically | | – Answering the most essential question about symmetry in figures | | |
| **Lesson 4**<br>*Reflection with Shapes* | *Draw the image of an object after applying reflection with respect to a line, including glide reflection* | • Determine whether the resulting image shows a reflection or not<br>• Draw the image of an object after applying reflection with respect to a line, including glide reflection | • What is a transformation in mathematics?<br>• What is a reflection?<br>• What is a translation?<br>• What is a glide reflection?<br>• How do you do glide reflection? | • A *transformation* in mathematics is a change that involves the position of a shape or figure.<br>• A *reflection* or a flip is a type of transformation in which a shape or a figure is moved over a line of reflection to create a mirror image.<br>• A *translation* is another type of transformation that involves sliding a shape left, right, up, or down without changing its appearance or size.<br>• A *glide reflection* is a combination of a reflection and a translation.<br>• To do a glide reflection, do two transformations: | **Literacy and Numeracy**<br>• Building mathematical vocabulary<br>• Communicating mathematical ideas<br>• Recognizing patterns and sequence<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing step-by-step transformations<br>• Practicing logical reasoning to form conclusion<br><br>**Collaboration**<br>Setting collaborative challenges for learners to reach an agreed answer<br><br>**ICT Literacy**<br>Accessing an online video to enhance learning on the | **Schema Activation**<br>Reviewing the transformation of shapes<br><br>**Demonstration**<br>Making the lesson more understandable with guided board work and activities<br><br>**Discussion**<br>Modeling the concepts of reflection, line of reflection, translation, and glide reflection through illustrative examples<br><br>**Practice and Drill**<br>Supporting the lesson with visual board work and structured activities<br><br>**Cooperative Learning**<br>Assigning activities that call for | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Determining reflection in figures<br>○ *Work Together* Drawing images that show reflection and glide reflection<br>○ *Work Alone* Illustrating images following the concepts on reflection and glide reflection<br>• *Let Us Solve* Analyzing a given image<br>• *Let Us Check Your Understanding* Creating illustrations that demonstrate the concepts of reflection and glide reflection<br>• Individual/class | • Accuracy, patience, and diligence in illustrating figures observing the concepts on reflection, translation, and guide reflection correctly<br>• Teamwork and collaboration<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • pictures of<br>○ person's reflection in a mirror<br>○ the reflection of a mountain on still water<br>○ the reflection of a tree on the water<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 389, "Reflection in diagonal line" by Mrs. Wright Maths Revision, https://www.youtube.com/watch?v=-rbEk3MlWYA |

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| | | | | reflection over the line of reflection and translation parallel to the line of reflection. | lesson<br><br>**Life Skills**<br>• Strengthening attention to detail<br>• Applying mathematical concepts practically | cooperative decision-making<br><br>**Synthesis**<br>Engaging students to explain their learning in a way that's natural for them | exercise<br>– Accessing an online video about the reflection of shapes<br>– Answering most essential questions about the lesson<br>– Applying the *making an organized list* strategy in solving word problems<br>– Designing a map which demonstrates knowledge and understanding of polygons and other geometrical figures<br>**Summative**<br>• *Problem Solving Strategy*<br>• Chapter Test<br>• *Have Fun! You Can Do More!*<br>• *Math Reflection* Accomplishing an exit ticket for the chapter<br>• Summative Test | | |

# 4th Quarter

| Chapter 10: *Data in Tables and Graphs* | | Time Frame: 7 days | |
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| **Content Standard** | The learners demonstrate understanding of the concepts of bar graphs and simple experiments. | **Performance Standard** | The learners are able to create and interpret simple representations of data (tables and bar graphs) and describe outcomes in simple experiments. |

| Content | MATATAG Learning Competency/ies | Lesson Objective/s | Essential Questions | Enduring Understandings | 21st-Century Skills | Teaching Strategies/ Differentiated Instruction | Assessment | Values Integration | Materials and Resources |
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| **Lesson 1**<br>*Collecting and Organizing Data* | **M2SP-IVh1.2**<br>Collect data on one variable using a questionnaire<br><br>**M3SP-IVh3.3**<br>Infer and interpret data presented in different kinds of bar graphs (vertical/ horizontal)<br><br>**M3SP-IVh4.3**<br>Solve routine and nonroutine problems using data presented in a single-bar graph<br><br>**M4SP-IVg2.4**<br>Organize data in tabular form and presents them in a single/double horizontal or vertical bar graph<br><br>**M4SP-IVg3.4**<br>Interpret data presented in | • Collect data with time element using appropriate sources<br>• Present data in a tabular form, or in a single bar or line graphs | • How do you collect data?<br>• How do you organize the data you collected?<br>• How do you present data or information? | • To collect data, conduct a survey about what you want to find out. You can also observe and record information for an event or gather data from appropriate sources.<br>• To organize data, make a table and tally the items as you count them. Then write the total number of tally marks for each item.<br>• You can present data or information through a bar graph or a line graph. The bar graph may be vertical or horizontal. | **Literacy and Numeracy**<br>• Building mathematical vocabulary<br>• Strengthening number sense<br>• Interpreting information<br>• Communicating insights<br>• Reading and creating scales<br>• Recognizing patterns and trends<br>• Calculating averages and totals<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Analyzing data sets<br>• Using logical reasoning | **Motivation**<br>Eliciting responses from the learners through pictures<br><br>**Demonstration**<br>Strengthening comprehension with board-centered activities<br><br>**Discussion**<br>Presenting different ways data are collected, organized, and presented<br><br>**Practice and Drill**<br>Using more activities to reinforce mastery of the discussed concepts<br><br>**Cooperative Learning**<br>Assigning tasks which will require the learners to work together to come-up | **Diagnostic**<br>Chapter Pretest<br><br>**Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Completing the table and presenting the data in a table<br>○ *Work Together*<br>A. Working with a group in supplying information to complete a table and making a horizontal bar graph out of the data<br>• Gathering and presenting data<br>○ *Work Alone*<br>Answering specific questions after | • Accuracy, patience, and diligence in collecting and organizing data<br>• Teamwork and collaboration<br>• Time management and attention to detail | • pictures of cartoon characters<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience*<br>QR Code, page 401, “Math 4 Q4 Collecting and Organizing Data Tabular Form and Presenting them in a Bar Graph” by Math is Fun, https://youtu.be/_ZGmPtk4TE4<br>• *Extend Your Learning Experience*<br>QR Code, page 401, “COLLECTING AND |

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| | different kinds of bar graphs (vertical/horizontal, single/double bars)<br><br>**M5SPIVg-2.5**<br>Organize data in tabular form and presents them in a line graph<br><br>**M5SPIVh-3.5**<br>Interpret data presented in different kinds of line graphs (single to double-line graph)<br><br>*Collect data with time element using appropriate sources*<br><br>*Present data in a tabular form, or in a single bar or line graphs* | | | | • Encouraging strategic thinking<br>• Building attention to detail<br>• Drawing conclusions<br><br>**Collaboration**<br>Teaming up with a classmate to tackle collaborative exercises<br><br>**ICT Literacy**<br>Utilizing online videos to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Applying organizational skills<br>• Applying mathematical concepts practically | with an agreed solution to given items<br><br>**Synthesis**<br>Allowing the learners to summarize their learnings using their own words | organizing data<br>• *Let Us Solve* Collecting data on temperature and organizing them in a table<br>• *Let Us Check Your Understanding* Conducting a survey, organizing data, and presenting them using a bar graph<br>• Individual/class exercise<br>– Watching online videos about collecting and organizing data<br>– Answering essential questions about the lesson | | ORGANIZING DATA IN TABULAR FORM/ MATH 4 - Quarter 4 Week 5/MELC BASED" by AR's Vision of Hope, https://www.youtube.com/watch?v=8W3L7t_2Qvc |
| **Lesson 2**<br>*Interpreting Bar Graphs* | **M3SP-IVg2.3**<br>Sort, classify, and organize data in tabular form and presents this into a vertical or horizontal bar graph<br><br>**M3SP-IVh3.3**<br>Infer and interpret | • Interpret data presented in different kinds of bar graphs (vertical, horizontal, single bar graphs)<br>• Draw inferences based on data presented in a | • What is a graph?<br>• What part of the graph describes what it contains?<br>• What do you call the graph with bars that go from left to right? from bottom to top? | • A *graph* is a pictorial presentation of numerical information.<br>• A *bar graph* is a kind of graph that uses bars to tell information.<br>• The *title of the* | **Literacy and Numeracy**<br>• Building mathematical vocabulary<br>• Strengthening number sense<br>• Interpreting information<br>• Communicating | **Schema Activation**<br>Recalling pictographs and bar graphs<br><br>**Demonstration**<br>Bringing clarity to lessons with activities and board illustrations | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Providing correct responses based on a graph<br>○ *Work Together* Working with a | • Accuracy, patience, and diligence in interpreting bar graphs<br>• Teamwork and collaboration<br>• Time management and attention to detail | • pictographs<br>• vertical and horizontal bar graphs<br>• line graphs<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR |

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| | data presented in different kinds of bar graphs (vertical/ horizontal)<br><br>**M3SP-IVh4.3**<br>Solve routine and nonroutine problems using data presented in a single-bar graph<br><br>**M4SP-IVg2.4**<br>Organize data in tabular form and presents them in a single/double horizontal or vertical bar graph<br><br>**M4SP-IVg3.4**<br>Interpret data presented in different kinds of bar graphs (vertical/horizontal, single/double bars)<br><br>**M3SP-IVh4.3**<br>Solve routine and nonroutine problems using data presented in a single-bar graph<br><br>**M4SP-IVh4.4**<br>Solve routine and non-routine problems using data presented in a single or double-bar | single bar graph | | *graph* describes its contents.<br>• A *horizontal bar graph* has bars that go from left to right.<br>• A *vertical bar graph* has bars that go from bottom to top. | insights<br>• Reading and creating scales<br>• Recognizing patterns and trends<br>• Calculating averages and totals<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Analyzing data sets<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention to detail<br>• Drawing conclusions<br><br>**Collaboration**<br>Teaming up with a classmate to tackle collaborative exercises<br><br>**ICT Literacy**<br>Utilizing an online article to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making | **Discussion**<br>Presenting the steps in interpreting bar graphs<br><br>**Practice and Drill**<br>Enhancing lesson clarity through guided board activities and engaging dynamics<br><br>**Cooperative Learning**<br>Assigning tasks that encourage learners to collaborate and reach a consensus<br><br>**Synthesis**<br>Supporting learners in translating their insights into their wording | pair in interpreting a graph<br>○ *Work Alone*<br>Analyzing and interpreting a graph<br>• *Let Us Solve*<br>Answering questions about a graph<br>• *Let Us Check Your Understanding*<br>Reading and interpreting a graph<br>• Individual/class exercise<br>– Reading an online article about bar graphs<br>– Answering essential questions about the lesson | | Code, page 411, “Bar Graphs” by MATH is FUN, https://www.mathsisfun.com/data/bar-graphs.html |

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| | graph<br><br>*Interpret data presented in different kinds of bar graphs (vertical/horizontal, single) bar graphs* | | | | skills<br>• Applying organizational skills<br>• Applying mathematical concepts practically | | | | |
| **Lesson 3**<br>*Interpreting Line Graphs* | **M5SPIVg-2.5**<br>Organize data in tabular form and presents them in a line graph<br><br>**M5SPIVh-3.5**<br>Interpret data presented in different kinds of line graphs (single to double-line graph)<br><br>**M5SPIVh-4.5**<br>Solve routine and nonroutine problems using data presented in a line graph<br><br>**M5SPIVh-5.5**<br>Draw inferences based on data presented in a line graph<br><br>*Interpret data presented in a tabular form or in a single line graph* | • Define and describe a single line graph<br>• Interpret data presented in a single line graph | • What does a single line graph tell you?<br>• What do you notice about the data presented in the single line graph? Are there changes in the data? | • A *single line graph* is used to show trends and changes in a single data over a period of time.<br>• A *line graph* has (*a*) a title, (*b*) labels, (*c*) scales, and (*d*) data points that are connected by (*e*) straight lines. | **Literacy and Numeracy**<br>• Building mathematical vocabulary<br>• Strengthening number sense<br>• Interpreting information<br>• Communicating insights<br>• Reading and creating scales<br>• Recognizing patterns and trends<br>• Calculating averages and totals<br><br>**Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Analyzing data sets<br>• Using logical reasoning<br>• Encouraging strategic thinking<br>• Building attention | **Schema Activation**<br>Recalling concepts in interpreting bar graphs<br><br>**Demonstration**<br>Applying interactive board work and exercises to make ideas clearer<br><br>**Discussion**<br>Presenting the steps in interpreting line graphs<br><br>**Practice and Drill**<br>Supporting the lesson with visual board work and structured activities<br><br>**Cooperative Learning**<br>Assigning tasks that encourage learners to collaborate and reach a consensus<br><br>**Synthesis**<br>Supporting learners in translating their insights into their | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Providing the correct responses after analyzing a graph<br>○ *Work Together* Working with a pair in interpreting a graph<br>○ *Work Alone* Analyzing and interpreting a graph<br>• *Let Us Solve* Answering questions about a graph<br>• *Let Us Check Your Understanding* Reading and interpreting a graph<br>• Individual/class exercise<br>– Watching an online video about line | • Accuracy, patience, and diligence in interpreting line graphs<br>• Teamwork and collaboration<br>• Time management and attention to detail | • bar graph on a piece of cartolina or manila paper<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 418, "Teaching Line Graphs" by Science4Us, https://www.youtube.com/watch?v=n2YkbdNORp8 |

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| | | | | | to detail<br>• Drawing conclusions<br><br>**Collaboration**<br>Teaming up with a classmate to tackle collaborative exercises<br><br>**ICT Literacy**<br>Utilizing an online video to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Applying organizational skills<br>• Applying mathematical concepts practically | wordings | graphs<br>– Answering essential questions about the lesson | | |
| **Lesson 4**<br>*Word Problems Involving Graphs* | **M4SP-IVh5.4**<br>Draw inferences based on data presented in a double bar graph<br><br>*Solve problems using data for at most two variables in a tabular form or in a single bar or line graph* | Solve problems using data for at most two variables in a tabular form or in a single bar or line graph | • How do you solve a word problem involving graph?<br>• What is an average? | • To solve a word problem involving graph, follow the four steps in problem- solving. Use facts or information given in the graph.<br>• An *average* is the number that is obtained when a set of values is added, and the | **Literacy and Numeracy**<br>• Reading and interpreting word problems accurately<br>• Identifying relevant information and key terms in word problems<br>• Comprehending mathematical | **Schema Activation**<br>Recalling concepts on:<br>• Getting the average of a set of numbers<br>• Identifying the parts of a graph<br>• Interpreting bar and line graphs<br><br>**Demonstration**<br>Supporting concept | **Diagnostic**<br>• *Let Us Practice*<br>○ *Get Ready* Providing the correct responses after analyzing a graph<br>○ *Work Together* Working with a pair in interpreting a graph<br>○ *Work Alone* | • Accuracy, patience, and diligence in analyzing, interpreting, and solving for word problems involving graphs<br>• Teamwork and collaboration<br>• Time management and attention to detail | • examples of a single bar and line graph<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 427, "INTERPRETING BAR GRAPH \| Mathematics Grade 4" by |

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| | | | | sum is divided by the number of values | language<br>• Summarizing word problems to simplify understanding<br><br>**Critical Thinking and Problem-Solving**<br>• Evaluating the solution process for accuracy and relevance<br>• Distinguishing between necessary and unnecessary information<br>• Identifying steps to approach and solve word problems systematically<br><br>**Collaboration**<br>Working alongside a peer on activities that require coordinated effort to solve problems<br><br>**ICT Literacy**<br>Accessing online resources like video/s to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving Decision-Making | understanding with visual board work and tasks<br><br>**Discussion**<br>Presenting the steps in interpreting and answering word problems involving graphs<br><br>**Practice and Drill**<br>Enhancing lesson clarity through guided board activities and engaging dynamics<br><br>**Cooperative Learning**<br>Assigning tasks that encourage learners to collaborate and reach a consensus<br><br>**Synthesis**<br>Supporting learners in translating their insights into their wording | Analyzing and interpreting a graph<br>• *Let Us Solve* Answering questions about a graph<br>• *Let Us Check Your Understanding* Reading and interpreting a graph<br>• Individual/class exercise<br>– Watching online videos interpreting bar and line graphs<br>– Answering essential questions about the lesson<br>– Applying *using information in a table* strategy in solving word problems<br>– Making a bar graph that demonstrates knowledge, understanding, and skills on gathering data and constructing graphs that involve the trends on sales | | Jahzeel Zubiga, https://www.youtube.com/watch?v=seGlMx3SKMM<br>• *Extend Your Learning Experience* QR Code, page 427, "Reading/Interpreting Line Graphs" by Bahay- Aralan, https://www.youtube.com/watch?v=tQlLEoa7Gko |

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| | | | | | • Organizing work in a clear, logical sequence for problem-solving<br>• Applying Mathematical concepts practically | | of food items at the school canteen<br>**Summative**<br>• *Problem Solving Strategy*<br>• Chapter Test<br>• *Have Fun! You Can Do More!*<br>• Math Reflection Accomplishing an exit ticket for the chapter<br>• Summative Test | | |

| **Chapter 11: *Patterns, Equations, and Decimals*** | | **Time Frame**: 12 days | |
|---|---|---|---|
| **Content Standards** | The learners should have knowledge and understanding of . . .<br>• simple patterns<br>• number sentences<br>• decimal numbers and their relationship to fractions | **Performance Standards** | The learners are able to…<br>• describe the rule used to generate a given simple pattern.<br>• complete a number sentence:<br>a. to represent a property of operations (e.g., 4 + 3 = 3 + __) (commutative property of addition)<br>b. to represent equivalent number facts (e.g., 4 + __ = 6 + 3)<br>• represent decimal numbers using models and manipulatives to show the relationship to fractions.<br>• read and write decimal numbers with decimal parts to hundredths.<br>• determine<br>a. the place value to hundredths of a digit in a given decimal number,<br>b. the value of a digit, and<br>c. the digit of number, given its place value.<br>• convert decimal numbers to fractions, and fractions with denominators 10 or 100 to decimals.<br>• plot decimal numbers with tenth decimal part on the number line.<br>• compare and order decimal numbers with decimal parts to hundredths.<br>• round decimal numbers to the nearest whole number and to the nearest tenth. |

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| **Lesson 1**<br>*Patterns* | **M4AL-IIIe-5**<br>Determine the missing term/s in a sequence of numbers (e.g. odd numbers, even numbers, multiples of a number, factors of a number, etc.)<br><br>**M5AL-IIIf-6**<br>Formulate the rule in finding the next term in a sequence<br><br>*Describe the rule used to generate a given simple pattern* | • Describe the rule used to generate a given simple pattern<br>• Determine the missing terms in a sequence | • What is sequence?<br>• What is the pattern?<br>• How do you find the missing item in a sequence? | • A *sequence* is a list of numbers, letters, or figures that follow a pattern.<br>• A *pattern* is an arrangement of items such as numbers, pictures, or letters in a sequence following a rule or order.<br>• The pattern in a sequence determines or tells what the next item in the sequence will be.<br>• To find the missing item in a sequence, follow these steps:<br>1. Analyze the sequence and determine the rule.<br>2. Apply the rule to obtain the missing item. | **Literacy and Numeracy**<br>• Developing pattern recognition<br>• Applying mathematical vocabulary<br>• Strengthening number sense<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing relationships<br>• Predicting outcomes<br>• Developing logical reasoning<br><br>**Collaboration**<br>Working alongside a peer on activities that require coordinated effort to solve problems<br><br>**ICT Literacy**<br>Accessing online resources like video/s to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical | **Schema Activation**<br>Recalling concepts on skip counting<br><br>**Motivation**<br>Eliciting responses from the learners using pictures<br><br>**Demonstration**<br>Supporting concept understanding with visual board work and tasks<br><br>**Discussion**<br>Presenting the steps in using/solving number sentence/series correctly<br><br>**Practice and Drill**<br>Incorporating additional exercises to enhance lesson clarity<br><br>**Cooperative Learning**<br>Assigning tasks that encourage learners to collaborate and reach a consensus<br><br>**Synthesis**<br>Supporting learners in translating their insights into their wording | **Diagnostic**<br>• Chapter Pretest<br>• Reviewing skip counting<br><br>**Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Continuing number sequences<br>○ *Work Together*<br>A. Identifying the pattern/s in number sentences<br>B. Completing number sequences by writing the missing numbers<br>○ *Work Alone*<br>Supplying the needed items to complete the provided patterns and number sequences<br>○ *Let Us Solve*<br>Answering questions involving patterns and number sentences<br>○ Creating and writing own number | • Accuracy, patience, and diligence in identifying patterns and completing number sequences/patterns<br>• Teamwork and collaboration<br>• Time management and attention to detail | • some pictures of leaves, rows of flowering plants of different kinds, zebra<br>• colored stripe shirts<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 443, "Common Number Patterns Mathematics Grade 4 Periwinkle" by Periwinkle, https://youtu.be/82Zh3PTm4yI<br>• *Extend Your Learning Experience* QR Code, page 443, "Grade 4 Math 5.6, What are Patterns and Terms" by JoAnn's School, https://youtu.be/ZQ7DuyUfauY |

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| | | | | | sequence for problem-solving<br>• Applying mathematical concepts practically | | sequence<br>• *Let Us Check Your Understanding*<br>○ Describing the pattern used in the sequence<br>○ Writing the missing item in a sequence pattern<br>• Individual/class exercise<br>– Watching online videos related to the lesson discussed<br>– Answering essential questions about the lesson | | |
| **Lesson 2**<br>*Solving Equations* | **M6AL-IIIf-19**<br>Solve routine and non-routine problems involving different types of numerical expressions and equations such as 7+ 9 =___ + 6<br><br>*Complete a number sentence*<br>*a. To represent a property of operations (e.g., 4 + 3 = 3 + __) (commutative property of* | Solve equations using properties of operations and equivalent number facts. | • What is an equation?<br>• What is used to represent unknown number in an equation?<br>• How do you solve an equation?<br>• How is subtraction related to addition? How about division to multiplication?<br>• How do you check if the value you obtained is | • An *equation* is a mathematical sentence that states the equality between two expressions. It is also called a *number sentence*.<br>• Any letter or symbol that is not a number may be used to represent an unknown number in an equation.<br>• To solve an equation, find the | **Literacy and Numeracy**<br>• Developing pattern recognition<br>• Applying mathematical vocabulary<br>• Interpreting mathematical symbols<br>• Strengthening number sense<br>• Performing arithmetic operations<br><br>**Critical Thinking** | **Schema Activation**<br>Recalling concepts on the relationship between addition and subtraction and multiplication and division<br><br>**Demonstration**<br>Supporting concept clarity with visual board work and interactive tasks<br><br>**Discussion**<br>Presenting the steps in solving equations | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Identifying whether the statements are true or false<br>○ *Work Together* Solving for the unknown number and rewriting the equation with the correct answer in place of the missing value<br>○ *Work Alone* | • Accuracy, patience, diligence in solving equations<br>• Teamwork and collaboration<br>• Time management and attention to detail | • perception cards containing equations with a variable<br>• fact triangles to show the relationship between addition and subtraction and multiplication and division<br>• cell phone/tablet computer<br>• *Extend Your Learning Experience* QR Code, page 452, “Grade 4 Math |

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| | *addition)*<br>*b. To represent equivalent number facts (e.g., 4 + __ = 6 + 3).* | | correct? | unknown number that will make the equation true.<br>• Subtraction is the opposite of addition. It is used in finding a missing addend.<br>• Division is the opposite of multiplication. It can be used to find a missing factor.<br>• You can use the properties of operations or equivalent number facts to solve for an unknown number in a number sentence or an equation.<br>• To check if an answer is correct, replace the letter with the value you obtained and see if it makes the equation true. | **and Problem-Solving**<br>• Analyzing relationships<br>• Predicting outcomes<br>• Developing logical reasoning<br>• Evaluating multiple approaches<br><br>**Collaboration**<br>Crafting assignments that guide learners to agree on a single solution<br><br>**ICT Literacy**<br>Accessing online resources like video/s to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | **Practice and Drill**<br>Giving supplementary tasks to help clarify the lesson<br><br>**Cooperative Learning**<br>Having the class do group work activities<br><br>**Synthesis**<br>Encouraging the students to recount key takeaways in their words | Solving for the missing value of *n* and rewriting the equation with the correct answes<br>• *Let Us Solve*<br>Transposing word problems to equations and finding the answers to each<br>• *Let Us Check Your Understanding*<br>Analyzing the given number sentences and computing for the missing value<br>• Individual/class exercise<br>– Watching online videos about solving for an unknown number in an equation<br>– Answering essential questions about the lesson | | 2.2, Compare to Solve For n" by JoAnn's School, https://www.youtube.com/watch?v=yzvL53qj8j4 |
| **Lesson 3**<br>*Decimals in Tenths and Hundredths* | **M7NS-Ie-1**<br>Express rational numbers from fraction form to | Visualize decimal numbers using models like blocks, grids, number lines, | • What is a decimal?<br>• What is a tenth? A hundredth? | • A *decimal* is a number that can be expressed as a fraction whose | **Literacy and Numeracy**<br>• Understanding place value | **Schema Activation**<br>Recalling concepts in writing fractions | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>A. Naming the | • Accuracy, patience, and diligence in | • decimal models in tenths and hundredths<br>• place value chart |

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| | decimal form and vice versa<br><br>**M4NS-IIi-99**<br>Visualize decimal numbers using models like blocks, grids, number lines and money to show the relationship to fractions<br><br>**M4NS-IIi-100**<br>Rename decimal numbers to fractions, and fractions whose denominators are factors of 10 and 100 to decimals<br><br>**M4NS-IIi-101.1**<br>Give the place value and the value of a digit of a given decimal number through hundredths<br><br>**M4NS-IIj-102.1**<br>Read and write decimal numbers through hundredths<br><br>*Represent decimal numbers using models and manipulatives to show the relationship to fractions* | and money to show the relationship to fractions<br><br>Plot decimal numbers with tenth decimal part on the number line | • How many decimal places are in a tenth? in a hundredth? | denominator is a power of 10.<br>• A *tenth* is a fraction whose denominator is 10. It is one of the 10 equal parts of a whole.<br>• A *hundredth* is a fraction whose denominator is 100. It is one of the 100 equal parts of a whole.<br>• A tenth has one decimal place. It is a one-place decimal.<br>• A hundredth has two decimal places. It is a two-place decimal. | • Interpreting decimal notation<br>• Communicating decimal concepts<br>• Comparing and ordering decimals<br>• Strengthening number sense<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing relationships<br>• Recognizing patterns in decimals<br>• Developing logical reasoning<br>• Evaluating multiple approaches<br><br>**Collaboration**<br>Pairing students to tackle activities that depend on teamwork<br><br>**ICT Literacy**<br>Accessing online resources like video/s to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making<br>• Organizing work | **Demonstration**<br>Presenting ideas through dynamic board visuals and student-centered tasks<br><br>**Discussion**<br>Presenting the salient concepts in the lesson through interactive tasks and/or dynamic question and answer<br><br>**Practice and Drill**<br>Giving supplementary tasks to help clarify the lesson<br><br>**Cooperative Learning**<br>Pairing the students to work on activities<br><br>**Synthesis**<br>Encouraging the students to recount key takeaways in their words | fractions and decimals shown in the figures<br>B. Expressing the values as decimals<br>○ *Work Together*<br>A. Writing decimals in words<br>B. Expressing money values as decimals<br>○ *Work Alone*<br>Naming the figures as fractions and decimals<br>• *Let Us Solve*<br>Analyzing and answering word problems which involves decimals in tenths and hundredths<br>• *Let Us Check Your Understanding*<br>Writing decimals in words and figures and answering questions with the decimal required<br>• Individual/class exercise<br>– Answering | expressing values in decimals in tenths and hundredths<br>• Teamwork and collaboration<br>• Time management and attention to detail | • coins<br>• number line for plotting decimals in tenths<br>• YouTube video:<br>○ *Extend Your Learning Experience* QR Code, page 459, "Writing Tenths and Hundredths (Decimals and Fractions) Math with Mr. J" by Math with Mr J, https://www.youtube.com/watch?v=ibR_iBxnITE |

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| | | | | | in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | | essential questions about the lesson<br>– Watching online videos about expressing numbers in decimals | | |
| **Lesson 4**<br>*Fractions and Decimals* | **M7NS-Ie-1**<br>Express rational numbers from fraction form to decimal form and vice versa<br><br>**M4NS-IIi-100**<br>Rename decimal numbers to fractions, and fractions whose denominators are factors of 10 and 100 to decimals<br><br>*Convert decimal numbers to fractions and fractions with denominators 10 or 100 to decimals* | Rename decimal numbers to fractions and fractions whose denominators are factors of 10 and 100 to decimals | • How do you express a fraction as a decimal?<br>• In what ways can a fraction be changed to a decimal? | • You can rename a fraction as a decimal by first expressing it as a fraction in tenths or hundredths.<br>• To express a fraction as a decimal, you can do any of the following:<br>– If the denominator of the fraction is a factor of 10, multiply both the numerator and denominator by a number that will result to an equivalent fraction in tenths. Write the resulting fraction as a decimal in tenths.<br>– If the denominator is | **Literacy and Numeracy**<br>• Understanding equivalent values<br>• Interpreting mathematical notation<br>• Communicating mathematical concepts and processes<br>• Comparing fractions and decimals<br>• Strengthening number sense<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing relationships<br>• Recognizing patterns in decimals and fractions<br>• Developing logical reasoning<br><br>**Collaboration**<br>Setting | **Schema Activation**<br>Recalling concepts in renaming dissimilar fractions<br><br>**Demonstration**<br>Breaking down concepts through board visuals and interactive exercises<br><br>**Discussion**<br>Highlighting essential lesson ideas with active learning tasks and interactive discussions<br><br>**Practice and Drill**<br>Adding supplemental exercises to strengthen learning<br><br>**Cooperative Learning**<br>Giving projects that prompt learners to solve problems | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>A. Expressing shaded parts of figures as fractions and decimals<br>B. Writing fractions as decimals<br>○ *Work Together*<br>Completing the table by writing decimals and fractions<br>○ *Work Alone*<br>Writing values as fractions and decimals<br>• *Let Us Solve*<br>Analyzing and answering word problems which involves fractions and decimals<br>• *Let Us Check Your Understanding* | • Accuracy, patience, and diligence in expressing fractions to decimals<br>• Teamwork and collaboration<br>• Time management and attention to detail | • cutouts showing different fractions<br>• *Extend Your Learning Experience* QR Code, page 464, "Fraction to Decimal Calculator" by CalculatorSoup, https://www.calculatorsoup.com/calculators/math/fraction-to-decimal-calculator.php |



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| | | | | a factor of 100, multiply both the numerator and denominator by a number that will result to an equivalent fraction in hundredths. Write the resulting fraction as a decimal in hundredths. | collaborative challenges for learners to reach an agreed answer<br><br>**ICT Literacy**<br>Accessing online resources to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | together<br><br>**Synthesis**<br>Motivating the students to personalize their learning summaries | Expressing values as decimals or fractions<br>• Individual/Class exercise<br>– Determining the ways and rules in expressing fractions as decimals<br>– Answering essential questions about the lesson<br>– Using an online fraction to decimal calculator to sharpen skills in writing fractions as decimals | | |
| **Lesson 5**<br>*Place Value of Decimals* | **M4NS-IIi-101.1**<br>Give the place value and the value of a digit of a given decimal number through hundredths<br><br>*Determine*<br>*a. the place value to hundredths of a digit in a given decimal number*<br>*b. the value of a digit*<br>b. *c. the digit of number, given* | • Give the place value and the value of a digit of a given decimal number through hundredths<br>• Name the digit of a number given its place value. | • What is a mixed decimal?<br>• What separates the whole number from the decimal?<br>• In a place value chart, where are the decimals found?<br>• How do you get the value of a digit in a decimal? | • A *mixed decimal* is a whole number and a decimal written together.<br>• The *decimal point* separates the whole number part from the decimal part.<br>• Decimals are found to the right of the whole numbers.<br>• The value of a digit in a decimal | **Literacy and Numeracy**<br>• Understanding decimal place values<br>• Interpreting decimal notation<br>• Communicating mathematical concepts and processes<br>• Comparing and ordering decimals<br>• Strengthening number sense | **Schema Activation**<br>• Recalling concepts in reading decimal numbers in tenths and hundredths<br>• Reviewing place value of whole numbers<br><br>**Demonstration**<br>Using board work and engaging activities to simplify lesson ideas | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Identifying the digit in the tenths and hundredths places<br>○ *Work Together* Writing the place value/value of 2 and 7 in mixed decimals<br>○ *Work Alone* | • Accuracy, patience, and diligence in identifying and writing value and place value of decimals<br>• Teamwork and collaboration<br>• Time management and attention to detail | • place value chart<br>• flash cards with decimal numbers in tenths and hundredths<br>• *Extend Your Learning Experience* QR Code, page 469, "Decimal Place Value with Playing Cards" by GAMES4GAINS, https://www.games4gains.com/blo |



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| | *its place value* | | | depends on the place it occupies. To get the value, multiply the digit by its place value. | **Critical Thinking and Problem-Solving**<br>• Analyzing relationships<br>• Analyzing the structure of numbers<br>• Evaluating and estimating decimal values<br>• Recognizing patterns<br>• Developing logical reasoning<br><br>**Collaboration**<br>Encouraging tasks that promote shared effort towards one solution<br><br>**ICT Literacy**<br>Accessing online resources to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving Decision-Making<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying Mathematical concepts practically | **Discussion**<br>Engaging learners with core concepts via participatory activities and responsive questioning<br><br>**Practice and Drill**<br>Using additional activities to make concepts clearer<br><br>**Cooperative Learning**<br>Setting collaborative challenges for learners to reach an agreed answer<br><br>**Synthesis**<br>Encouraging the students to recount key takeaways in their words | A. Supplying the missing number<br>B. Writing the place value and value of the underlined digits<br>• *Let Us Solve*<br>Analyzing and answering word problems which involves place value of decimals<br>• *Let Us Check Your Understanding*<br>Answering questions about place value of decimals<br>• Individual/class exercise<br>– Enhancing lesson clarity with board visuals and hands-on activities<br>– Determining salient concepts about the place value of decimals<br>– Answering essential questions about the lesson<br>– Playing an | | g/decimal-place-value-cards |

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| | | | | | | | online game about decimals | | |
| **Lesson 6**<br>*Reading and Writing Decimals* | *Read and write decimal numbers with decimal parts to hundredths* | Read and write decimal numbers through hundredths | • What is a decimal? a mixed decimal?<br>• How many decimal places are in a tenth? a hundredth?<br>• How do you read decimals? | • A decimal is a number that can be expressed as a fraction whose denominator is a power of 10.<br>• A mixed decimal is a whole number and a decimal written together. The fraction part of the decimal has a power of 10 as denominator.<br>• A tenth has one decimal place. A hundredth has two decimal places.<br>• You read a decimal in the same way you read the fraction it represents. | **Literacy and Numeracy**<br>• Understanding decimal notation<br>• Using precise mathematical language<br>• Reading and writing decimals accurately<br>• Strengthening number sense<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing the structure of numbers<br>• Analyzing decimal structure<br>• Recognizing patterns<br>• Developing logical reasoning<br><br>**Collaboration**<br>Structuring tasks that involve shared problem-solving and agreement<br><br>**ICT Literacy**<br>Accessing online resources to enhance learning on the presented concepts | **Schema Activation**<br>• Recalling concepts in reading and writing whole numbers<br>• Reviewing the different parts of the place value chart<br><br>**Demonstration**<br>Breaking down concepts through board visuals and interactive exercises<br><br>**Discussion**<br>Engaging learners with core concepts via participatory activities and responsive questioning<br><br>**Practice and Drill**<br>Reinforcing learning the lesson fundamentals through active tasks and question-driven dialogues<br><br>**Cooperative Learning**<br>Pairing the students to accomplish tasks | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Reading and writing decimals<br>○ *Work Together*<br>A. Writing decimals in words<br>B. Expressing values as decimals<br>○ *Work Alone*<br>Writing the items as fractions and decimals<br>• *Let Us Solve*<br>Analyzing and answering word problems which involves writing decimals<br>• *Let Us Check Your Understanding*<br>Writing decimals in words and figures<br>• Individual/class exercise<br>– Determining salient concepts about reading and writing of decimals<br>– Answering the | • Accuracy, patience, and diligence in reading and writing decimals correctly<br>• Teamwork and collaboration through collaborative tasks<br>• Time management and attention to detail in identifying features/elements that are required in accomplishing tasks within a set time frame | • decimal squares for tenths and hundredths<br>• place value chart that includes decimal places<br>• magnetic board<br>• *Extend Your Learning Experience* QR Code, page 474, "How to properly read a decimal number" by Ron Cox, https://youtu.be/iaSFUPRReow |

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| | | | | | **Life Skills**<br>• Improving decision-making skills<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | **Synthesis**<br>Getting the students to personalize their summary of the lesson | most essential questions about the lesson<br>– Watching an online video about reading decimals | | |
| **Lesson 7**<br>*Rounding Off Decimals* | *Round decimal numbers to the nearest whole number and to the nearest tenth* | Round decimal numbers to the nearest whole number and tenths | • What is the rule for rounding off decimals?<br>• How do you round off decimals? | • The rules for rounding off decimals are the same rules that apply to whole numbers.<br>• To round off decimals, look at the digit to the right of the digit in the rounding place.<br>– If the digit is 5 or more, add 1 to the digit in the rounding place. Drop all digits to its right.<br>– If the digit is 4 or less, retain the digit. Drop all the digits to the right of the rounding place. | **Literacy and Numeracy**<br>• Applying rounding rules<br>• Interpreting decimal place values<br>• Using precise mathematical language<br>• Practicing accuracy in rounding<br>• Strengthening number sense<br><br>**Critical Thinking and Problem-Solving**<br>• Analyzing number structures<br>• Applying estimation strategies<br>• Recognizing patterns<br>• Developing | **Schema Activation**<br>Reviewing reading decimals and mixed decimals<br><br>**Demonstration**<br>Making lessons more understandable with guided board work and activities<br><br>**Discussion**<br>Exploring essential ideas through collaborative activities and interactive question and answer<br><br>**Practice and Drill**<br>Introducing more practical examples to illuminate the lesson<br><br>**Cooperative Learning**<br>Structuring tasks | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready*<br>Rounding off numbers to the nearest tenths<br>○ *Work Together*<br>Rounding off numbers to the nearest whole numbers<br>○ *Work Alone*<br>Rounding off numbers to the nearest tenths<br>• *Let Us Solve*<br>Analyzing and answering word problems that involve rounding off decimals<br>• *Let Us Check Your Understanding*<br>Rounding of decimals to the place of the underlined digits, and answering | • Accuracy, patience, and diligence in rounding off decimals accurately<br>• Teamwork and collaboration<br>• Time management and attention to detail | • place value chart<br>• flash cards<br>• number line<br>• *Extend Your Learning Experience* QR Code, page 479, "Scooter Quest Decimal – Rounding" by Sheppard Software, https://www.sheppardsoftware.com/math/decimals/scooter-quest/rounding/ |

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| | | | | | logical reasoning<br><br>**Collaboration**<br>Facilitating exercises that require consensus-building among students<br><br>**ICT Literacy**<br>Accessing online resources to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making<br>• Organizing work in a clear, logical sequence for problem-solving<br>• Applying mathematical concepts practically | that involve shared problem-solving and agreement<br><br>**Synthesis**<br>Encouraging learners to convey their understanding in their language | questions about rounding decimals<br>• Individual/class exercise<br>– Determining the steps in rounding off decimals<br>– Answering the most essential questions about the lesson<br>– Accessing an online game about rounding off decimals | | |
| **Lesson 8**<br>*Comparing and Ordering Decimals* | *Compare and order decimal numbers with decimal parts to hundredths* | • Compare decimals using <, >, or =<br>• Order decimal numbers with decimal parts to hundredths in increasing or decreasing order | • How do you compare decimals?<br>• How do you arrange decimals? | • You compare decimals as you compare whole numbers. That is, compare digits beginning from left to right.<br>• To compare decimals or mixed decimals, rewrite them first as numbers with the same number of decimal | **Literacy and Numeracy**<br>• Understanding decimal values<br>• Interpreting decimal notation<br>• Practicing precision in comparing and ordering decimals<br>• Strengthening number sense | **Schema Activation**<br>• Recalling concepts on the place value of decimals<br>• Eliciting responses from the students using a situational question<br><br>**Demonstration**<br>Bringing clarity to | **Formative**<br>• *Let Us Practice*<br>○ *Get Ready* Using the symbols >, <, or = in comparing decimals<br>○ *Work Together* Ordering decimals from least to greatest<br>○ *Work Alone* | • Accuracy, patience, and diligence in comparing and ordering decimals<br>• Teamwork and collaboration<br>• Time management and attention to detail | • grid<br>• number line<br>• online website:<br>• *Extend Your Learning Experience* QR Code, page 493, "Fruit Splat Compare Decimals" by Sheppard Software, https://www.sheppardsoftware.co |

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| | | | | places.<br>• To compare mixed decimals, begin with the whole number part, then move to the decimal part.<br>• You can arrange decimals in increasing (least to greatest) or decreasing (greatest to least) order. | **Critical Thinking and Problem-Solving**<br>• Recognizing patterns<br>• Analyzing data sets<br>• Using logical reasoning<br>• Developing estimation skills<br>• Encouraging strategic thinking<br>• Building attention to detail<br><br>**Collaboration**<br>Setting tasks for students to brainstorm and reach a unified solution<br><br>**ICT Literacy**<br>Accessing online resources to enhance learning on the presented concepts<br><br>**Life Skills**<br>• Improving decision-making skills<br>• Applying organizational skills<br>• Applying mathematical concepts practically | lessons with activities and board illustrations<br><br>**Discussion**<br>Clarifying key points through hands-on tasks and responsive questioning<br><br>**Practice and Drill**<br>Enhancing lesson clarity through guided board activities and engaging dynamics<br><br>**Cooperative Learning**<br>Assigning tasks that encourage students to collaborate and reach a consensus<br><br>**Synthesis**<br>Supporting students in translating their insights into their wording | Identifying whether the statements are true or false<br>• *Let Us Solve*<br>Analyzing and answering word problems which involve comparing and ordering decimals<br>• *Let Us Check Your Understanding*<br>A. Comparing pairs of decimals<br>B. Answering a word problem<br>• Individual/class exercise<br>– Determining the steps in comparing and ordering decimals<br>– Answering the most essential questions about the lesson<br>– Accessing an online game about decimals<br>**Summative**<br>• Applying writing an equation strategy in solving word problems | | m/math/decimals/fruit-splat-compare-game/ |

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| | | | | | | | • Making a detailed horizontal floor that demonstrates knowledge, understanding, and skills on creating and generating patterns<br>• Chapter Test<br>• *Have Fun! You Can Do More!*<br>• Math Reflection Accomplishing an exit ticket for the chapter<br>• Summative Test | | |