

# **Rigorous Curriculum Design**



# **Unit Planning Organizer**

| Subject:      | Mathematics Grade:           |   |                             |  | 4 |  |
|---------------|------------------------------|---|-----------------------------|--|---|--|
| Unit Number:  | 5                            | Unit Name:  | Measurement and Conversions |  |   |  |
| Unit Length   | Days: 14 days Mins / Day: 60 |   |                             |  |   |  |
| Unit Synopsis | measurem                     | In this unit students build a conceptual understanding of the relative size of units of measure within a single system of measurement. Measurement conversions are used to introduce multiplication as a comparison. Students will solve word problems involving measurement. |                             |  |   |  |

|                    | Math CCSS  | Standards for  | Mathematical Practice   |   |
|--------------------|--|--|---|---|
| Priority Standards | 4. MD.1 - Know relative sizes of measurement units wkm, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a sin measurements in a larger unit in terms of a smaller unin a two-column table. For example, know that 1 ft is 1 length of a 4 ft snake as 48 in. Generate a conversion to number pairs (1, 12), (2, 24), (3, 36),  4.MD.2 - Use the four operations to solve word probletime, liquid volumes, masses of objects, and money, in fractions or decimals, and problems that require expressions or decimals, and problems that require expression as number line diagrams that feature a measurer 4.OA.3 - Solve multistep word problems posed with wnumber answers using the four operations, including be interpreted. Represent these problems using equat unknown quantity. Assess the reasonableness of answestimation strategies including rounding.  | in solving them  ⊠Reason abstract □Construct viable the reasoning of comparishm of the comparishm of | thematics te tools strategically sision take use of structure spress regularity in  |   |
|                    | Math CCSS  | ELA CCSS   |   | NG ELD Standards  |
|                    | 4.0A.1 - Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.  4.0A.5 - Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.  4.NBT.1 - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.  4.NBT.4 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.  4.NBT.5 - Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.  4.NBT.6 - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. | RI.4.7Interpret information presented vis quantitatively (e.g., in charts, graphs, diag animations, or interactive elements on We explain how the information contributes to of the text in which it appears.  W.4.10Write routinely over extended tim research, reflection, and revision) and sho single sitting or a day or two) for a range of specific tasks, purposes, and audiences.  SI.4.1.a-dEngage effectively in a range of discussions (one-on-one, in groups, and text others' ideas and expressing their own clest.4.2Paraphrase portions of a text read a information presented in diverse media a including visually, quantitatively, and oral SI.4.3Identify the reasons and evidence a to support particular points.  L.4.a-cDetermine or clarify the meaning multiple-meaning words and phrases base reading and content, choosing flexibly from strategies.  L.4.5.cDemonstrate understanding of word to their opposites (antonyms) and to word not identical meanings (synonyms).  L.4.6Acquire and use accurately grade-ap academic and domain-specific words and those that signal precise actions, emotions (e.g., quizzed, whined, stammered) and th particular topic (e.g., wildlife, conservation when discussing animal preservation).   | rams, time lines, eb pages) and so an understanding e frames (time for orter time frames (a of discipline-collaborative eacher-led) with etts, building on early. However, aloud or and formats, lly. speaker provides g of unknown and ed on grade 4 m a range of etds by relating them ds with similar but propriate general phrases, including s, or states of being at are basic to a | ELD.4.I.B.6 (RI.4.1, RI.4.4, L.4.3) Reading closely literary and informational texts and viewing multimedia to determine how meaning is conveyed explicitly and implicitly through language. ELD.4.I.B.7 (L.4.3, L.4.5.c) Listening actively to spoken English in a range of social and academic context. ELD.4.I.A.2 (L.4.6) Interacting with others in writing language in various communicative forms (print, communicative technology, and multimedia). ELD.4.I.C.10 (W.4.2.d, W.4.10) Writing literary and informational text to present, describe, and explain ideas and information, using appropriate technology. |

## **Unwrapped Priority Standards**

| Standard 1: | 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), |         |     |  |  |
|-------------|--|---------|-----|--|--|
| Skills      | Concepts   | Bloom's | DOK |  |  |
| Know        | relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement,  | 1       | 1   |  |  |
| Express     | within a single system of measurement, express measurements in a 2 1 larger unit in terms of a smaller unit.   |         |     |  |  |
| Record      | <ul> <li>measurement equivalents in a two-column table.</li> <li>For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),</li> </ul>  | 3       | 2   |  |  |

| Standard 2: | <b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. |   |   |  |
|-------------|---|---|---|--|
| Skills      | Concepts Bloom's DOK  |   |   |  |
| Solve       | Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.  | 4 | 3 |  |
| Represent   | measurement quantities using diagrams such as number line diagrams that feature a measurement scale   | 3 | 2 |  |

| Standard 3: | <b>4.0A.3</b> - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. |         |     |  |  |
|-------------|---|---------|-----|--|--|
| Skills      | Concepts  | Bloom's | DOK |  |  |
| Solve       | multistep word problems posed with whole numbers and having whole-<br>number answers using the four operations, including problems in which<br>remainders must be interpreted   | 4       | 3   |  |  |
| Represent   | Represent these problems using equations with a letter standing for the unknown quantity.   | 3       | 2   |  |  |
| Assess      | the reasonableness of answers using mental computation and estimation strategies including rounding.  | 5       | 3   |  |  |

#### **Learning Progressions**

Standard 1:

**OA.3** Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

|        | Previous Grade   |        | Current Grade   |        | Next Grade  |  |
|--------|--|--------|---|--------|---|--|
|        | 30A.3,8  |        |   |        | 5NF.7C,5NBT.5-7   |  |
| Skills | Concepts   | Skills | Concepts  | Skills | Concepts  |  |
| Use    | multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. <sup>1</sup>            | Solve  | multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. | Solve  | real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins? |  |
| Solve  | two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. <sup>3</sup> |        |   |        | NBT 5-7?  |  |

Standard 2:

MD.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...

|                | in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), |        |                                   |         |                        |  |
|----------------|---|--------|-----------------------------------|---------|------------------------|--|
| Previo         | Previous Grade  |        | Current Grade                     |         | Next Grade             |  |
| 3MD.1          |   |        |                                   | 5MD1    |                        |  |
| Skills         | Concepts  | Skills | Concepts                          | Skills  | Concepts               |  |
| Tell and write | time to the nearest   | Know   | relative sizes of measurement     | Convert | among different-sized  |  |
|                | minute and measure  |        | units within one system of        |         | standard measurement   |  |
|                | time intervals in   |        | units including km, m, cm; kg,    |         | units within a given   |  |
|                | minutes. Solve word   |        | g; lb, oz.; l, ml; hr, min, sec.  |         | measurement system     |  |
|                | problems involving  |        | Within a single system of         |         | (e.g., convert 5 cm to |  |
|                | addition and  |        | measurement, express              |         | 0.05 m), and use these |  |
|                | subtraction of time   |        | measurements in a larger unit     |         | conversions in solving |  |
|                | intervals in minutes,   |        | in terms of a smaller unit.       |         | multi-step, real world |  |
|                | e.g., by representing   |        | Record measurement                |         | problems.              |  |
|                | the problem on a  |        | equivalents in a two-column       |         |                        |  |
|                | number line diagram.  |        | table. For example, know that     |         |                        |  |
|                |   |        | 1 ft is 12 times as long as 1 in. |         |                        |  |
|                |   |        | Express the length of a 4 ft      |         |                        |  |
|                |   |        | snake as 48 in. Generate a        |         |                        |  |
|                |   |        | conversion table for feet and     |         |                        |  |
|                |   |        | inches listing the number         |         |                        |  |
|                |   |        | pairs (1, 12), (2, 24), (3, 36),  |         |                        |  |

Standard 3:

Big Idea(s)

MD 2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale

Corresponding Essential Question(s)

| Previous Grade<br>3MD.2 |  |        | Current Grade  | Next Grade<br>5MD.5a      |  |
|-------------------------|--|--------|--|---------------------------|--|
| Skills                  | Concepts   | Skills | Concepts   | Skills                    | Concepts   |
| Measure and estimate    | liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (I). <sup>1</sup> Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. <sup>2</sup> | Use    | the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale | Measure<br>Relate<br>Find | volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.  the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication. |

| 2.6 (4.45)  | Corresponding Essential Question(s)  |
|---|--|
| <b>4. MD.1</b> – Measurement units can be expressed in various forms.       | <b>4. MD.1</b> – How can you express measurement using smaller or larger units?      |
| <b>4.MD.2</b> – The four mathematical operations can be used to solve words | <b>4.MD.2</b> – How can you solve words problems involving distances, intervals      |
| problems involving measurement.   | of time, liquid volumes, masses of objects, money, and measurement conversions?      |
| <b>4.OA.3</b> – Multi-step word problems are solved using equations which   |  |
| could include a variable standing for an unknown quantity.                  | <b>4.OA.3</b> – How do you solve a multi-step word problem with an unknown variable? |
| <b>4.OA.3</b> – The reasonableness of multi-step word problems can be       | <b>4.OA.3</b> – How do you assess the reasonableness of an answer in a multi-        |
| assessed using mental computation and estimation.                           | step word problem?   |
| Unit Voca   | bulary Words   |
| Academic Cross-Curricular Vocabulary (Tier 2)                               | Content/Domain Specific Vocabulary (Tier 3)  |
| Relative sizes  | Measurement  |
| Record  | Units  |
| Express   | km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec, ft., in.                             |
| Generate  | Equivalents  |
| Represent   | 2-column table   |
| Feature   | Length   |
| Solve   | Conversion   |
| Interpreted   | Operations   |
| Assess<br>Reasonableness  | Distance Intervals of time   |
| RedSONADIENESS  | Liquid Volumes   |
|   | Masses   |
|   | Money  |
|   | Quantities   |
|   | Diagrams   |
|   | Number line  |
|   | Scale  |
|   | Multi-Step   |
|   | Remainders   |
|   | Mental Computation   |
|   | Estimation   |
|   | Rounding   |
|   |  |
|   |  |
|   | ı  |

|  | Mathematics – Unit 5                    |  |  |  |  |  |
|--|---|--|--|--|--|--|
| Resources for Vocabulary Development (Strategies, Routines and Activities) |   |  |  |  |  |  |
| , ,  | , |  |  |  |  |  |
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|  |   |  |  |  |  |  |
|  | 21st Century Skills                     |  |  |  |  |  |
|  | ,                                       |  |  |  |  |  |
| ☐ Creativity and Innovation  | ☐ Initiative and Self-Direction         |  |  |  |  |  |
| ☑ Critical Thinking and Problem Solving                                    | ☐Social and Cross-Cultural Skills       |  |  |  |  |  |
|  | ☐ Productivity and Accountability       |  |  |  |  |  |
| ☐ Flexibility and Adaptability   |   |  |  |  |  |  |

Costa & Kallick, 2008

| Unit Assessments  |   |  |  |  |  |
|---|---|--|--|--|--|
| Pre-Assessment  | Pre-Assessment  |  |  |  |  |
| Please see www.alvordschools.org/cfa for the most current ID numbers. | Please see www.alvordschools.org/cfa for the most current ID numbers. |  |  |  |  |
| Scoring Guides and Answer Keys  |   |  |  |  |  |
| Embedded within EADMS   | Embedded within EADMS   |  |  |  |  |

#### **Engaging Scenario Overview** (Situation, challenge, role, audience, product or performance) You are a 4th grade student studying California missions. Your teacher has asked you to draw a to-scale blueprint of a Suggested Length of Time: mission's layout to be judged at your school's Social Studies Fair. At the end of Task 4, students will have produced a Days: 14 Days mission blueprint. Mins/Day: 60 **Engaging Learning Experiences** Synopsis of Authentic Performance Tasks Suggested **Authentic Performance Tasks** Description Length of Time Task 1: Units of Time Your teacher has given you Days: 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, three weeks to complete your 2-3 Days cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements mission blueprint. In a table, in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. convert the three weeks into For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. days, hours, minutes and Mins/Day: Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... seconds 60 **4.MD.2** - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or \*Students should also have decimals, and problems that require expressing measurements given in a larger unit in terms of a the ability to solve word smaller unit. Represent measurement quantities using diagrams such as number line diagrams problems using the four that feature a measurement scale. operations involving these **4.0A.3** - Solve multistep word problems posed with whole numbers and having whole-number concepts answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. \*Add more with elapsed time. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. **Big Ideas: 4. MD.1** – Measurement units can be expressed in various forms. **4.MD.2** – The four mathematical operations can be used to solve words problems involving measurement. **4.0A.3** – Multi-step word problems are solved using equations which could include a variable standing for an unknown quantity. **4.0A.3** – The reasonableness of multi-step word problems can be assessed using mental computation and estimation. **Essential Questions: 4. MD.1** – How can you express measurement using smaller or larger units? 4.MD.2 - How can you solve words problems involving distances, intervals of time, liquid volumes, masses of objects, money, and measurement conversions? **4.0A.3** – How do you solve a multi-step word problem with an unknown variable? **4.0A.3** – How do you assess the reasonableness of an answer in a multi-step word problem? **Task 2: Customary Measurement** Your mission's rectangular Days: 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; 3-4 Days outside dimensions are 32 yards kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a by 28 yards. In a table, convert larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For these dimensions into feet and example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate inches. Mins/Day: a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ... 4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid Your mission has produced 43 volumes, masses of objects, and money, including problems involving simple fractions or decimals, and pounds of potatoes, 67 pounds of problems that require expressing measurements given in a larger unit in terms of a smaller unit. corn, and 99 pounds of grapes. In Represent measurement quantities using diagrams such as number line diagrams that feature a a table, convert these measurement scale. measurements to ounces. 4.OA.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Your mission's water tank holds Represent these problems using equations with a letter standing for the unknown quantity. Assess the 8,480 cups of water. In a table, reasonableness of answers using mental computation and estimation strategies including rounding. convert this into pints, quarts, and gallons. **4. MD.1** – Measurement units can be expressed in various forms. 4.MD.2 – The four mathematical operations can be used to solve words problems involving \*Students should also have

**4.0A.3** – Multi-step word problems are solved using equations which could include a variable standing

for an unknown quantity.

the ability to solve word

problems using the four

operations involving these

|  | Mathemat   | ics – Unit 5        |
|--|--|---------------------|
| <b>4.0A.3</b> – The reasonableness of multi-step word problems can be assessed using mental computation  | concepts   |                     |
| and estimation.  |  |                     |
| Essential Questions:   | **Teachers should allow  |                     |
| 4. MD.1 – How can you express measurement using smaller or larger units?   | students to use a conversion   |                     |
| <b>4.MD.2</b> – How can you solve words problems involving distances, intervals of time, liquid volumes,   | table to aide with this task   |                     |
| masses of objects, money, and measurement conversions?   | (see included conversion   |                     |
| <b>4.0A.3</b> – How do you solve a multi-step word problem with an unknown variable?   | table in student booklet)  |                     |
| 4.OA.3 – How do you assess the reasonableness of an answer in a multi-step word problem?   | 5 1 1 11 1 1 1   | Davis               |
| Task 3: Metric Measurement 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m,  | Each day, the mission workers  | Days:<br>3-4 Days   |
| cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements   | had to walk 6 kilometers to  | J-+ Days            |
| in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.   | get water and 8 kilometers to  |                     |
| For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in.  | get their cattle from the field.   | Mins/Day:           |
| Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),  | Convert these units from   | 60                  |
| <b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time,   | kilometers into meters and   |                     |
| liquid volumes, masses of objects, <del>and money, including problems involving simple fractions or</del>  | centimeters.   |                     |
| decimals, and problems that require expressing measurements given in a larger unit in terms of a   |  |                     |
| smaller unit. Represent measurement quantities using diagrams such as number line diagrams   | Your mission has produced  |                     |
| that feature a measurement scale.  | 5,000 grams of wool, 7,000   |                     |
| <b>4.0A.3</b> - Solve multistep word problems posed with whole numbers and having whole-number   | grams of apples, and 9,000   |                     |
| answers using the four operations, including problems in which remainders must be interpreted.   | grams of tallow. In a table,   |                     |
| Represent these problems using equations with a letter standing for the unknown quantity.  Assess the reasonableness of answers using mental computation and estimation strategies   | convert these measurements   |                     |
| including rounding.  | into kilograms and milligrams.   |                     |
| Big Ideas:   | The cows on your mission   |                     |
| <b>4. MD.1</b> – Measurement units can be expressed in various forms.  | produce 400 liters of milk each  |                     |
| <b>4.MD.2</b> – The four mathematical operations can be used to solve words problems involving   | day. In a table, convert this  |                     |
| measurement.   | measurement into milliliters.  |                     |
| <b>4.0A.3</b> – Multi-step word problems are solved using equations which could include a variable   |  |                     |
| standing for an unknown quantity.  | *Students should also have   |                     |
| <b>4.0A.3</b> – The reasonableness of multi-step word problems can be assessed using mental  | the ability to solve word  |                     |
| computation and estimation.  | problems using the four  |                     |
| Essential Questions:   | operations involving these   |                     |
| <ul><li>4. MD.1 – How can you express measurement using smaller or larger units?</li><li>4.MD.2 – How can you solve words problems involving distances, intervals of time, liquid</li></ul>  | concepts   |                     |
| volumes, masses of objects, money, and measurement conversions?  | **Teachers should allow  |                     |
| <b>4.0A.3</b> – How do you solve a multi-step word problem with an unknown variable?   | students to use a conversion   |                     |
| <b>4.0A.3</b> – How do you assess the reasonableness of an answer in a multi-step word problem?  | table to aide with this task   |                     |
|  | (see included conversion   |                     |
|  | table in student booklet)  |                     |
|  |  |                     |
|  |  |                     |
| Task 4: Completing your Mission Blueprint  4. MD 1 - Know relative sizes of measurement units within one system of units including km m  | Using graph/chart paper,   | Days:               |
| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m,  | students will draw a to-scale  | Days:<br>2-3 Days   |
| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements   | students will draw a to-scale blueprint of a mission. Use 44   | 2-3 Days            |
| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.  | students will draw a to-scale<br>blueprint of a mission. Use 44<br>yards by 36 yards for the   | 2-3 Days<br>Mins/   |
| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in.  | students will draw a to-scale<br>blueprint of a mission. Use 44<br>yards by 36 yards for the<br>Mission's outside dimensions,  | 2-3 Days            |
| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),  | students will draw a to-scale<br>blueprint of a mission. Use 44<br>yards by 36 yards for the   | 2-3 Days Mins/ Day: |
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| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), <b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a   | students will draw a to-scale<br>blueprint of a mission. Use 44<br>yards by 36 yards for the<br>Mission's outside dimensions,<br>and 14 meters by 18 meters for<br>the Mission's courtyard<br>dimensions. Show your<br>conversions for each of these   | 2-3 Days Mins/ Day: |
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| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), <b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. <b>4.0A.3</b> - Solve multistep word problems posed with whole numbers and having whole-number   | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should   | 2-3 Days Mins/ Day: |
| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), <b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. <b>4.0A.3</b> - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted.  | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other   | 2-3 Days Mins/ Day: |
| 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), 4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.  4.0A.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity.  | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a  | 2-3 Days Mins/ Day: |
| 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), 4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.  4.0A.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies  | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a mission, such as a church  | 2-3 Days Mins/ Day: |
| 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), 4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.  4.0A.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.  | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a mission, such as a church building, living quarters, animal  | 2-3 Days Mins/ Day: |
| 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), 4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.  4.OA.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.  Big Ideas:  | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a mission, such as a church building, living quarters, animal pen, fountain, garden, etc. For  | 2-3 Days Mins/ Day: |
| 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), 4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.  4.OA.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.  Big Ideas:  4. MD.1 - Measurement units can be expressed in various forms.  | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a mission, such as a church building, living quarters, animal pen, fountain, garden, etc. For any additional features                              | 2-3 Days Mins/ Day: |
| <b>4. MD.1</b> - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), <b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.  | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a mission, such as a church building, living quarters, animal pen, fountain, garden, etc. For any additional features included, students must also | 2-3 Days Mins/ Day: |
| <ul> <li>4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),</li> <li>4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</li> <li>4.OA.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.</li> <li>Big Ideas:</li> <li>4. MD.1 - Measurement units can be expressed in various forms.</li> <li>4. MD.2 - The four mathematical operations can be used to solve words problems involving</li> </ul> | students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a mission, such as a church building, living quarters, animal pen, fountain, garden, etc. For any additional features                              | 2-3 Days Mins/ Day: |

|   | Widefield de la contraction de |  |
|---|--|--|
| 4.0A.3 – The reasonableness of multi-step word problems can be assessed using mental            | **Teachers should allow  |  |
| computation and estimation.   | students to use a conversion   |  |
| Essential Questions:  | table to aide with this task   |  |
| 4. MD.1 - How can you express measurement using smaller or larger units?                        | (see included conversion   |  |
| 4.MD.2 – How can you solve words problems involving distances, intervals of time, liquid        | table in student booklet)  |  |
| volumes, masses of objects, money, and measurement conversions?                                 | , i  |  |
| 4.0A.3 - How do you solve a multi-step word problem with an unknown variable?                   |  |  |
| <b>4.0A.3</b> - How do you assess the reasonableness of an answer in a multi-step word problem? |  |  |

| Name:  | Units of Time  |  |   |  | Suggeste<br>Length  |   | 2-3 Days<br>/Day: 60  |
|--|--|--|---|--|---|---|---|
|  | Priority Standards   |  |   |  |   |   |   |
|  |  | CCSS Math  |   | Standard   | s for Mathen  | natical Practi  | ice   |
|  | units including km, m, o<br>system of measuremen<br>of a smaller unit. Recon<br>table. For example, kno<br>length of a 4 ft snake as   | e sizes of measurement units within one em; kg, g; lb, oz.; l, ml; hr, min, sec. Within t, express measurements in a larger unit d measurement equivalents in a two-colu w that 1 ft is 12 times as long as 1 in. Exp. 48 in. Generate a conversion table for fe er pairs (1, 12), (2, 24), (3, 36), | n a single in terms umn press the eet and | Make sense of problems and qual Reason abstractly and qual Construct viable argumena Model with mathematics Use appropriate tools straction Look for and make use of Look for and express reg  | iantitatively<br>nts and critiqu<br>ategically<br>f structure   | e the reasonin  | ng of others  |
|  |  |  | Supporting St                             |  |   |   |   |
| Standards Addressed  4.0A.1 - Interpret a multiplication equation as a comparison, e.g., interpret 35 = × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.  Represent verbal statements of multiplicative comparisons as multiplication equations.  4.0A.5 - Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in th resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternation in this way.  4.NBT.1 - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.  4.NBT.5 - Multiply add and subtract multi-digit whole numbers using the stand algorithm.  4.NBT.5 - Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.  4.NBT.6 - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. |  |  |   | RI.4.4Determine the mea<br>general academic and do<br>specific words or phrase:<br>relevant to a grade 4 topi<br>area.  RI.4.7Interpret informat<br>presented visually, orally<br>quantitatively (e.g., in cha<br>diagrams, time lines, anii<br>interactive elements on V<br>and explain how the info<br>contributes to an unders:<br>the text in which it appea<br>L.4.6Acquire and use acc<br>grade-appropriate gener<br>and domain-specific wor<br>phrases, including those<br>precise actions, emotions<br>being (e.g., quizzed, whin<br>stammered) and that are<br>particular topic (e.g., wilc<br>conservation, and endang<br>discussing animal preser | main- s in a text ic or subject ion t, or arts, graphs, mations, or Web pages) rmation tanding of ars. curately al academic ds and that signal s, or states of ed, basic to a dlife, gered when | ELD.4.I.B.6 (I<br>Reading close<br>informational<br>multimedia to<br>meaning is co<br>and implicitly<br>ELD.4.I.B.7 (I<br>Listening active<br>English in a ra<br>academic con<br>ELD.4.I.C.10 (<br>Writing litera<br>text to presen<br>explain ideas<br>using appropr | vely to spoken ange of social and text. (W.4.2.d, W.4.10) ry and informational ti, describe, and and information, riate technology. |
|  | Suggestions:  Teach units of measurement including: km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec.  |  |   |  |   | Bloom's   | DOK<br>1  |
|  | Teach how to express these measurements within smaller and larger units and record in a two-column   |  |   |  |   |   | ring Rubric   |
|  | table to show conversions.   |  |   |  |   |   | ·Thorough   |
|  | Resources:   |  |   |  |   | · Adequate<br>— Partial   |   |
| Teaching<br>and<br>Learning<br>Progression   | Engage New York Common Core Georgia Performance Standards (CCGPS)  www.learnzillions.com www.commoncoresheets.com  4th Grade Math Framework: http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf  Your teacher has given you three weeks to complete your mission blueprint. In a table, convert the three |  |   |  |   |   |   |
|  | weeks into days, hours, minutes and seconds.   |  |   |  |   |   |   |
|  | *Students should also have the ability to solve word problems using the four operations involving these concepts  **Teachers should allow students to use a conversion table to aide with this task (see included  |  |   |  |   |   |   |
|  | conversion table   | in student booklet)  | tional Stratori                           | OS.  |   |   |   |
| Al   | l Students   | SWD  | tional Strategie                          | ELs  |   | Enrichme  | ent   |
|  | tive Grouping with   | Graphic organizers   | • Gr                                      | raphic organizers  | • Co  | operative Gr  |   |
| <ul><li>assigned roles</li><li>Study Buddy</li><li>Think-Pair-Share</li><li>Clear expectations and</li></ul>   |  | <ul> <li>Differentiated instruction</li> <li>Repetition</li> <li>Manipulatives</li> <li>Modified curriculum</li> </ul>   | ins<br>• Re                               | fferentiated<br>struction<br>epetition<br>anipulatives   | • M<br>an   | signed roles.<br>ore challengind beyond gra<br>ered assignm   | ng work above<br>ade level.   |
| example  • Addressi  | s<br>ng learning   | Modified curriculum     Additional time  |   |  |   |   |   |

| modalities/Accommodating    |                      |  |
|-----------------------------|----------------------|--|
| learning style preferences. | www.alvordusdrcd.org |  |

| Name:                       | Customary Measurement Suggeste Length  |                           |  | d Days: 3-4 Days: 6  |                                 |        |
|-----------------------------|--|---------------------------|--|--|---------------------------------|--------|
|                             | Prior  |                           |  |  |                                 |        |
|                             | CCSS Math  |                           | Standards fo   | or Mathemat  | itical Practice                 |        |
|                             | <b>4.MD.2</b> - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of ⊠ Reason abstractly and quantit   |                           |  | itatively  | _                               |        |
|                             | objects, and money, including problems involving simple fractions or decimals, and problems that require expressing  |                           | truct viable arguments el with mathematics   | and critique   | the reasoning of o              | others |
|                             | measurements given in a larger unit in terms of a smaller unit.  | Biviouci with mathematics |  | gically  |                                 |        |
|                             | Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.   | ⊠ Attend to precision     |  |  |                                 |        |
|                             | number line diagrams that leature a measurement scale.   |                           | for and average regular  |  | tad raasaning                   |        |
|                             | Suppo  | rting Star                | for and express regular ndards   | пу пі гереац   | led reasoning                   |        |
|                             | CCSS Math  |                           | CCSS ELA   |  | NG EI                           |        |
| Standards<br>Addressed      | 4.0A.1 - Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5.  Represent verbal statements of multiplicative comparisons as multiplication equations.  4.0A.5 - Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.  4.NBT.1 - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.  4.NBT.5 - Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.  4.NBT.6 - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. |                           | ELD.4.I.B.6 (RI.4.1 Reading closely lite informational texts multimedia to dete meaning is convey and implicitly thro ELD.4.I.B.7 (L.4.3, Listening actively t English in a range academic context. ELD.4.I.A.2 (L.4.6) Interacting with ot writing language in communicative for communicative tec multi-media). ELD.4.I.C.10 (W.4. Writing literary an informational text describe, and expla information, using technology. | erary and s and viewing ermine how ed explicitly ugh language. L.4.5.c) to spoken of social and thers in a various erms (print, chnology, and 2.d, W.4.10) d to present, ain ideas and appropriate |                                 |        |
|                             | Suggestions: Teach the four operations to solve word problems involving dis Teach conversions of these measurements and represent them and/or scales.  |                           |  |  | Bloom's  2  Scoring F  4 - Thor | ough   |
|                             | Resources:   |                           |  |  | 3 – Adec<br>2 – Par             |        |
|                             | Engage New York  |                           |  |  | 1 – Min                         | imal   |
|                             | Common Core Georgia Performance Standards (CCGPS) www.learnzillions.com www.commoncoresheets.com 4th Grade Math Framework: http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf   |                           |  | ndf  |                                 |        |
| Teaching<br>and<br>Learning | Your mission's rectangular outside dimensions are 32 yards by 28 yards. In a table, convert these dimensions into feet and inches.   |                           |  |  |                                 |        |
| Progression                 | Your mission has produced 43 pounds of potatoes, 67 pounds of corn, and 99 pounds of grapes. In a table, convert these measurements to ounces.   |                           |  | s. In a  |                                 |        |
|                             | Your mission's water tank holds 8,480 cups of water. In a table, convert this into pints, quarts, and gallons.   |                           |  |  |                                 |        |
|                             | *Students should also have the ability to solve word problems using the four operations involving these concepts  **Teachers should allow students to use a conversion table to aide with this task (see included conversion table in student booklet)   |                           |  |  |                                 |        |
|                             | Instructional St   | trategies                 |  |  |                                 |        |

| All Students   | SWD   | ELs   | Enrichment  |
|--|---|---|---|
| <ul> <li>Cooperative Grouping with assigned roles</li> <li>Study Buddy</li> <li>Think-Pair-Share</li> <li>Clear expectations and examples</li> <li>Addressing learning modalities/Accommodating learning style preferences.</li> </ul> | <ul> <li>Graphic organizers</li> <li>Differentiated instruction</li> <li>Repetition</li> <li>Manipulatives</li> <li>Modified curriculum</li> <li>Additional time</li> <li>www.alvordusdrcd.org</li> </ul> | <ul> <li>Graphic organizers</li> <li>Differentiated<br/>instruction</li> <li>Repetition</li> <li>Manipulatives</li> </ul> | <ul> <li>Cooperative Grouping with assigned roles.</li> <li>More challenging work above and beyond grade level.</li> <li>Tiered assignments.</li> </ul> |

| Name: M                  | etric Measurement  | St   | uggested Length   | Days: 3-4 Days<br>Mins/Day: 60  |  |
|--------------------------|--|--|---|---|--|
|                          | Pr   | iority Standards   |   | -, -,   |  |
|                          | CCSS Math Standards for Mathemat   |  |   | atical Practice   |  |
|                          | 4.0A.3 - Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.  ■ Make sense of problems and persevere in solv ⊠ Reason abstractly and quantitatively □ Construct viable arguments and critique the result with mathematics □ Use appropriate tools strategically □ Attend to precision □ Look for and make use of structure □ Look for and express regularity in repeated results.  |  |   | soning of others  |  |
|                          |  | porting Standards  |   |   |  |
|                          | <ul> <li>CCSS Math</li> <li>4.0A.1 - Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</li> <li>4.0A.5 - Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in</li> </ul>  | CCSS ELA  RI.4.4  Determine the meaning of general accand domain-specific words or phrase text relevant to a grade 4 topic or subarea.  RI.4.7  Interpret information presented visu   | ademic Readir<br>is in a inform<br>oject multin<br>meani<br>and in    | NG ELD  J.B.6 (RI.4.1, RI.4.4, L.4.3)  ng closely literary and national texts and viewing nedia to determine how ng is conveyed explicitly nplicitly through language.  |  |
| Standards<br>Addressed   | the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.   | orally, or quantitatively (e.g., in chart<br>graphs, diagrams, time lines, animatic<br>interactive elements on Web pages) a<br>explain how the information contribut<br>an understanding of the text in which<br>appears.  | s, ELD.4 Listen and Englis acader it                                  | .I.B.7 (L.4.3, L.4.5.c)<br>ing actively to spoken<br>h in a range of social and<br>mic context.<br>.I.A.2 (L.4.6) Interacting   |  |
|                          | <b>4.NBT.1</b> - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.  | SL.4.1.a-d Engage effectively in a range of collab discussions (one-on-one, in groups, a teacher-led) with diverse partners or topics and texts, building on others' ic  | with o variou (print, and m deas and                                  | thers in writing language in s communicative forms communicative technology, ulti-media).   |  |
|                          | <ul> <li>4.NBT.4 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.</li> <li>4.NBT.5 - Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</li> <li>4.NBT.6 - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area</li> </ul> | expressing their own clearly. SL.4.3 Identify the reasons and evidence a sprovides to support particular points L.4.6 Acquire and use accurately gradeappropriate general academic and do specific words and phrases, including that signal precise actions, emotions, states of being (e.g., quizzed, whined, stammered) and that are basic to a ptopic (e.g., wildlife, conservation, and endangered when discussing animal preservation). | Writin text to explair using a main- g those or ELD.4 articular Under | J.C.10 (W.4.2.d, W.4.10)  g literary and informational present, describe, and n ideas and information, appropriate technology.  J.H.A.1 (W.4.2.d) standing Text structure.  J.H.A.2 (W.4.2.d) standing cohesion |  |
|                          | models.  Suggestions:  |  | Bloor   | n's DOK   |  |
| Teaching and<br>Learning | Teach students to solve multistep word problems with whole numbers using the four operations and use a letter to stand for an unknown quantity. Teach students to use mental computation, estimation, and rounding.  Resources:  Engage New York Common Core Georgia Performance Standards (CCGPS) www.learnzillions.com www.commoncoresheets.com  4th Grade Math Framework: http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf   |  |   | Scoring Rubric 4 - Thorough 3 - Adequate 2 - Partial 1 - Minimal  |  |
| Progression              | ·  | Each day, the mission workers had to walk 6 kilometers to get water and 8 kilometers to get their cattle from the field. Convert these units from kilometers into meters and centimeters.  |   |   |  |
|                          | In a table, convert these measurements into kilograms and  | milligrams.  | tallow.   |   |  |
|                          | The cows on your mission produce 400 liters of milk each d measurement into milliliters.   | ay. In a table, convert this   |   |   |  |

|   |  |  |               | Mathematics — Offic 3   |
|---|--|--|---------------|---|
| *Students sh<br>involving the<br>**Teachers sl<br>conversion ta   |  |  |               |   |
|   | Instruct   | ional Strategies   |               |   |
| All Students  | SWD  | ELs  |               | Enrichment  |
| <ul> <li>Cooperative Grouping with assigned roles</li> <li>Study Buddy</li> <li>Think-Pair-Share</li> <li>Clear expectations and examples</li> <li>Addressing learning modalities/Accommodating learning style</li> </ul> | <ul> <li>Graphic organizers</li> <li>Differentiated<br/>instruction</li> <li>Repetition</li> <li>Manipulatives</li> <li>Modified curriculum</li> <li>Additional time</li> </ul> www.alvordusdrcd.org | <ul> <li>Graphic organizers</li> <li>Differentiated         <ul> <li>instruction</li> </ul> </li> <li>Repetition</li> <li>Manipulatives</li> </ul> | a<br>• N<br>a | Cooperative Grouping with ssigned roles. More challenging work above nd beyond grade level. Tiered assignments. |

preferences.

| Name:   | Completing your Mission  |   | gested        | Days: 2-3 Days   |  |  |
|---|--|---|---------------|--|--|--|
|   |  |   | Le            | ength  | Mins/Day: 60   |  |
|   | Priority Standards   |   |               |  |  |  |
|   | CCSS Math St   |   |               |  | thematical Practice  |  |
| 4. MD.1 - Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),  4.MD.2 - Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using □ Look □ Loo |  |   |               | ense of pro<br>them<br>abstractly<br>uct viable a<br>he reasonir<br>with mathe<br>propriate to<br>to precisio<br>or and make   | blems and persevere and quantitatively rguments and ag of others matics pols strategically   |  |
|   | Sup  | porting Standards   |               |  |  |  |
|   | CCSS Math  | CCSS ELA  |               |  | NG ELD   |  |
| Standards<br>Addressed  | <ul> <li>4.0A.1 - Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.</li> <li>4.0A.5 - Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.</li> <li>4.NBT.1 - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.</li> <li>4.NBT.4 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.</li> <li>4.NBT.5 - Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</li> <li>4.NBT.6 - Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.</li> </ul> | RI.4.4 Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.  RI.4.7 Interpret information presented visually, or ally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.  SI.4.1.a-d Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.  SI.4.3 Identify the reasons and evidence a speaker provides to support particular points.  L.4.6 Acquire and use accurately gradeappropriate general academic and domain-specific words or phrases in a text relevant to a grade 4 topic or subject area.  RI.4.7 Interpret information presented visually, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.  SI.4.1.a-d Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and explain how the information contributes to an understanding of the text in which it appears.  SI.4.1.a-d Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and expressing their own clearly.  SI.4.3 Identify the reasons and evidence a speaker provides to support particular points.  L.4.6 Acquire and use accurately gradeappropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a |               | Reading conformation information in the conformation in the confor | 16 (RI.4.1, RI.4.4, L.4.3) losely literary and conal texts and viewing ia to determine how s conveyed explicitly citly through language.  17 (L.4.3, L.4.5.c) actively to spoken a range of social and context.  12 (L.4.6) g with others in writing in various cative forms (print, cative technology, and dia).  10 (W.4.2.d, W.4.10) terary and conal text to present, and explain ideas and con, using appropriate y.  1.1 (W.4.2.d) inding Text structure.  1.2 (W.4.2.d) inding cohesion |  |
|   | Suggestions:   | preservation).  |               | Bloom's  | DOK  |  |
| Teaching<br>and<br>Learning   | Review units of measurement including: km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Review how to express these measurements within smaller and larger units and record in a two-column table to show conversions.  Review the four operations to solve word problems involving distances, time, volumes, mass, and money. Teach conversions of these measurements and represent them in diagrams such as number lin  |   | to show<br>nd | 2  | 1  |  |
| Progressio  | and/or scales.<br>Review how to solve multistep word problems with whole num   | hers using the four operations a  | nd use a      |  | Scoring Rubric   |  |
| n   | letter to stand for an unknown quantity. Teach students to use   |   |               |  | 4 – Thorough   |  |
|   | rounding.  | compatation, commutation  | .,            |  | 4 – Morough<br>3 – Adequate  |  |
|   | Resources:   |   |               |  | 2 – Partial  |  |
|   | Engage New York  |   |               |  | 1 – Minimal  |  |

Common Core Georgia Performance Standards (CCGPS)

www.learnzillions.com

www.commoncoresheets.com

4th Grade Math Framework: http://www.cde.ca.gov/ci/ma/cf/documents/aug2013gradefour.pdf

Using graph/chart paper, students will draw a to-scale blueprint of a mission. Use 44 yards by 36 yards for the Mission's outside dimensions, and 14 meters by 18 meters for the Mission's courtyard dimensions. Show your conversions for each of these dimensions (yards to feet and inches) and (meters to centimeters). Students should also include at least 2 other features normally found at a mission, such as a church building, living quarters, animal pen, fountain, garden, etc. For any additional features included, students must also give the measurements of the feature and their conversions.

\*\*Teachers should allow students to use a conversion table to aide with this task (see included conversion table in student booklet)

| Instructional Strategies   |   |   |   |  |  |  |
|--|---|---|---|--|--|--|
| All Students   | SWD   | ELs   | Enrichment  |  |  |  |
| <ul> <li>Cooperative Grouping with assigned roles</li> <li>Study Buddy</li> <li>Think-Pair-Share</li> <li>Clear expectations and examples</li> <li>Addressing learning modalities/Accommodating learning style preferences.</li> </ul> | <ul> <li>Graphic organizers</li> <li>Differentiated<br/>instruction</li> <li>Repetition</li> <li>Manipulatives</li> <li>Modified curriculum</li> <li>Additional time</li> </ul> | <ul> <li>Graphic organizers</li> <li>Differentiated<br/>instruction</li> <li>Repetition</li> <li>Manipulatives</li> </ul> | <ul> <li>Cooperative Grouping with assigned roles.</li> <li>More challenging work above and beyond grade level.</li> <li>Tiered assignments.</li> </ul> |  |  |  |

#### **Engaging Scenario**

#### Detailed Description (situation, challenge, role, audience, product or performance)

Description: You are a 4<sup>th</sup> grade student studying California missions. Your teacher has asked you to draw a to-scale blueprint of a replica mission's layout to be judged at your school's Social Studies Fair. At the end of Task 4, students will have produced a mission blueprint to present to their principal.

Using their to-scale blueprint of their replica mission, students will split into groups. They will decide on which replica mission to use. They will take the replica they voted to use and create a group mission replica. The courtyard must be included. Convert your original dimensions (yards) to feet and inches and (meters) to kilometers and centimeters. Students need to include other areas normally found at a mission as well, such as a church building, living quarters, animal pen, fountain, garden, etc., as long as it fits into their overall design keeping in mind the dimensions given. This group mission replica will be used to present to the class.

| Instructional Strategies   |   |   |   |  |  |  |  |
|--|---|---|---|--|--|--|--|
| All Students   | SWD   | ELs   | Enrichment  |  |  |  |  |
| <ul> <li>Cooperative Grouping with assigned roles</li> <li>Study Buddy</li> <li>Think-Pair-Share</li> <li>Clear expectations and examples</li> <li>Addressing learning modalities/Accommodating learning style preferences.</li> </ul> | <ul> <li>Graphic organizers</li> <li>Differentiated instruction</li> <li>Repetition</li> <li>Manipulatives</li> <li>Modified curriculum</li> <li>Additional time</li> <li>www.alvordusdrcd.org</li> </ul> | <ul> <li>Graphic organizers</li> <li>Differentiated instruction</li> <li>Repetition</li> <li>Manipulatives</li> </ul> | <ul> <li>Cooperative Grouping with assigned roles.</li> <li>More challenging work above and beyond grade level.</li> <li>Tiered assignments.</li> </ul> |  |  |  |  |