## $5^{\text {TH }}$ Grade

# GEOME <br>  <br> AND 

## MEASUREMENT

Created By:
Misty Pohly


Whole class Lessons and Guided Math Groups Active ensagement and Games Intervention and Enrichment

EXit Tickets


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## $5^{\text {th }}$ Grade Math Lesson Plans

## I SEE YOU~

- struggling each week to write lesson plans that meet the rigor of the TEKS.
- searching endlessly for resources that will help kids learn math while being challenged and engaged.
- staying late everyday after school working on plans and creating everything from scratch.
You are exhausted from working with students all day, and still have to prep, write and create.

I SEE YOU~
SACRIFICING your time with your family and friends
to ensure success for ALL of OUR Children.
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Geometry And Measurement

| Name | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
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| LT | Statement | 1 | 2 | 3 | 4 | Evidence |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 1 \\ 5.4 G \end{gathered}$ | I can use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube $(V=I \times w \times h$, $V=s \times s \times s$, and $V=b h$ ). |  |  |  |  |  |
| $\begin{gathered} 2 \\ 5.5 \mathrm{~A} \end{gathered}$ | I can classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties. |  |  |  |  |  |
| $\begin{gathered} 3 \\ 5.4 H \end{gathered}$ | I can represent problems related to perimeter and/or area and related to volume. |  |  |  |  |  |
| $\begin{gathered} 4 \\ 5.4 \mathrm{H} \end{gathered}$ | I can solve problems related to perimeter and/or area and related to volume. |  |  |  |  |  |


| 1 | 2 | 3 | 4 |
| :---: | :---: | :---: | :---: |
| I have no idea how to <br> do this. | I can do this with <br> some help. | I can do this by <br> myself | I can teach someone <br> to do this. |

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| LT | Statement | 1 | 2 | 3 | 4 | Evidence |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 5 \\ 5.6 \mathrm{~A} \end{gathered}$ | I can recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a threedimensional figure as the number of unit cubes ( $n$ cubic units) needed to fill it with no gaps or overlaps if possible. |  |  |  |  |  |
| $\begin{gathered} 6 \\ 5.6 B \end{gathered}$ | I can determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base. |  |  |  |  |  |
| $\begin{gathered} 7 \\ 5.7 \mathrm{~A} \end{gathered}$ | I can solve problems by calculating conversions within a measurement system, customary or metric. |  |  |  |  |  |


| 1 | 2 | 3 | 4 |
| :---: | :---: | :---: | :---: |
| I have no idea how to <br> do this. | I can do this with <br> some help. | I can do this by <br> myself | I can teach someone <br> to do this. |


| Learning Target | What do we want students to learn? | How will we know if they learned it? | What will we do if they don't? | What will we do if they already know it? |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { । } \\ 5.4 G \end{gathered}$ | Use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ( $V=1 x$ $w \times h, V=s \times s \times s$, and $V=B h$ ). | Concrete objects and pictorial models to develop formulas for volume <br> Rectangular prism $\begin{aligned} & V=1 \times w \times h, \\ & V=B h, \end{aligned}$ <br> Cube $\begin{aligned} & V=s \times s \times s, \\ & V=B h, \end{aligned}$ | Small Group <br> Instruction: <br> Students should fill rectangles and squares to find the total volume. Connect to the area model of one level at a time to add the height understanding. | Model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes. |
| $\begin{gathered} 2 \\ 5.5 \mathrm{~A} \end{gathered}$ | Classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties. | Attributes of twodimensional figures Congruent Parallel line notation Perpendicular line notation <br> Types of twodimensional figures Circle Polygon <br> Triangle Scalene Isosceles Equilateral <br> Quadrilaterals Trapezoid Parallelogram Rectangle Rhombus Square 5-12 sided figures Graphic Organizers Generalizations | Understand how to organize the classification of shapes in a multi-column table Understand the hierarchical structure of a graphic organizer <br> Understand the definitions and characteristics of quadrilaterals, rhombuses, polygons, circles, triangles, parallelograms, squares, and rectangles <br> - Understand the hierarchy relationships between quadrilaterals, rhombuses, polygons, circles, triangles, parallelograms, squares, and rectangles <br> $\square$ Understand the definitions of right angles, acute angles, and obtuse angles Understand how to identify angles within two-dimensional figures (square, rectangle, triangle, parallelogram, pentagon, hexagon, rhombus, trapezoid) | Create graphic organizers based on attributes of their choosing. |


| Learning Target | What do we want students to learn? | How will we know if they learned it? | What will we do if they don't? | What will we do if they already know it? |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 3 \\ 5.4 H \end{gathered}$ | Represent problems related to perimeter and/or area and related to volume. | Perimeter <br> $\square$ Perimeter is a one-dimensional linear measure. <br> $\square$ Whole number, decimal, or fractional side lengths | Understand and apply the formula for the | Write equations that represent problems related to the area of rectangles, |
| $\begin{gathered} 4 \\ 5.4 H \end{gathered}$ | Solve problems related to | lengths with and without models <br> Determine perimeter by measuring to | perimeter, area and | parallelograms, trapezoids, and |
|  | related to perimeter and/or | determine side lengths | volume | triangles and volume of right |
|  | area and related to volume. | $\square$ Determine missing side length when given perimeter and remaining side | how to | rectangular |
|  |  | lengths |  | prisms where |
|  |  | $\square$ Perimeter of composite figures | an unknown | dimensions are |
|  |  | Area | dimension | positive rational |
|  |  | $\square$ Perimeter is a two-dimensional | of a figure | numbers. |
|  |  | square unit measure. | using other | $\square$ Determine |
|  |  | side lengths | dimensions within a | solutions for |
|  |  | - Determine area when given side | composite | involving the |
|  |  | lengths with and without models | figure | area of |
|  |  | Determine area by measuring to determine side lengths <br> $\square$ Area of composite figures | $\square$ Understand and apply | rectangles, parallelograms, |
|  |  | $\square$ Recognition of both perimeter and | the | trapezoids, and |
|  |  | area embedded in mathematical and | formula of | triangles and volume of right |
|  |  | real-world problem situations | perimeter, |  |
|  |  | Volume | area and | rectangular |
|  |  | - One way to measure volume is a | volume of | prisms where |
|  |  | three-dimensional cubic measure. | a square. | dimensions are |
|  |  | $\square$ Whole number, decimal, or fractional | $\square$ Solve a | positive rational |
|  |  | side lengths | problem | numbers. |
|  |  | $\square$ Formulas for volume for Grade 5 STAAR Mathematics Reference Materials | involving |  |
|  |  |  | perimeter, |  |
|  |  | Materials | area and |  |
|  |  | Determine volume when given side | volume |  |
|  |  | Determine volume by measuring | $\square$ Unders |  |
|  |  |  | how to use |  |
|  |  | $\square$ Determine missing side length given volume and remaining sid lengths <br> Volume of composite figures | a ruler to |  |
|  |  |  | measure a |  |
|  |  |  | line |  |
|  |  |  | segment |  |


| Learning Target | What do we want students to learn? | How will we know if they learned it? | What will we do if they don't? | What will we do if they already know it? |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 5 \\ 5.6 \mathrm{~A} \end{gathered}$ | Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a threedimensional figure as the number of unit cubes ( $n$ cubic units) needed to fill it with no gaps or overlaps if possible. | $\square$ Three-dimensional figure a figure that has measurements including length, width (depth), and height <br> $\square$ Cube (special form of a rectangular prism) <br> $\square$ Relationships between units used to measure one-, twoand three-dimensional figures <br> One-dimensional figures are measured using linear units. <br> $\square$ Two-dimensional figures are measured using square units. <br> Three-dimensional figures are measured using cubic units. <br> $\square$ Volume - the measurement attribute of the amount of space occupied by matter <br> $\square$ One way to measure volume is a three-dimensional cubic measure. <br> Volume is measured by counting the number of unit cubes that fill the space with no gaps or overlaps. | $\square$ Understand how to interpret a model to determine the dimensions of a three-dimensional figure Understand that the volume of a rectangular prism can be found by multiplying the number of unit cubes that it takes to cover the base times the number of rows it takes to fill the cube with no gaps or overlaps Understand that the volume of a cube can be found by multiplying the length $\times$ width $\times$ height Solve a problem involving volume | $\square$ Increase the complexity by giving only the volume and students find the side. |


| Learning Target | What do we want students to learn? | How will we know if they learned it? | What will we do if they don't? | What will we do if they already know it? |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 6 \\ 5.6 B \end{gathered}$ | Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base. | Relationship between volume of a rectangular prism, its base area, and height (the number of layers) <br> ( $V=b h$ ) <br> $(B=V \div h)$ <br> $(H=V \div B)$ <br> Problem situations related to the number of layers times the number of unit cubes in the area of the base | - Understand that the volume of a rectangular prism can be found by multiplying the area of the base times the number of layers it takes to fill the prism Understand that the area of the base can be described as the number of cubes needed to build the first layer of the rectangular prism - Understand that the height of a rectangular prism can be described as the number of layers it takes to fill the prism <br> - Solve a problem involving volume | Determine the volume of a rectangular prism with positive rational number side lengths. |
| $\begin{gathered} 7 \\ 5.7 \mathrm{~A} \end{gathered}$ | Solve problems by calculating conversions within a measurement system, customary or metric. | Relationship between converting units <br> Converting within the same measurement system, customary or metric <br> $\square$ Multiplication converts larger units to smaller units. <br> - Division converts smaller units to larger units. <br> Appropriate units based on the information considered in the mathematical and realworld problem situations <br> Length <br> Volume (liquid volume) and capacity Weight and mass One-step or multistep conversions within one measurement system | $\square$ Recognize conversion presented in a realworld problem situation Understand how to convert a measurement from a larger unit to a smaller unit or a smaller unit to a larger unit within one measurement system - Solve a problem involving conversion within a measurement system - Understand how to convert two values to the same unit of measure prior to solving a problem | Convert units within a measurement system, including the use of proportions and unit rates. |


| Day 15.4G | Day 2 5.6A | Day 3 5.6B | Day 45.4 H | Day 5 5.4H |
| :---: | :---: | :---: | :---: | :---: |
| Huddle <br> LT I <br> Build concept of Volume | Mini Lesson LT 5 <br> Volume of a cube | Mini Lesson LT 6 <br> Volume of rectangular prism | Huddle <br> LT 3, 4 <br> Area/ perimeter related to volume | Independent <br> Practice <br> LT I, 3, 4, 5, 6 |
| Guided Math | Guided Math | Guided Math | Guided Math | Guided Math |
| Review Unit 7 | Concept of Volume | Volume: Cube | Volume rectangular prism | Volume |
| Day 6 5.5A | Day 75.5 A | Day 85.5 A | Day 9 5.5A | Day 10 5.5A |
| Anticipation <br> Guide <br> LT 2 <br> Vocabulary | Mini Lesson <br> LT 2 <br> Triangles <br> Classify by sides and angles | Mini Lesson <br> LT 2 <br> Quadrilaterals <br> Attributes | Game LT 2 <br>  <br> Triangles <br> Graphic <br> Organizers | Open Sort/ <br> Musical Shares <br> LT 2 <br> All other <br> polygons |
| Guided Math | Guided Math | Guided Math | Guided Math | Guided Math |
| Volume | Geometry vocab | Triangles | Quadrilaterals | Classify <br> Triangles and Quads |
| Day II 5.5A | Day 12 5.7A | Day 13 5.7A | Day 14 5.7A | Day 15 5.7A |
| Anticipation <br> Guide/Game <br> LT 2 <br> Generalizations: <br> quadrilaterals | Independent <br> Practice <br> LT 2 | Huddle <br> LT 7 <br> Convert measurement | Mini Lesson LT 7 <br> Convert <br> Measurement | Independent Practice LT 7 |
| Guided Math | Guided Math | Guided Math | Guided Math | Guided Math |
| Classify | Classify | Convert <br> Measurement | Convert <br> Measurement | Convert <br> Measurement |

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I hope this helps your students!


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