# Unit Plan by Prioritized Standards

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| **Content Area** | MATH |
| **Grade/Course** | 6th |
| **Unit of Study** | Area and Volume |
| **Duration of Unit** | 16 days - 4 weeks |

**CIRCLE or Highlight** the **SKILLS** that students need to be able to do and **UNDERLINE** the **CONCEPTS** that students need to know. **(address "supporting" standards in daily lesson plans)**

**MGSE6.G.1 Find area of right triangles, other triangles, quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.**

**MGSE6.G.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths (1/2 u), and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = (length) x (width) x (height) and V= (area of base) x (height) to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.**

**MGSE6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.**

| **Skills** (what must be able to do) | **Concepts** (what students need to know) | **DOK Level / Bloom's** |
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| Find area of right & other triangles, quadrilaterals, & polygons | Shapes can be decomposed into other shapes to find area | 2 |
| Find the volume of a right rectangular prism with FRACTIONAL edge lengths | Unit cubes can be used to pack a shape to find its volume - fractional numbers can be used - AND this is the same as using the formula (LxWxH) | ⅔ |
| Represent 3-D figures | Know what a mathematical net is and how it is used to find surface area of figures. | ¾ |

| **Step 5: Determine BIG Ideas** (enduring understandings students will remember long after the unit of study) | **Step 6: Write Essential Questions** (these guide instruction and assessment for all tasks. The big ideas are answers to the essential questions) |
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| **The area of irregular and regular polygons can be found by decomposing the polygon into rectangles and triangles.**<br><br>**• Manipulatives and the construction of nets may be used in computing the surface area of rectangular and triangular prisms, and volume of right rectangular prisms.**<br>**• Formulas may be used to compute the areas** | • How can we find the area of figures?<br><br>• How can we cut and rearrange irregular polygons in order to find their area?<br><br>• How can I use manipulatives and nets to help compute the surface areas of rectangular and triangular prisms? |

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| **of polygons and volumes of right rectangular prisms.**<br><br>**• Appropriate units of measure should be used when computing the area (square units) of polygons, surface area (square units) and volume of prisms (cubic units).**<br><br>**• Views of rectangular and triangular prisms may be interpreted and sketched to provide a 2- dimensional representation (nets) of a three dimensional figure.**<br><br>**• Dimensions of solid figures may have fractional lengths.**<br><br>**• The volume of a solid figure is the number of same sized cubes filling the space so that there are no gaps and overlaps.** | • How can I interpret and sketch views of rectangular and triangular prisms?<br><br>• How can I use formulas to determine the volume of right rectangular prisms? |
| **Essential Unit Vocabulary** | |
| • 2-D and 3-D figures • Area • Bases of Prisms • Compose/Decompose • Dimension • Edge • Face • Lateral faces • Net • Polyhedron • Prisms • Surface area • Vertices | |
| **Next step, create assessments and engaging learning experiences** | |