Date: 4/19

Standards:

5.MD.3 *Recognize volume as an attribute of solid figures and understand concepts of volume measurement.*

a. *A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.*
b. *A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.*

5.MD.4 *Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.*

Standard for Mathematical Practice:
SMP1: Make sense of problems and persevere in solving them
SMP2: Reason abstractly and quantitatively
SMP4: Model with Mathematics
SMP5: Use appropriate tools strategically.

K: Vocabulary: area, base, edge, face, lateral face, parallel, perimeter, polyhedron (polyhedra), prism, unit cube, vertex, volume

U: Students will understand that the type of units used describe what is being measured, and what is being measured has a specific type of unit.

D: The students will be able to compare and contrast 1-D, 2-D and 3-D measurements (lengths vs. area vs. volume).

The students will be able to explain the role of units in geometric measurement.

Whole Class:

1. Discuss 1-D, 2-D and 3-D shapes. Begin with 2- and 3-D shapes, then ask students to describe a 1-D shape.
2. Ask what types of measurement we could get with a line, a rectangle, and a right rectangular prism (box). Ask if we could fill up a line or rectangle… discuss volume.
3. Fill up boxes with unit cubes – inch cubes and cm cubes. Describe volume as the total number of cubes that can fill a space without any gaps or holes.

Stations:

Master Builder

Meet with Teacher when called (Differentiated instruction review measurement and area of rectangles. Explore the role of units. Compare area with volume using cubes – faces of cubes for area and number of cubes for volume)

Practice sheet of counting volume cubes

Closure: Think-Pair-Share-Squared "Top 2 statements about 3-D shapes."

Individual / formative assessment: Practice sheets