Grade 5 Mathematics – Unit 9: Volume

Phoenixville Area School District

<table>
<tr><th colspan="3">Stage 1 Desired Results</th></tr>
<tr><td rowspan="6">PA Core Standards:
CC.2.4.5.A.5 - Apply concepts of volume to solve problems and relate volume to multiplication and to addition.

PSSA Assessment Anchors:
M05.D-M.3.1 - Use, describe, and develop procedures to solve problems involving volume.</td><td colspan="2">Transfer</td></tr>
<tr><td colspan="2">TRANSFER GOALS
Students will be able to independently use their learning to…
Problem-Solving: Persistently apply various problem-solving strategies and organized approaches to accurately understand and solve problems.
Mathematical Vocabulary: Interpret mathematical vocabulary and apply proper terminology to engage in meaningful oral and written expression that communicates mathematical thinking, problem-solving methods, and rationale.</td></tr>
<tr><td colspan="2">Meaning</td></tr>
<tr><td>UNDERSTANDINGS
Students will understand that…
Mathematicians require perseverance and resilience when creating solutions.
Mathematical operations can be modeled through a variety of representations.</td><td>ESSENTIAL QUESTIONS
Students will keep considering...
Have I sufficiently supported my answer and shown my work?
How does calculating volume help us make all the pieces fit?
How does volume help us grow things to scale?</td></tr>
<tr><td colspan="2">Knowledge and Skills Acquisition</td></tr>
<tr><td>KNOWLEDGE
Students will know…
The 3 dimensions of a prism can be multiplied to find its volume.
Rectangular prisms can be combined to form composite figures, and the volume of such composite figures can be determined by adding the individual volumes.</td><td>SKILLS
Students will be skilled at…
Identifying the 3 dimensions of a rectangular prism using precise vocabulary in open-ended response questions.
Calculating the volume of rectangular prisms for open-ended response questions or multiple-choice questions with and without calculators.</td></tr>
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	• Unknown measurements of composite figures can be determined using given measurements. VOCABULARY • Volume • Length • Width • Height • Depth • Base • Rectangular Prism • Composite	• Visualizing and identifying rectangular prisms within composite figures in open-ended situations. • Determining unknown dimensions of composite figures when given adjacent dimensions in open-ended situations. • Calculating the volume of composite figures by adding the volumes of individual rectangular prisms within the composite figures, in a multiple-choice, open-ended, or constructed response situation.

Stage 2 – Evidence

Code A/M/T	Evaluative Criteria	Assessment Evidence	
A/M/T Acquisition Meaning Making Transfer	*What criteria will be used in each assessment to evaluate attainment of the desired results?*	PERFORMANCE TASK(S) *Students will demonstrate understanding (meaning-making and transfer) through complex performance by...* **Volume Performance Task** • *Goal:* Your task is to use and evaluate two methods to determine how much more water is needed. • *Role/Audience:* You are a new homeowner, and your property has a swimming pool. • *Situation/Product:* You will determine the total volume of your swimming pool by calculating the volume. • *Success Criteria:* Your response must include work shown (calculations, steps), a final answer, and a label. Secondary Performance Task – Box of Clay	Differentiation Considerations: [Work on this section after completing Stages 1-2 of all units]

		<u>Math in Focus Performance Task</u> • Student Edition Workbook pages 63-65	
A/M/T Acquisition Meaning Making Transfer	*What criteria will be used in each assessment to evaluate attainment of the desired results?*	OTHER EVIDENCE **Volume Unit Test –** *See Unit 6 MIF Test* • Multiple Choice • Open-Ended Responses • Constructed Response Prompts: (to be determined) **Canvas Math in Focus Chapter 6 Test** – Shared to Commons • Search “Math in Focus: 5th Grade Chapter 6 Test 2020-2021"	Differentiation Considerations: [Work on this section after completing Stages 1-2 of all units]