

Grade 6
Framework for FORMATIVE/CLASSROOM Instruction and Assessment
 English language learners communicate information, ideas, and concepts necessary for academic success in the content area of
MATHEMATICS.

PA Academic Standard(s)

Demonstrate comprehension / understanding before reading, during reading, and after reading on grade level texts through strategies such as comparing and contrasting texts, describing context, analyzing positions and arguments, and citing evidence in text. 1.1.8.D.

Listen critically and respond to others in small and large group situations. 1.6.8.A.

- Respond with grade level appropriate questions, ideas, information, or opinions.

Draw inductive and deductive conclusions within mathematical contexts. 2.4.8.A.

Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, apply estimation skills as appropriate, check whether the plan makes sense, and explain how the problem was solved in grade appropriate contexts. 2.5.8.A.

Use precise mathematical language, notation, and representations, including numerical tables and equations, simple algebraic equations, and formulas, charts, graphs and diagrams to explain and interpret results. 2.5.8.B.

Name, describe and apply geometric relations for 1- dimensional shapes and 2- dimensional shapes and 3- dimensional solids. 2.9.8.A.

Listening

| Concepts | Competencies | Vocabulary | Level 1 Entering | Level 2 Beginning | Level 3 Developing | Level 4 Expanding | Level 5 Bridging | |
|---|--|---|--|--|--|--|--|--------------------------|
| Area and Volume Variables, Expressions, Equations | Extend previous understandings of the characteristics of 2-d and 3-d shapes including the measures of area and volumes by exploring, solving and interpreting real world problems. Write mathematical expressions and equations that correspond to given situations, evaluate expressions and use expressions and formulas to solve problems. | Associative property Central tendency Commutative property Coordinate system Customary system (English measurements) Distributive property Equation Equivalent forms Expression Histogram Independent events Inequality Mean Median Metric system Mode | Match oral descriptions of geometric shapes to real world objects (such as: a globe = a sphere) using every day objects. | Group geometric shapes as described orally working with a partner. | Categorize geometric shapes based on oral descriptions using graphic organizers. | Compare and contrast the characteristics of geometric shapes and attributes based on oral descriptions using graphic organizers. | Construct scale models of three-dimensional figures based on oral descriptions from grade-level text working in teams and report out the affects of changing size on materials used. | Level 6- Reaching |

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|------------------------------|--|---|---|--|--|--|--|--------------------------|
| | | Models Patterns Probability Range (1) Range (2) Rate of change Reasonableness Reflection Rotation Sequence Transition Variable | | | | | | |
| Reading | | | | | | | | |
| | | Vocabulary | Level 1 Entering | Level 2 Beginning | Level 3 Developing | Level 4 Expanding | Level 5 Bridging | |
| | | | Select a symbol to make a correct mathematical sentence (such as: $9 (>) 7$). | Select the correct formula from a given list for a word problem (such as: distance, area, etc.). | Follow written directions to create a mathematical equation based on examples. | Identify essential information needed to solve a visually supported word problem. | Construct scale models of three-dimensional figures based on oral descriptions from grade-level text working in teams and report out the affects of changing size on materials used. | |
| Content Stems | | | | | | | | |
| | | | Problem solving Write math language Communicate mathematically Solve simple problems | Represent scenarios mathematically Recognize real-world scenarios as content | Make predictions Test theories | Engage in mathematical discourse Find and correct errors in mathematical thinking | Find the best solution Write mathematical documents Make recommendations Mathematical reasoning Multiple solutions | |
| Instructional Support | | | | | | | | |
| | | | Manipulatives Peer explanation Infuse graphics with text Supplemental | Manipulatives Explain their thinking Peer explanation | Model situations with pictures Write-think- | Explain incorrect answers Solve problem two ways | Solve problems multiple ways Predict outcomes without calculating | |
| | | | | | | | | Level 6- Reaching |

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| | | | <p>text/peer-made text/teacher-made text Read aloud Teacher models talking to the text Thumbs up/thumbs down or traffic lighting Use calculator to find answer</p> | <p>Infuse graphics with text Explain answer using calculator</p> | <p>pair-share Explain peer's work Critique peer work Sequence events/steps /instructions Explain answer with calculator and written work</p> | <p>Support answer with calculator or technology</p> | <p>Debate solutions Use technology to enhance problem solving</p> |
| Language Use | | | | | | | |
| | | | <p>Reading Peer groups read small problems/text Read overhead/projected text</p> | <p>Reading Independently read problems</p> | <p>Reading Independently read problems and simple instructional text</p> | <p>Reading Read multi-media text related to content</p> | <p>Reading Read on-level or technical text related to content</p> |
| | | | <p>Listening Hear peer explanations Short segments of information Understand clearly pronounced phrases</p> | <p>Listening Students model/change situations based on verbal instructions</p> | <p>Listening Interview a peer expert to gather information</p> | <p>Listening Students score presentations against rubrics</p> | <p>Listening Formulate counter-points based on listening</p> |