

Glossary of Verbs Associated with New York State Math Standards

Key vocabulary was identified and recommended to be defined in a glossary of verbs associated with the mathematics standards. This glossary contains a list of verbs that appear throughout the Revised Standards Recommendations. These verbs are explained in the context in which they appear in the Revised Standards Recommendations.

Word	Intent when used in the standards
Analyze	<i>Analyze</i> requires students to examine carefully, take apart mathematically, and break down into components or essential characteristics to identify causes, key factors, and possible results.

Apply *Apply* requires a student to use mathematical knowledge in a varie

Calculate

Demonstrate	Students <i>demonstrate</i> understanding and application of the content in the standard through narrative (oral or written), modeling (including pictures, diagrams or technology), algebraic work or any mathematically appropriate method that clearly communicates the steps leading to the solution or conclusion needed.
Derive	<i>Derive</i> requires the student to utilize current or specified knowledge to formulate a “new” theorem, formula or relationship.
Describe	<i>Describe</i> requires that students illustrate their thinking or justifications through verbal (oral or written) statements that may reference a drawing/diagram/model.
Determine	To <i>determine</i> requires finding something out or establishing exactly, typically as a result of research or calculation.
Develop	<i>Develop</i> requires a student to engage in experimentation or argumentation that leads to a mathematically appropriate conclusion.
Differentiate	<i>Differentiate</i> requires a student to determine the difference between two or more things.
Distinguish	<i>Distinguish</i> requires students to recognize distinct or different characteristics (attributes).
Explain	<i>Explain</i> requires a student to provide verbal (oral or written) evidence to support a conclusion or solution.
Explore	<p><i>Explore</i> requires the student to learn the concept in the standard through a variety of instructional activities. Repeated experiences with these concepts, with immersion in the concrete, are vital.</p> <p><i>Explore</i> indicates that the topic is an important concept that builds the foundation for progression toward mastery in later grades. However, mastery at the current level is not expected for that standard.</p>
Express	<i>Express</i> requires students to change an amount or quantity into a different form.

Find

Find requires a student to calculate a specified value.

Fluency

The word *fluent* is used in the Standards to mean “fast and accurate.” Fluency in each grade involves a mixture of just knowing some answers, knowing some answers from patterns and knowing some answers from the use of strategies.

See page 18-19 of https://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_oa_k5_2011_05_302.pdf

Procedural skills and fluency: The standards call for speed and accuracy in calculation. Students must practice co

Know	<i>Know</i> requires students have a firm mathematical understanding through awareness of situations, facts, information, and skills.
Make	<i>Make</i> requires a student to create a picture, diagram or model to illustrate a mathematical concept.
Prove	<i>Prove</i> requires students to demonstrate that an argument is universally true where each step and conclusion must be supported by evidence and/or reasoning. This can be shown through a variety of strategies.

Recognize *Recogni of*

Verify	<i>Verify</i> requires students demonstrate that a mathematical concept is true or accurate.
Written Method	A <i>written method</i> is any way of representing a strategy using pictures or numbers.