Mathematics glossary

Term	Definition
Authentic real-life	Relevant, meaningful and grounded in reality.
Challenging	Demanding problems of high complexity that require students to have mathematical insight to be able to use knowledge and/or skills taught.
Communicate	Express oneself in such a way that one is readily and clearly understood. Convey information about the exchange of thoughts, messages or information through, for example, speech, signals, writing or behaviour.
Context	The setting of the problem.
Familiar situations	Problems similar to those seen previously in which students are required to use knowledge and/or skills they have been taught.
Form	This concept refers to the understanding that the underlying structure and shape of an entity is distinguished by its properties. Form provides opportunities for students to appreciate the aesthetic nature of the constructs used in mathematics.
Forms of mathematical representation	Words, formulae, diagrams, tables, charts, graphs and models used to represent mathematical information.
Investigation	A task where, to varying degrees, students are given opportunities to pose questions, select problem-solving techniques, discover patterns, make generalizations and communicate their findings.
Justification	Valid reasons or evidence that support the conclusion and explain why the rule works.
Lines of reasoning	A connected sequence of steps.
Logic	This concept is the basic tool used in mathematics to make conclusions about numbers, shapes and variables. Logic structures the reasoning process through which knowledge is built. It enables students to assess the truth of conclusions and transfer mathematical learning to other situations.
Logical structure	A general layout that prevents the need for going back and forth (between the task sheet and the student work and within the student work) in order to understand and follow the work.
Mathematical language	The use of notation, symbols, terminology and verbal explanations.
Pattern	The underlining order, regularity or predictability of the elements of a mathematical system. The repetitive features of patterns can be identified and described as relationships or general rules.

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Problem-solving techniques	Strategies students use to solve problems (for example, make a table or chart, solve a simpler problem, work backwards, draw a picture, guess and check, and so on).
Proof	The use of a sequence of logical steps to obtain the required result in a formal way.
Relationships	This concept refers to the connections between quantities, properties or concepts; these connections may be expressed as models, rules or statements. Relationships provide opportunities for students to explore patterns in the world around them.
Teacher support	Advice given by the teacher to aid students with elements of the task (for example, to allow a student to start solving the problem).
To model	Represent.
To test	Verify whether a rule works for a variety of values.
Unfamiliar situations	New contexts in which students are required to use knowledge and/or skills they have been taught.
Unit test	A test comprised of topics from only one branch of mathematics from the framework.
Valid	A plausible solution in the context of the situation.