

# MATHEMATICS

## Mathematical Reasoning

Grade 3	Grade 4	Grade 5
<p><b>1. Students make decisions about how to approach problems.</b></p> <p>3.1.1 analyze problems by identifying relationships, discriminating relevant from irrelevant information, sequencing and prioritizing information, and observing patterns</p> <p>3.1.2 determine when and how to break a problem into simpler parts</p> <p>3.1.3 use correct mathematical vocabulary in analyzing problems</p> <p>3.1.4 look at a variety of strategies in approaching a given problem</p> <p><b>2. Students use strategies, skills and concepts in finding solutions.</b></p> <p>3.2.1 use estimation to verify the reasonableness of calculated results</p> <p>3.2.2 apply strategies and results from simpler problems to more complex problems</p> <p>3.2.3 use a variety of methods such as words, numbers, symbols, charts, graphs, tables, diagrams and models to explain mathematical reasoning</p>	<p><b>1. Students make decisions about how to approach problems.</b></p> <p>4.1.1 analyze problems by identifying relationships, discriminating relevant from irrelevant information, sequencing and prioritizing information, and observing patterns</p> <p>4.1.2 determine when and how to break a problem into simpler parts</p> <p>4.1.3 use correct mathematical vocabulary in analyzing problems</p> <p>4.1.4 look at a variety of strategies in approaching a given problem</p> <p><b>2. Students use strategies, skills and concepts in finding solutions.</b></p> <p>4.2.1 use estimation to verify the reasonableness of calculated results</p> <p>4.2.2 apply strategies and results from simpler problems to more complex problems</p> <p>4.2.3 use a variety of methods such as words, numbers, symbols, charts, graphs, tables, diagrams and models to explain mathematical reasoning</p>	<p><b>1. Students make decisions about how to approach problems.</b></p> <p>5.1.1 analyze problems by identifying relationships, discriminating relevant from irrelevant information, sequencing and prioritizing and observing patterns</p> <p>5.1.2 determine when and how to break a problem into simpler parts</p> <p>5.1.3 use correct mathematical vocabulary in analyzing problems</p> <p>5.1.4 look at a variety of strategies in approaching a given problem</p> <p><b>2. Students use strategies, skills and concepts in finding solutions.</b></p> <p>5.2.1 use estimation to verify the reasonableness of calculated results</p> <p>5.2.2 apply strategies and results from simpler problems to more complex problems</p> <p>5.2.3 use a variety of methods such as words, numbers, symbols, charts, graphs, tables, diagrams and models to explain mathematical reasoning</p>

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<p>3.2.4 express the solution clearly and logically using appropriate mathematical notation and terms and clear language, and support solutions with evidence, in both verbal and symbolic work</p> <p>3.2.5 indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy</p> <p>3.2.6 make precise calculations and check the validity of the results from the context of the problem</p> <p>3.2.7 explore a variety of manipulatives to solve equations</p> <p><b>3. Students move beyond a particular problem by generalizing to other situations.</b></p> <p>3.3.1 evaluate the reasonableness of the solution in the context of the original situation and explore alternative strategies and/or solutions</p> <p>3.3.2 note method of deriving the solution and demonstrate conceptual understanding of the derivation by solving similar problems</p> <p>3.3.3 develop generalizations of the results obtained and extend them to other circumstances</p> <p>3.3.4 transfer math concepts in simulation form to real life situations</p>	<p>4.2.4 express the solution clearly and logically using appropriate mathematical notation and terms and clear language, and support solutions with evidence, in both verbal and symbolic work</p> <p>4.2.5 indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy</p> <p>4.2.6 make precise calculations and check the validity of the results from the context of the problem</p> <p>4.2.7 explore a variety of manipulatives to solve equations</p> <p><b>3. Students move beyond a particular problem by generalizing to other situations.</b></p> <p>4.3.1 evaluate the reasonableness of the solution in the context of the original situation and explore alternative strategies and/or solutions</p> <p>4.3.2 note method of deriving the solution and demonstrate conceptual understanding of the derivation by solving similar problems</p> <p>4.3.3 develop generalizations of the results obtained and extend them to other circumstances</p> <p>4.3.4 transfer math concepts in simulation form to real life situations</p>	<p>5.2.4 express the solution clearly and logically using appropriate mathematical notation and terms and clear language, and support solutions with evidence, in both verbal and symbolic work</p> <p>5.2.5 indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy</p> <p>5.2.6 make precise calculations and check the validity of the results from the context of the problem</p> <p>5.2.7 demonstrate an understanding and use of a variety of manipulatives to solve equations</p> <p><b>3. Students move beyond a particular problem by generalizing to other situations.</b></p> <p>5.3.1 evaluate the reasonableness of the solution in the context of the original situation and explore alternative strategies and/or solutions</p> <p>5.3.2 note method of deriving the solution and demonstrate conceptual understanding of the derivation by solving similar problems</p> <p>5.3.3 develop generalizations of the results obtained and extend them to other circumstances</p> <p>5.3.4 transfer math concepts in simulation form to real life situations</p>