

5th grade New York State Standards
“Geometry: Circling the Bases”

Problem Solving

- 5.PS.1 Know the difference between relevant and irrelevant information when solving problems
- 5.PS.2 Understand that some ways of representing a problem are more efficient than others
- 5.PS.3 Interpret information correctly, identify the problem, and generate possible strategies and solutions
- 5.PS.5 Formulate problems and solutions from everyday situations
- 5.PS.7 Represent problem situations verbally, numerically, algebraically, and/or graphically
- 5.PS.8 Select an appropriate representation of a problem
- 5.PS.9 Understand the basic language of logic in mathematical situations (and, or, not)
- 5.PS.10 Work in collaboration with others to solve problems
- 5.PS.14 Analyze problems by observing patterns
- 5.PS.16 Discuss with peers to understand a problem situation
- 5.PS.17 Determine what information is needed to solve problems
- 5.PS.18 Determine the efficiency of different representations of a problem
- 5.PS.19 Differentiate between valid and invalid approaches
- 5.PS.21 Explain the methods and reasoning behind the problem solving strategies used
- 5.PS.22 Discuss whether a solution is reasonable in the context of the original problem
- 5.PS.23 Verify results of a problem

Reasoning and Proof

- 5.RP.1 Recognize that mathematical ideas can be supported using a variety of strategies
- 5.RP.2 Understand that mathematical statements can be supported, using models, facts, and relationships to explain their thinking
- 5.RP.4 Make and evaluate conjectures, using a variety of strategies

5.RP.5 Justify general claims or conjectures, using manipulatives, models, expressions and mathematical relationships.

5.RP.6 Develop and explain an argument verbally, numerically, and/or graphically

Communication

5.CM.1 Provide an organized thought process that is correct, complete, coherent, and clear

5.CM.2 Explain a rationale for strategy selection 5.CM.3 Organize and accurately label work

5.CM.4 Share organized mathematical ideas through the manipulation of objects, numerical tables, drawings, pictures, charts, graphs, tables, diagrams, models and symbols in written and verbal form.

5.CM.6 Understand mathematical solutions shared by other students

5.CM.7 Raise questions that elicit, extend, or challenge others’ thinking

5.CM.8 Consider strategies used and solutions found by others in relation to their own work

5.CM.9 Increase their use of mathematical vocabulary and language when communicating with others

5.CM.10 Use appropriate vocabulary when describing objects, relationships, mathematical solutions, and rationale

5.CM.11 Decode and comprehend mathematical visuals and symbols to construct meaning

Connection

5.CN.1 Understand and make connections and conjectures in their everyday experiences to mathematical ideas

5.CN.2 Explore and explain the relationship between mathematical ideas

5.CN.3 Connect and apply mathematical information to solve problems

5.CN.6 Recognize and provide examples of the presence of mathematics in their daily lives

5.CN.7 Apply mathematics to problem situations that develop outside of mathematics

5.CN.8 Investigate the presence of mathematics in careers and areas of interest

5.CN.9 Recognize and apply mathematics to other disciplines and areas of interest

Reasoning

5.R.1 Use physical objects, drawings, charts, tables, graphs, symbols, equations or objects created using technology as representations.

5.R.2 Explain, describe and defend mathematical ideas using representations

5.R.3 Read, interpret and extend defend external models

5.R.4 Use standard and non-standard representations with accuracy and detail.

5.R.5 Use representations to explore problem situations

5.R.6 Investigate relationships between different representations and their impact on a given problem

5.R.7 Use mathematics to show and understand physical phenomena

5.R.9 Use mathematics to show and understand mathematical phenomena (e.g., find the missing value that makes the equation true: $(3 + 4) + 5 = 3 + (4 + \underline{\quad})$)

Geometry

5.G.1 Calculate the perimeter of regular and irregular polygons

5.G.4 Classify quadrilaterals by properties of their angles and sides

5.G.6 Classify triangles by properties of their angles and sides

5.G.11 Identify and draw lines of symmetry of basic geometric shapes