

6<sup>th</sup> grade New York State Standards  
“Batter Up”

**Problem Solving**

- 6.PS.1 Know the difference between relevant and irrelevant information when solving problems
- 6.PS.2 Understand that some ways of representing a problem are more efficient than others
- 6.PS.3 Interpret information correctly, identify the problem, and generate possible strategies and solutions
- 6.PS.5 Formulate problems and solutions from everyday situations
- 6.PS.7 Represent problem situations verbally, numerically, algebraically, and/or graphically
- 6.PS.8 Select an appropriate representation of a problem
- 6.PS.9 Understand the basic language of logic in mathematical situations (and, or, and not)
- 6.PS.10 Work in collaboration with others to solve problems
- 6.PS.12 Use trial and error and the process of elimination to solve problems
- 6.PS.14 Analyze problems by observing patterns
- 6.PS.15 Make organized lists or charts to solve numerical problems
- 6.PS.16 Discuss with peers to understand a problem situation
- 6.PS.17 Determine what information is needed to solve problem
- 6.PS.18 Determine the efficiency of different representations of a problem
- 6.PS.19 Differentiate between valid and invalid approaches
- 6.PS.21 Explain the methods and reasoning behind the problem solving strategies used
- 6.PS.22 Discuss whether a solution is reasonable in the context of the original problem
- 6.PS.23 Verify results of a problem

### **Reasoning and Proof**

6.RP.1 Recognize that mathematical ideas can be supported using a variety of strategies

### **Communication**

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

6.CM.2 Explain a rationale for strategy selection

6.CM.3 Organize and accurately label work

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

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

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

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

### **Connection**

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

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

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

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

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

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

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

### **Representation**

6.R.5 Use representations to explore problem situations

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

### **Number Sense and Operation**

- 6.N.2 Define and identify the commutative and associative properties of addition and multiplication
- 6.N.3 Define and identify the distributive property of multiplication over addition
- 6.N.4 Define and identify the identity and inverse properties of addition and multiplication
- 6.N.6 Understand the concept of ratio
- 6.N.7 Express equivalent ratios as a proportion
- 6.N.8 Distinguish the difference between rate and ratio 6.N.9 Solve proportions using equivalent fractions
- 6.N.11 Read, write, and identify percents of a whole (0% to 100%)
- 6.N.12 Solve percent problems involving percent, rate, and base
- 6.N.18 Multiply and divide mixed numbers with unlike denominators
- 6.N.20 Represent fractions as terminating or repeating decimals
- 6.N.21 Find multiple representations of rational numbers (fractions, decimals, and percents 0 to 100)
- 6.N.26 Estimate a percent of quantity (0% to 100%)
- 6.N.27 Justify the reasonableness of answers using estimation (including rounding)