

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

**Mathematics**

**Problem Solving**

- 4.PS.1 Explore, examine, and make observations about a social problem or mathematical situation.
- 4.PS.2 Understand that some ways of representing a problem are more helpful than others.
- 4.PS.3 Interpret information correctly, identify the problem, and generate possible solutions
- 4.PS.5 Formulate problems and solutions from everyday situations
- 4.PS.7 Represent problem situations in oral, written, concrete, pictorial, and graphical forms
- 4.PS.8 Select an appropriate representation of a problem
- 4.PS.9 Use trial and error to solve problems
- 4.PS.10 Use process of elimination to solve problems
- 4.PS.13 Work in collaboration with others to solve problems
- 4.PS.14 Make organized lists to solve numerical problems
- 4.PS.16 Analyze problems by identifying relationships
- 4.PS.17 Analyze problems by identifying relevant versus irrelevant information
- 4.PS.20 Determine what information is needed to solve a problem
- 4.PS.21 Discuss with peers to understand a problem situation
- 4.PS.23 Verify results of a problem
- 4.PS.24 Recognize invalid approaches
- 4.PS.25 Determine whether a solution is reasonable in the context of the original problem

**Reasoning and Proof**

- 4.RP.1 Use representations to support mathematical ideas
- 4.RP.3 Investigate the use of knowledgeable guessing by generalizing mathematical ideas

4.RP.7 Discuss, listen, and make comments that support or reject claims made by other students

### **Communication**

4.CM.1 Understand and explain how to organize their thought process

4.CM.2 Verbally explain their rationale for strategy selection

4.CM.3 Provide reasoning both in written and verbal form

4.CM.8 Consider strategies used and solutions found in relation to their own work

### **Connection**

4.CN.1 Recognize, understand, and make connections in their everyday experiences to mathematical ideas

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

4.CN.6 Recognize the presence of mathematics in their daily lives

4.CN.7 Apply mathematics to solve problems that develop outside of mathematics

4.CN.8 Recognize and apply mathematics to other disciplines

### **Representation**

4.R.2 Share mental images of mathematical ideas and understandings

4.R.3 Recognize and use external mathematical representations

4.R.4 Use standard and nonstandard representations with accuracy and detail

4.R.8 Use mathematics to show and understand physical phenomena (e.g., estimate and represent the number of apples in a tree)

4.R.9 Use mathematics to show and understand social phenomena (e.g., determine the number of buses required for a field trip)

4.R.10 Use mathematics to show and understand mathematical phenomena (e.g., use a multiplication grid to solve odd and even number problems)

## Number Sense and Operations

4.N.5 Recognize equivalent representations for numbers up to four digits and generate them by decomposing and composing numbers

4.N.6 Understand, use, and explain the associative property of multiplication

4.N.7 Develop an understanding of fractions as locations on number lines and as divisions of whole numbers

4.N.8 Recognize and generate equivalent fractions (halves, fourths, thirds, fifths, sixths, and tenths) using manipulatives, visual models, and illustrations

4.N.9 Use concrete materials and visual models to compare and order unit fractions or fractions with the same denominator (with and without the use of a number line)

4.N.10 Develop an understanding of decimals as part of a whole

4.N.11 Read and write decimals to hundredths, using money as a context

4.N.12 Use concrete materials and visual models to compare and order decimals (less than 1) to the hundredths place in the context of money

4.N.15 Select appropriate computational and operational methods to solve problems

4.N.16 Understand various meanings of multiplication and division

4.N.17 Use multiplication and division as inverse operations to solve problems

4.N.18 Use a variety of strategies to multiply two-digit numbers by one-digit numbers (with and without regrouping)

4.N.19 Use a variety of strategies to multiply two-digit numbers by two-digit numbers (with and without regrouping)

4.N.20 Develop fluency in multiplying and dividing multiples of 10 and 100 up to 1,000

4.N.21 Use a variety of strategies to divide two-digit dividends by one-digit divisors (with and without remainders)

4.N.22 Interpret the meaning of remainders

4.N.23 Add and subtract proper fractions with common denominators

4.N.24 Express decimals as an equivalent form of fractions to tenths and hundredths

4.N.27 Check reasonableness of an answer by using estimation

## **Algebra**

4.A.3 Find the value or values that will make an open sentence true, if it contains  $<$  or  $>$

4.A.4 Describe, extend, and make generalizations about numeric  $(+, -, \times, \div)$  and geometric patterns

4.S.5 Develop and make predictions that are based on data

## **Language Arts**

### **Reading**

Standard 1: Students will read, write, listen, and speak for information and understanding.

- Locate information in a text that is needed to solve a problem
- Identify a main idea and supporting details in informational texts

Standard 3: Students will read, write, listen, and speak for critical analysis and evaluation.

- Evaluate the content by identifying the author’s purpose and important and unimportant details
- Analyze ideas and information on the basis of prior knowledge and personal experience

### **Writing**

Standard 3: Students will read, write, listen, and speak for critical analysis and evaluation.

- Use personal experiences and knowledge to analyze and evaluate new ideas
- Use details from stories or informational texts to predict, explain, or show relationships between information and events

### **Speaking**

Standard 1: Students will read, write, listen, and speak for information and understanding.

- Explain a line of reasoning and speak loudly enough to be heard by the audience

