

Third Grade, Quarter 1

Mathematics August 1-October 4

Big Ideas/Key Concepts:

Understanding place value leads to the development of number sense and efficient strategies for computing with numbers.

Mathematical operations are used in solving problems in which a new value is produced from one or more values.

Algebraic thinking involves choosing, combining, and applying effective strategies for answering quantitative questions.

Measurement processes are used in everyday life to describe and quantify the world.

Data displays describe and represent data in alternative ways.

Students will represent numbers to 10,000 using place value models.

Students will explore the variety of ways whole numbers can be represented including decomposing numbers into various combinations of hundreds, tens, and ones, applying the concept of composing and decomposing to add and subtract large numbers.

Students will use a variety of models to develop a conceptual understanding of the meaning of multiplication and division.

Students will model problem situations with objects and use representations such as graphs, tables, and equations to draw data based conclusions.

Standards for Mathematical Practice

All practices should be embedded in instruction throughout all 4 quarters.

MP1. Make sense of problems and persevere in solving them.

MP2. Reason abstractly and quantitatively.

MP3. Construct viable arguments and

Student Friendly “I Can” Statements

I can use the math that I already know to determine how to begin solving a problem or what to do next.

I can keep working on the problem until I figure it out.

I can explain that a number represents a specific quantity.

I can connect quantities to their written symbol.

I can use numbers and words to help me understand math problems.

I can construct mathematical arguments

Resources

*May be purchased with individual or site-based money.

[Read Tennessee MP.1](#)

[Read Tennessee MP.2](#)

[Read Tennessee MP.3](#)

critique the reasoning of others.

using concrete objects, diagrams, drawings,
and expressions.

I can participate in a mathematical
discussion.

I can justify and communicate my conclusions
with others.

I can compare mathematical arguments and
recognize and explain errors.

I can analyze a mathematical response and
decide if it is reasonable.

MP4. Model with mathematics.

I can represent problems in multiple ways
using numbers, words, drawing pictures,
using objects, acting out, making a chart, list
or graph, or creating equations.

[Read Tennessee MP.4](#)

MP5. Use appropriate tools strategically.

I can determine the most appropriate tool to
use when solving a math problem.

I can use tools accurately.

[Read Tennessee MP.5](#)

MP6. Attend to precision.

I can communicate like a mathematician
using precise vocabulary, labels, and symbols.

I can specify units when solving a problem.

I can solve math problems accurately and
efficiently.

I can check the reasonableness of my
calculations.

[Read Tennessee MP.6](#)

MP7. Look for and make use of structure.

I can identify patterns to make connections between mathematical problems.

I can use the properties of operations as strategies to multiply and divide

[Read Tennessee MP.7](#)

(commutative and distributive properties).

MP8. Look for and express regularity in repeated reasoning.

I can use consistent patterns to make generalizations and find shortcuts for solving problems.

I can draw conclusions about solutions to mathematical problems.

[Read Tennessee MP.8](#)

Mathematical Content Standards

Student Friendly “I Can” Statements

Resources

3. NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.

I can use place value to round whole numbers to the nearest 10 and 100.

EnVision Topics

Topic 1 – Numeration

Topic 2 – Adding Whole Numbers

Topic 3 – Subtraction Number Sense

Topic 4 – Subtracting Whole Numbers to Solve Problems

SPI 0306.2.2 Identify the place value of numbers in the ten thousands, thousands, hundreds, tens and ones positions.

I can identify the place value of numbers in the ten thousands, hundreds, tens and ones place.

[Numbers to 1,000 Unit Addition & Subtraction Unit](#)

3. NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. A range of algorithms may be used.

I can fluently add within 1000 using an algorithm or strategy based on place value.

I can fluently subtract within 1000 using an algorithm or strategy based on place value.

I can use other strategies (such as applying the commutative or associative property,

[3. NBT.A.1 Teacher’s Mathematics Tool kit](#)

[3. NBT.A.2 Teacher’s Mathematics Tool kit](#)

SPI 0306.2.9 Solve contextual problems involving the addition with and without regrouping and subtraction without regrouping of two and three digit whole numbers.

3.OA.A FOCUS CLUSTER : Represent and solve problems involving multiplication and division

3. OA.A.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5×7 .

adding on to solve a subtraction problem) for adding and subtracting within 1000 with ease.

I can solve addition problems with two and three digit whole numbers with and without regrouping using various strategies.

I can solve subtraction problems with two and three digit whole numbers with and without regrouping using various strategies.

I can illustrate products of whole numbers in relation to factors (e.g., $50 = 5 \times 10$ can be interpreted as 5 groups of 10, an array with 5 rows and 10 columns, the area of a 5-by-10 rectangle, 5 rows of 10 objects).

I can multiply to find the product of two single digit whole numbers.

Math Solutions Lesson -Exploring Ones, Tens, and Hundreds with Base Ten Blocks by Maryann Wickett and Marilyn Burns

Literature

Exploring Ones, Tens, and Hundreds with Base Ten Blocks by Maryann Wickett & Marilyn Burns

EnVision Topics

- 5-1 – Multiplication as Repeated Addition
- 5-2 – Arrays and Multiplication
- 5-3 – Using Multiplication to Compare
- 5-4 – Writing Multiplication Stories

SPI 0306.2.5 Identify various representations of multiplication and division.

I can represent the product of two numbers using equal groups, arrays, repeated addition, number lines, and area models.

[Illuminations: All About Multiplication Multiplication & Division Unit](#)

[Math Solutions Lesson: Amanda Bean's Amazing Dream](#) by Cindy Neuschwander

[Math Solutions Lesson: One Hundred Angry Ants](#) by Marilyn Burns

[Math Solutions Lesson: Which had More?](#) By Marilyn Burns

[Journal Task #4—One Hundred Hungry Ants:](#)
www.k-5mathteachingresources.com *

[3. OA.A.1 Teacher's Mathematics Tool kit](#)

Literature

[What Comes in 2's, 3's and 4's](#) by Suzanne Aker & Bernie Karlin

[The Best of Times](#) by Greg Tang

[Amanda Bean's Amazing Dream](#) by Cindy Neuschwander

[The Visit](#) by Helen Chapman

[One Hundred Angry Ants](#) by Marilyn Burns

[Minnie's Diner](#) by Dayle Dodds

[Which had More?](#) By Marilyn Burns

3. OA.A.2 Interpret whole number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.

I can explain division as a set of objects partitioned into an equal number of shares.

I can identify parts of division equations (dividend, divisor, and quotient).

I can illustrate quotients in relation to divisors and dividends (e.g., $50/10=5$ can be 5 groups with 10 items in each group or 10 groups with 5 items in each group.)

EnVision Topics

7-1 – Division as Sharing

7-2 – Understanding Remainders

7-3 – Division as Repeated Subtraction

7-4 – Writing Division Stories

3. OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

I can represent multiplication and division word problems using drawings, concrete models, and equations with unknowns in all positions.

I can determine when to multiply and divide in word problems.

I can solve word problems involving equal groups, arrays, and measurement quantities using drawings and equations.

3. OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies

I can choose the correct operation to perform the first computation, and choose the correct operation to perform the second computation in order to solve two-step word problems.

I can write equations using a letter for the

[Isabella's Garden Unit](#)

[Math Solutions Lesson: Everybody Wins](#) by Maryann Wickett and Marilyn Burns

[Math Solutions Lesson: Divide and Ride](#) Lynne Zolli

[Journal Task #5: The Doorbell Rang: www.k-5mathteachingresources.com *](#)

[3. OA.A.2 Teacher's Mathematics Tool kit](#)

[3. OA.A.3 Teacher's Mathematics Tool kit Multiplication & Division Tasks: Cookie Dough](#)

Literature

[Dazzling Division](#) by Jenny Feely

[Fair Share](#) by Jenny Feely

[Amanda Bean's Amazing Dream](#) (reread to focus on equal groups for division) by Cindy Neuschwander

[A Remainder of One](#) by Elinor Pinczes

[The Doorbell Rang](#) by Pat Hutchins Divide and Ride Lynne Zolli

[Everybody Wins](#) by Maryann Wickett and Marilyn Burns

EnVision Topics

2-10 – Problem Solving: Draw a Picture

3-5 – Problem Solving: Reasonableness

4-6 –Problem Solving: Draw a Picture and Write a Number Sentence

18-7 –Problem Solving: Draw a Picture and

including rounding.

unknown number.

I can decide if my answers are reasonable using mental math and estimation strategies including rounding.

I can justify my answer using estimation strategies and mental computation.

Write a Number Sentence

Tasks and Other Activities

[3. OA.D.8 Teacher's Mathematics Tool kit](#)

3. OA.D.9 Identify arithmetic patterns including patterns in the addition table or multiplication table, and explain them using properties of operations. (For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.)

I can recognize and describe arithmetic patterns in number charts, addition tables, and multiplication tables.

I can analyze arithmetic patterns using properties of operations.

EnVision Topics

2-10 –Draw a picture

3-2 – Subtracting on a Hundred Chart

5-10 – Two-Question Problems

8-1 – Relating Multiplication and Division

9-4 –Writing Rules for Situations

18-7 –Draw a Picture and Write a Number Sentence

SPI 0306.3.2 Express mathematical relationships using number sentences/equations

I can describe mathematical relationships using equations.

Tasks and Other Activities

[Illuminations: It's in the Cards](#)

SPI 0306.3.3 Find the missing values in simple multiplication and division equations.

I can assess the missing values in simple multiplication and division equations.

[3.OA.D.9 Teacher's Mathematics Tool kit](#)

SPI 0306.1.5 Represent problems mathematically using diagrams, numbers,

I can present my solution using diagrams, numbers, and symbolic expressions.

and symbolic expressions.

3. MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.

I can read and interpret scaled bar graphs in order to solve one- and two-step “how many more” and “how many less” problems.

I can choose a proper scale for a bar graph or picture graph.

I can create a scaled picture graph or bar graph with several categories to represent data (e.g., one square or picture represents 5 objects).

EnVision Topics

20-1 – Organizing Data
20-2 – Reading Pictographs and Bar Graphs
20-3 – Making Pictographs
20-4 – Making Bar Graphs
20-8 – Line Plots & Probability
20-9 – Use Tables and Graphs to Draw Conclusions

SPI 0306.5.1 Interpret a frequency table, bar graph, pictograph, or line plot.

I can explain a frequency table.

I can explain a line plot.

SPI 0306.5.2 Solve problems in which data is represented in tables or graphs.

I can solve problems using information from tables, charts and graphs.

Tasks and Other Activities

[Illustrations: Bar Grapher](#)

[Illustrations: All About Multiplication- Exploring equal sets](#)

[Illustrations: What’s in a Name? Creating Pictographs](#)

[3.MD.B.3 Teacher’s Mathematics Tool kit](#)

Other Resources for Q1

<http://schools.nyc.gov/Academics/CommonCoreLibrary/TasksUnitsStudentWork/default.htm>
[Teaching Channel](#)

www.exemplars.com *

www.K-5Teachingresources.com