Course Name Grade 3 Math

Approved: August 26, 2024

Unit Title Unit 1 Three-Digit Numbers: Place Value, Addition, and Subtraction

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.1: Numbers and Operations

CC.2.1.3.B.1

Apply place value understanding and properties of operations to perform multi-digit arithmetic.

Transfer

Students will be able to independently use their learning to...

- ❑ utilize place value strategies to add and subtract two- and three- digit numbers.

Meaning

UNDERSTANDINGS

Students will understand that...

- ❑ Rounding numbers can be useful when estimating. Knowing how to round will help students with addition and subtraction.
- ❑ Students can use what they know about place value to add or subtract using partial sums or differences and other strategies.

ESSENTIAL QUESTIONS

Students will keep considering...

- ❑ What strategy do I use to identify place value?
- ❑ How can I use place value to round numbers?
- ❑ How can I use rounding to estimate?
- ❑ How can I use place value to add or subtract partial sums?

Acquisition

	Students will know... ❑ the hundreds, tens, and ones places in numbers. ❑ the value of hundreds, tens, and ones places in numbers ❑ whether a given digit is less than, equal to, or greater than 5	*Students will be skilled at...* ❑ I can apply place value understanding and properties of operations to perform multi-digit arithmetic. ❑ I can apply place-value strategies to solve problems.

Course Name Grade 3 Math

Unit Title Unit 2 Multiplication and Division: Concepts, Relationships, and Patterns

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.1: Numbers and Operations

CC.2.1.3.B.1
Apply place value understanding and properties of operations to perform multi-digit arithmetic.

CC.2.2: Algebraic Concepts

CC.2.2.3.A.1
Represent and solve problems involving multiplication and division.

CC.2.2.3.A.2
Understand properties of multiplication and the relationship between multiplication and division.

CC.2.2.3.A.3
Demonstrate multiplication and

Transfer

Students will be able to independently use their learning to...

- ❑ utilize strategies and models to solve multiplication and division problems

Meaning

UNDERSTANDINGS

Students will understand that...

- ❑ Multiplication is a way of combining equal groups. Knowing how to work with equal groups will help students with both multiplication and division problems.
- ❑ There are many models and strategies to help students multiply. Knowing these strategies, such as breaking apart factors, will help make students more fluent with their multiplication facts.

ESSENTIAL QUESTIONS

Students will keep considering...

- ❑ How can equal groups be used to solve multiplication and division problems?
- ❑ Which models or strategies can be used to solve a specific multiplication or division problem?
- ❑ How can patterns be used to solve multiplication and division problems?

<table>
<tr>
<td rowspan="3">division fluency.

CC.2.2.3.A.4
Solve problems involving the four operations, and identify and explain patterns in arithmetic.</td>
<td>❑ Numbers can be multiplied in any order. Students can also use place value to multiply.
❑ Division means separating a total number of objects into equal-sized groups. Knowing how to divide will help students find the number of groups or the number of items in a group.</td>
<td></td>
</tr>
<tr>
<td colspan="2">Acquisition</td>
</tr>
<tr>
<td>Students will know...
❑ I understand the properties of multiplication and the relationship between multiplication and division.
❑ I understand various meanings of multiplication and division.</td>
<td>Students will be skilled at...
❑ I can apply place value understanding and properties of operations to perform multi-digit arithmetic.
❑ I can apply place-value strategies to solve problems.
❑ I can use properties to simplify and solve multiplication problems.
❑ I can represent and solve problems involving multiplication and division.
❑ I can demonstrate multiplication and division fluency.
❑ I can solve problems involving the four operations, and identify and explain patterns in arithmetic.
❑ I can use operations, patterns, and estimation strategies to</td>
</tr>
</table>

		solve problems (may include word problems).

Course Name Grade 3 Math

Unit Title Unit 3 Multiplication: Finding Area, Solving Word Problems, and Using Scaled Graphs

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.2: Algebraic Concepts

CC.2.2.3.A.1
Represent and solve problems involving multiplication and division.

CC.2.2.3.A.4
Solve problems involving the four operations, and identify and explain patterns in arithmetic.

CC.2.4: Measurement, Data and Probability

CC.2.4.3.A.4
Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.

CC.2.4.3.A.5

Transfer

Students will be able to independently use their learning to...

- ❑ utilize multiplication to find the area of shapes, solve word problems and use scaled graphs.

Meaning

UNDERSTANDINGS

Students will understand that...

- ❑ Area is the measure of the space inside a shape.
- ❑ Students can use what they know about multiplication to find the area of a rectangle. They can add areas to find the area of complex shapes.
- ❑ Students can use what they know about arrays to help them model and solve multiplication and division problems.
- ❑ The scale on a graph can be greater than 1. Knowing how to multiply will help students use

ESSENTIAL QUESTIONS

Students will keep considering...

- ❑ How can multiplication be used to find the area of a shape?
- ❑ How can I use multiplication and addition to combine the area of shapes?
- ❑ How can I use arrays to solve multiplication problems?
- ❑ How can I use my understanding of multiplication to read and understand the data in graphs?

<table>
<tr>
<td rowspan="3">Determine the area of a rectangle and apply the concept to multiplication and to addition.

CC.2.4.3.A.6
Solve problems involving perimeters of polygons and distinguish between linear and area measures.</td>
<td colspan="2">scale to solve problems about data more efficiently.</td>
</tr>
<tr>
<td colspan="2">Acquisition</td>
</tr>
<tr>
<td>Students will know...
❑ I recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
❑ I understand concepts of area and relate area to multiplication and to addition.
❑ I understand various meanings of multiplication and division.</td>
<td>Students will be skilled at...
❑ I can solve problems involving perimeters of polygons.
❑ I can determine the area of a rectangle and apply the concept to multiplication and to addition.
❑ I can find the areas of plane figures.
❑ I can represent and solve problems involving multiplication and division.
❑ I can solve problems involving the four operations, and identify and explain patterns in arithmetic.
❑ I can use operations, patterns, and estimation strategies to solve problems (may include word problems).
❑ I can represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.
❑ I can organize, display, and answer questions based on data.</td>
</tr>
</table>

EAST PENN SCHOOL DISTRICT

Course Name Grade 3 Math

Unit Title Unit 4 Fractions: Equivalence and Comparison, Measurement, and Data

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.1: Numbers and Operations

CC.2.1.3.C.1

Explore and develop an understanding of fractions as numbers.

CC.2.4: Measurement, Data and Probability

CC.2.4.3.A.4

Represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.

Transfer

Students will be able to independently use their learning to...

- ❑ use models, number lines, and symbols to find, compare, and explain fractions, including those that are equal to whole numbers and those with the same numerators or denominators.

Meaning

UNDERSTANDINGS

Students will understand that...

- ❑ Fractions are the numbers that describe wholes divided into equal parts. Knowing how many equal parts they have will help students name fractions.
- ❑ Fractions name points on a number line. Knowing about number lines can help students compare fractions with whole numbers and other fractions.
- ❑ Students can use what they know about fraction models

ESSENTIAL QUESTIONS

Students will keep considering...

- ❑ How can equal parts be used in the naming of fractions?
- ❑ How can a number line be used to identify and compare fractions?
- ❑ How can a number line be used to compare fractions?
- ❑ How can the numerator and denominator be used to compare fractions?

	and number lines to find different names for the same fraction, or equivalent fractions. ❑ Students can use what they know about fractions to compare fractions that have the same numerator or the same denominator.	
	Acquisition	
	Students will know... ❑ How to explore and develop an understanding of fractions as numbers. ❑ How to represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs.	*Students will be skilled at...* ❑ I can represent and interpret data using tally charts, tables, pictographs, line plots, and bar graphs. ❑ I can develop and apply number theory concepts to compare quantities and magnitudes of fractions and whole numbers. ❑ I can organize, display, and answer questions based on data. ❑ I can use fraction models and number lines to find and identify fractions that are the same, even if they look different. ❑ I can show and write fractions that are the same as whole numbers. ❑ I can compare two fractions by looking at their sizes and parts.

		❑ I can tell if fractions have the same top number (numerator) or the same bottom number (denominator). ❑ I can use models or number lines to explain why one fraction is bigger or smaller than another. ❑ I can use symbols to show which fraction is bigger or smaller when they have the same top or bottom number. ❑ I can use models and number lines to explain why fractions are the same or different.

EAST PENN SCHOOL DISTRICT

Course Name Grade 3 Math

Unit Title Unit 5 Shapes: Attributes and Categories, Perimeter and Area, and Partitioning

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

Standards

CC.2.3: Geometry

CC.2.3.3.A.1

Identify, compare, and classify shapes and their attributes.

CC.2.3.3.A.2

Use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole.

CC.2.4: Measurement, Data and Probability

CC.2.4.3.A.6

Solve problems involving perimeters of polygons and distinguish between linear and area measures.

Transfer

Students will be able to independently use their learning to...

- ❑ identify, draw, compare, and sort shapes, calculate perimeter and area, find side lengths, and divide shapes into equal parts.

Meaning

UNDERSTANDINGS

Students will understand that...

- ❑ Two-dimensional shapes have many attributes. Knowing about these attributes will help students categorize shapes.
- ❑ Perimeter is the sum of a shape's side lengths, and area measures the space inside the shape. Knowing a rectangle's perimeter or area can help students reason about its shape.
- ❑ Students can divide shapes into equal parts to show functional parts of a whole.

ESSENTIAL QUESTIONS

Students will keep considering...

- ❑ How can we categorize shapes by knowing their attributes?
- ❑ How can knowing a shape's lengths or area assist in finding out the perimeter?
- ❑ How can shapes be divided to show functional parts of a whole?

	Acquisition	
	Students will know... ❑ How to identify, compare, and classify shapes and their attributes. ❑ How to use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole. ❑ How to solve problems involving perimeters of polygons and distinguish between linear and area measures.	*Students will be skilled at...* ❑ I can identify, compare, and classify shapes and their attributes. ❑ I can reason with shapes and their attributes. ❑ I can analyze characteristics of polygons. ❑ I can use the understanding of fractions to partition shapes into parts with equal areas and express the area of each part as a unit fraction of the whole. ❑ I can solve problems involving perimeters of polygons and distinguish between linear and area measures. ❑ I can recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. ❑ I can find and use the perimeters of plane figures. ❑ I can find, draw, compare, and sort two-dimensional shapes by their attributes. ❑ I can find, draw, compare, and sort quadrilaterals by their attributes. ❑ I can understand the difference between perimeter and area. ❑ I can use side lengths to find the perimeter of a shape.

		❑ I can find a missing side length when I know the perimeter of a shape. ❑ I can understand that rectangles with the same area can have different perimeters. ❑ I can understand that rectangles with the same perimeter can have different areas. ❑ I can divide a shape into equal areas. ❑ I can show the area of each equal part as a fraction of the whole shape. ❑ I can divide the same shape in different ways.

EAST PENN SCHOOL DISTRICT

Course Name Grade 3 Math

Unit Title Unit 6 Measurement: Time, Liquid Volume, and Mass

STAGE 1 | DESIRED RESULTS

Context and relevance for student learning

<table>
<tr><th>Standards</th><th colspan="2">Transfer</th></tr>
<tr><td rowspan="6">CC.2.4: Measurement, Data and Probability
CC.2.4.3.A.1
Solve problems involving measurement and estimation of temperature, liquid volume, mass or length.

CC.2.4.3.A.2
Tell and write time to the nearest minute and solve problems by calculating time intervals.</td><td colspan="2">Students will be able to independently use their learning to...
❑ tell time, solve problems with time and measurements, and estimate and measure how much things hold and weigh.</td></tr>
<tr><th colspan="2">Meaning</th></tr>
<tr><td>UNDERSTANDINGS
Students will understand that...
❑ Both analog and digital clocks are used to tell time. Knowing how to read and tell time to the nearest minute will help students solve problems involving elapsed time.
❑ Students can use what they know about measurement to estimate and measure the volume of liquid in liters and the mass of an object in grams or kilograms.</td><td>ESSENTIAL QUESTIONS
Students will keep considering...
❑ How can an analog clock be used to solve problems about elapsed time?
❑ How can we use what we already know about measurement to estimate and measure liquid and mass?</td></tr>
<tr><th colspan="2">Acquisition</th></tr>
<tr><td>Students will know...</td><td>Students will be skilled at...</td></tr>
</table>

	❑ How to solve problems involving measurement and estimation of temperature, liquid volume, mass or length. ❑ How to tell and write time to the nearest minute and solve problems by calculating time intervals.	❑ I can tell and write time to the nearest minute and solve problems by calculating time intervals. ❑ I can solve problems involving measurement and estimation of intervals of time, money, liquid volumes, masses, and lengths of objects. ❑ I can determine or calculate time and elapsed time. ❑ I can solve problems involving measurement and estimation of temperature, liquid volume, mass or length. ❑ I can use the attributes of liquid volume, mass, and length of objects. ❑ I can use an analog clock and a number line to tell time to the nearest minute. ❑ I can express time as the number of minutes before the hour. ❑ I can understand the difference between AM and PM. ❑ I can solve word problems that involve adding or subtracting time in minutes, liquid volume, and mass. ❑ I can identify items that can be measured in liquid volume units.

		❑ I can understand how big 1 liter is. ❑ I can use unit size to estimate liquid volume and mass. ❑ I can understand that objects can be measured by how heavy or light they are. ❑ I can identify items that can be measured in mass units. ❑ I can understand how heavy a gram and a kilogram are.