

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Numbers and Operations

Key Learning: Numbers and Operations in Base Ten.

Unit Essential Question:

How do we use place value rules to show an understanding of multi-digit numbers through 1,000,000?

Lesson Topic 1:  
Place Value

Lesson Topic 2:  
Reading and  
Writing Numbers

Lesson Topic 3:  
Comparing  
Numbers

Lesson Topic 4:  
Rounding  
Numbers

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we compare the place and value of each digit in a multi-digit number? (2.1.4.B.1)

Lesson Essential  
Questions:

1. How do we read and write numbers in three different ways? (2.1.4.B.1)

Lesson Essential  
Questions:

1. How do we compare multi-digit? (2.1.4.B.1)

Lesson Essential  
Questions:

1. How do you round multi-digit numbers to any place? (2.1.4.B.1)

Lesson Essential  
Questions:

Vocabulary

Place Value  
Value  
Multi-Digit

Vocabulary

Expanded Form  
Standard Form  
Word Form

Vocabulary

Greater Than  
Less Than  
Equal to

Vocabulary

Round

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Numbers and Operations

Key Learning: Numbers and Operations in Base Ten.

Unit Essential Question:

How do we use place value and math operations to solve multi-digit problems?

Lesson Topic 1:  
Adding and Subtracting

Lesson Topic 2:  
Multiply by One Digit Numbers

Lesson Topic 3:  
Multiply by Two Digit Numbers

Lesson Topic 4:  
Dividing

Lesson Topic 5:  
Estimation

Lesson Essential Questions:

1. How do we add and subtract whole multi-digit numbers up to 1,000,000?  
(2.1.4.B.2)

Lesson Essential Questions:

1. How do we find the product of a multi-digit number and a one-digit number?  
(2.1.4.B.2)

Lesson Essential Questions:

1. How do we find the product of a two-digit number and another two-digit number?  
(2.1.4.B.2)

Lesson Essential Questions:

1. How do we find a quotient including remainders when dividing by a one-digit number?  
(2.1.4.B.2)

Lesson Essential Questions:

1. How do we estimate an answer to addition, subtraction, and multiplication problems?  
(2.1.4.B.2)

Vocabulary

Addend  
Subtrahend  
Minuend  
Sum  
Difference  
Multi-Digit

Vocabulary

Factors  
Product

Vocabulary

Factors  
Product

Vocabulary

Dividend  
Divisor  
Quotient  
Remainder

Vocabulary

Estimate

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Numbers and Operations

Key Learning: Numbers and Operations – Fractions. (1)

Unit Essential Question:

How do we use our knowledge of fractions to compare, order, and show equivalence?

Lesson Topic 1:  
Equivalent  
Fractions

Lesson Topic 2:  
Comparing  
Fractions

Lesson Topic 3:

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do show and  
create equivalent  
fractions?  
(2.1.4.C.1)

Lesson Essential  
Questions:

1. How do we  
compare two  
fractions with  
different numerators  
and denominators?  
(2.1.4.C.1)

\*Denominators  
limited to 2, 3, 4, 5,  
6, 8, 10, 12, and 100

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Vocabulary

Equivalent  
Numerator  
Denominator  
Fraction

Vocabulary

Least Common  
Denominator (LCD)

Vocabulary

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Numbers and Operations

**Key Learning:** Numbers and Operations – Fractions. (2.1)

**Unit Essential Question:**

How do we use our knowledge of math operations to add, subtract, and multiply fractions and mixed numbers?

**Lesson Topic 1:**  
Add and Subtract Fractions

**Lesson Topic 2:**  
Decomposing Fractions

**Lesson Topic 3:**  
Add and Subtract Mixed Numbers

**Lesson Topic 4:**  
Word Problems with Fractions

**Lesson Topic 5:**  
Multiplying Fractions

**Lesson Essential Questions:**

1. How do we add and subtract fractions with a common denominator?  
(2.1.4.C.2)  
\*See Eligible Content

**Lesson Essential Questions:**

1. How do we decompose a fraction or a mixed number?  
(2.1.4.C.2)  
\*See Eligible Content

**Lesson Essential Questions:**

1. How do we add or subtract mixed numbers with a common denominator?  
(2.1.4.C.2)  
\*See Eligible Content

**Lesson Essential Questions:**

1. How do we solve word problems involving addition and subtraction of fractions?  
(2.1.4.C.2)  
\*See Eligible Content

**Lesson Essential Questions:**

1. How do we multiply a whole number by a unit fraction?  
(2.1.4.C.2)  
\*See Eligible Content

**Vocabulary**

Common Denominator

**Vocabulary**

Decompose Mixed Number

**Vocabulary**

**Vocabulary**

**Vocabulary**

Unit Fraction

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Numbers and Operations

**Key Learning:** Numbers and Operations – Fractions. (2.2)

**Unit Essential Question:**

How do we use our knowledge of math operations to add, subtract, and multiply fractions and mixed numbers?

**Lesson Topic 1:**  
Multiplying  
Fractions

**Lesson Topic 2:**  
Word Problems:  
Parts of a Whole

**Lesson Topic 3:**

**Lesson Topic 4:**

**Lesson Topic 5:**

**Lesson Essential Questions:**

1. How do we multiply a whole number by a non-unit fraction?  
(2.1.4.C.2)  
\*See Eligible Content

**Lesson Essential Questions:**

1. How do we solve word problems involving multiplication of a whole number by a fraction?  
(2.1.4.C.2)  
\*See Eligible Content

**Lesson Essential Questions:**

**Lesson Essential Questions:**

**Lesson Essential Questions:**

**Vocabulary**

Non-Unit Fraction

**Vocabulary**

**Vocabulary**

**Vocabulary**

**Vocabulary**

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Numbers and Operations

**Key Learning:** Numbers and Operations – Fractions. (3)

**Unit Essential Question:**

How do we relate decimal notation to fractions, and compare decimal fraction?

Lesson Topic 1:  
Adding Fractions

Lesson Topic 2:  
Decimal  
Notation

Lesson Topic 3:  
Comparing  
Decimals

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we add  
decimal fractions?  
(2.1.4.C.3)  
\*See Eligible  
Content

Lesson Essential  
Questions:

1. How do we use  
decimal notation for  
fractions with  
denominators 10 or  
100? (2.1.4.C.3)  
\*See Eligible  
Content

Lesson Essential  
Questions:

1. How do we  
compare two  
decimals using  $>$ ,  $=$ ,  
or  $<$  and explain  
why? (2.1.4.C.3)  
\*See Eligible  
Content

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Vocabulary

Decimal Fraction

Vocabulary

Vocabulary

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Algebraic Concepts

Key Learning: Operations and Algebraic Thinking. (1)

Unit Essential Question:

How do we write and solve problems using the four operations?

Lesson Topic 1:  
Interpreting  
Multiplication

Lesson Topic 2:  
Word Problems:  
Multiply/Dividing

Lesson Topic 3:  
Multi-Step Word  
Problems

Lesson Topic 4:  
Variables

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we explain multiplication equations?  
(2.2.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

1. How do we use multiplication and division to solve word problems?  
(2.2.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

1. How do we solve multi-step problems with whole numbers using the four operations?  
(2.2.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

1. How do we identify the missing symbols in a number sentence?  
(2.2.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

Vocabulary

Equation

Vocabulary

Vocabulary

Vocabulary

Variables or  
Symbols

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Algebraic Concepts

**Key Learning:** Operations and Algebraic Thinking. (2)

**Unit Essential Question:**

How do we use number concepts to find factors and multiples?

Lesson Topic 1:  
Factors

Lesson Topic 2:  
Multiples

Lesson Topic 3:  
Prime and  
Composite

Lesson Topic 4:  
Variables

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we find  
factor pairs?  
(2.2.4.A.2)  
\*See Eligible  
Content

Lesson Essential  
Questions:

1. How do we find  
multiples?  
(2.2.4.A.2)  
\*See Eligible  
Content

Lesson Essential  
Questions:

1. How do we  
determine whether a  
number is prime or  
composite?  
(2.2.4.A.2)  
\*See Eligible  
Content

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Vocabulary

Factors

Vocabulary

Multiples  
Least Common  
Multiple (LCM)  
Least Common  
Denominator

Vocabulary

Prime  
Composite

Vocabulary

Variables or  
Symbols

Vocabulary



# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Algebraic Concepts

Key Learning: Operations and Algebraic Thinking. (3)

Unit Essential Question:  
How do we create and determine patterns?

Lesson Topic 1:  
Patterns

Lesson Topic 2:  
Function Table

Lesson Topic 3:  
Function Table

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential Questions:

1. How do we create a number or pattern that follows a given rule? (2.2.4.A.4)  
\*See Eligible Content

Lesson Essential Questions:

1. How can we determine the missing parts in a function table? (2.2.4.A.4)  
\*See Eligible Content

Lesson Essential Questions:

1. How do we determine the rule for a function table? (2.2.4.A.4)  
\*See Eligible Content

Lesson Essential Questions:

Lesson Essential Questions:

Vocabulary

Patterns

Vocabulary

Function Table

Vocabulary

Rule

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Geometry

Key Learning: Geometry (1)

Unit Essential Question:  
How do we draw and identify lines and angles?

Lesson Topic 1:  
Points, Lines,  
Line Segments

Lesson Topic 2:  
Rays and Angles

Lesson Topic 3:  
Perpendicular  
and Parallel

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we draw  
and identify points,  
lines, and line  
segments?  
(2.3.4.A.1)  
\*See Eligible  
Content

Lesson Essential  
Questions:

1. How do we draw  
and identify rays and  
angles? (2.3.4.A.1)  
\*See Eligible  
Content

Lesson Essential  
Questions:

1. How do we draw  
and identify  
perpendicular and  
parallel lines?  
(2.3.4.A.1)  
\*See Eligible  
Content

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Vocabulary

Points  
Lines  
Line Segments

Vocabulary

Rays  
Angles

Vocabulary

Perpendicular  
Parallel

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Geometry

Key Learning: Geometry (2)

Unit Essential Question:

How do we group two-dimensional figures by properties of their lines and angles?

Lesson Topic 1:  
Polygons

Lesson Topic 2:  
Quadrilaterals

Lesson Topic 3:  
Triangles

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential Questions:

1. How do we identify polygons?  
(2.3.4.A.2)  
\*See Eligible Content

Lesson Essential Questions:

1. How do we identify and group quadrilaterals?  
(2.3.4.A.2)  
\*See Eligible Content

Lesson Essential Questions:

1. How do we identify and group triangles?  
(2.3.4.A.2)  
\*See Eligible Content

Lesson Essential Questions:

Lesson Essential Questions:

Vocabulary

Sides  
Vertex/Vertices  
Regular Polygon

Vocabulary

Parallelogram  
Rectangle  
Square  
Rhombus  
Trapezoid

Vocabulary

Right  
Isosceles  
Scalene  
Obtuse  
Acute

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Geometry

Key Learning: Geometry (3)

Unit Essential Question:

How do recognize symmetric shapes and draw lines of symmetry?

Lesson Topic 1:  
Symmetry

Lesson Topic 2:

Lesson Topic 3:

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential Questions:

1. How do we recognize and draw a line of symmetry?  
(2.3.4.A.3)  
\*See Eligible Content

Lesson Essential Questions:

Lesson Essential Questions:

Lesson Essential Questions:

Lesson Essential Questions:

Vocabulary

Symmetry  
Line of Symmetry

Vocabulary

Vocabulary

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Measurement and Data

Key Learning: Measurement and Data (1)

Unit Essential Question:

How do we solve problems involving measurement and unit conversions?

Lesson Topic 1:  
Measurement  
Units

Lesson Topic 2:  
Word Problems:  
Measurement

Lesson Topic 3:  
Area and  
Perimeter

Lesson Topic 4:  
Time

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we compare sizes of measurement units within one type of system? (2.4.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

1. How do we solve word problems using measurement units? (2.4.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

1. How do we find area and perimeter for a rectangle in mathematical problems? (2.4.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

1. How do we identify units of time? (2.4.4.A.1)  
\*See Eligible Content

Lesson Essential  
Questions:

Vocabulary

Standard Units  
Metric Units  
Time

Vocabulary

Standard Units  
Metric Units  
Time

Vocabulary

Area  
Perimeter

Vocabulary

Analog  
Digital  
Elapsed Time

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Measurement and Data

Key Learning: Measurement and Data (2)

Unit Essential Question:

How do we use information from each type of data display?

Lesson Topic 1:  
Data

Lesson Topic 2:

Lesson Topic 3:

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential Questions:

1. How do we use information from one type of data display to another?  
(2.4.4.A.2)  
\*See Eligible Content

Lesson Essential Questions:

Lesson Essential Questions:

Lesson Essential Questions:

Lesson Essential Questions:

Vocabulary

Table  
Chart  
Bar Graph  
Pictograph

Vocabulary

Vocabulary

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Measurement and Data

Key Learning: Measurement and Data (3)

Unit Essential Question:

How do we show and understand data involving fractions in a line plot?

Lesson Topic 1:  
Create Line Plot

Lesson Topic 2:  
Problem Solving  
with Line Plots

Lesson Topic 3:

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we make  
a line plot using  
data? (2.4.4.A.4)  
\*See Eligible  
Content

Lesson Essential  
Questions:

1. How do we use  
information in line  
plots to solve  
addition and  
subtraction problems  
with fractions?  
(2.4.4.A.4)  
\*See Eligible  
Content

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Vocabulary

Line Plot

Vocabulary

Vocabulary

Vocabulary

Vocabulary

# Student Learning Map

Grade/Course 4<sup>th</sup> Grade/Math

Unit: Measurement and Data

Key Learning: Measurement and Data (4)

Unit Essential Question:

How do we measure angles and use those measurements to solve problems?

Lesson Topic 1:  
Measuring  
Angles

Lesson Topic 2:  
Problem Solving  
with Line Plots

Lesson Topic 3:

Lesson Topic 4:

Lesson Topic 5:

Lesson Essential  
Questions:

1. How do we measure and draw angles using a protractor?  
(2.4.4.A.6)  
\*See Eligible Content

Lesson Essential  
Questions:

1. How do we find unknown angles using addition and subtraction problems?  
(2.4.4.A.6)  
\*See Eligible Content

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Lesson Essential  
Questions:

Vocabulary

Protractor  
Degrees

Vocabulary

Adjacent Angles

Vocabulary

Vocabulary

Vocabulary