

Standards Correlated to **Mathematics Readers: Level 5 10819**

New York State P-12 Common Core Learning Standards

Grade 5

Mathematics

STRAND / DOMAIN NY.CC.5.MP. Mathematical Practices

CATEGORY / 5.MP.1. Make sense of problems and persevere in solving them.
CLUSTER

Correlated Lessons:

Mathematics Reader: Objective 40 Students will apply and adapt a variety of appropriate strategies to solve problems.

Mathematics Reader: Objective 52 Students will apply and adapt a variety of appropriate strategies to solve problems.

Mathematics Reader: Objective 55 Students will apply and adapt a variety of appropriate strategies to solve problems.

STRAND / DOMAIN NY.CC.5.NBT. Number and Operations in Base Ten

CATEGORY / Understand the place value system.
CLUSTER

STANDARD 5.NBT.3. Read, write, and compare decimals to thousandths.

EXPECTATION 5.NBT.3.a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.92 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.

Correlated Lessons:

Mathematics Reader: Objective 25 Students will recognize and generate equivalent forms of commonly used fractions, decimals, and percents.

Mathematics Reader: Objective 26 Students will develop and use strategies to estimate computations involving fractions and decimals in situations

relevant to students' experience

CATEGORY /
CLUSTER

Perform operations with multi-digit whole numbers and with decimals to hundredths.

STANDARD

5.NBT.5.

Fluently multiply multi-digit whole numbers using the standard algorithm.

Correlated Lessons:

Mathematics Reader: Objective 30 Students will develop fluency in adding, subtracting, multiplying, and dividing whole numbers.

STANDARD

5.NBT.6.

Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Correlated Lessons:

Mathematics Reader: Objective 30 Students will develop fluency in adding, subtracting, multiplying, and dividing whole numbers.

STRAND / DOMAIN NY.CC.5.NF.

Number and Operations--Fractions

CATEGORY /
CLUSTER

Use equivalent fractions as a strategy to add and subtract fractions.

STANDARD

5.NF.2.

Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $\frac{2}{5} + \frac{1}{2} = \frac{3}{7}$, by observing that $\frac{3}{7} < \frac{1}{2}$.

Correlated Lessons:

Mathematics Reader: Objective 26 Students will develop and use strategies to estimate computations

involving fractions and decimals in situations relevant to students' experience

Mathematics Reader: Objective 27 Students will solve problems that arise in mathematics and in other contexts.

CATEGORY /
CLUSTER

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

STANDARD

5.NF.3.

Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

Correlated Lessons:

Mathematics Reader: Objective 25 Students will recognize and generate equivalent forms of commonly used fractions, decimals, and percents.

Mathematics Reader: Objective 26 Students will develop and use strategies to estimate computations involving fractions and decimals in situations relevant to students' experience

STRAND / DOMAIN NY.CC.5.MD. Measurement and Data

CATEGORY /
CLUSTER

Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

STANDARD

5.MD.3.

Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

EXPECTATION 5.MD.3.a.

A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

Correlated Lessons:

**At the Aquarium; Hot Air Balloons Pages 156, 161
Objective 16 Students will learn how to measure the volume of various objects.**

Mathematics Reader: Objective 34 Students will use geometric models to solve problems in other areas of mathematics, such as number and measurement.

Mathematics Reader: Objective 35 Students will recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom or in everyday life.

Mathematics Reader: Objective 36 Students will solve problems that arise in mathematics and in other contexts.

Mathematics Reader: Objective 46 Students will use geometric models to solve problems in other areas of mathematics, such as number and measurement.

Mathematics Reader: Objective 48 Students will develop strategies to determine the surface areas and volumes of various shapes.

EXPECTATION 5.MD.3.b.

A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

Correlated Lessons:

**At the Aquarium; Hot Air Balloons Pages 156, 161
Objective 16 Students will learn how to measure the volume of various objects.**

Mathematics Reader: Objective 34 Students will use geometric models to solve problems in other areas of

mathematics, such as number and measurement.

Mathematics Reader: Objective 35 Students will recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom or in everyday life.

Mathematics Reader: Objective 36 Students will solve problems that arise in mathematics and in other contexts.

Mathematics Reader: Objective 46 Students will use geometric models to solve problems in other areas of mathematics, such as number and measurement.

Mathematics Reader: Objective 48 Students will develop strategies to determine the surface areas and volumes of various shapes.

STANDARD

5.MD.4.

Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

Correlated Lessons:

At the Aquarium; Hot Air Balloons Pages 156, 161
Objective 16 Students will learn how to measure the volume of various objects.

Mathematics Reader: Objective 34 Students will use geometric models to solve problems in other areas of mathematics, such as number and measurement.

Mathematics Reader: Objective 35 Students will recognize geometric ideas and relationships and apply them to other disciplines and to problems that arise in the classroom or in everyday life.

Mathematics Reader: Objective 36 Students will solve problems that arise in mathematics and in other contexts.

Mathematics Reader: Objective 46 Students will use

geometric models to solve problems in other areas of mathematics, such as number and measurement.

Mathematics Reader: Objective 48 Students will develop strategies to determine the surface areas and volumes of various shapes.

STANDARD 5.MD.5.

Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

EXPECTATION 5.MD.5.a.

Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

Correlated Lessons:

Mathematics Reader: Objective 48 Students will develop strategies to determine the surface areas and volumes of various shapes.

EXPECTATION 5.MD.5.b.

Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.

Correlated Lessons:

Mathematics Reader: Objective 48 Students will develop strategies to determine the surface areas and volumes of various shapes.

EXPECTATION 5.MD.5.c.

Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

Correlated Lessons:

**At the Aquarium; Hot Air Balloons Pages 156, 161
Objective 16 Students will learn how to measure the
volume of various objects.**

STRAND / DOMAIN NY.CC.5.G.

CATEGORY /
CLUSTER

STANDARD

5.G.1.

Geometry

Graph points on the coordinate plane to solve real-world and mathematical problems.

Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.

Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

Correlated Lessons:

**CSI; The Jungle Park Case Pages 180, 185 Objective
19 Students will analyze and interpret graphs.**

**Graphs in Action; It's Our Business Pages 204, 209
Objective 22 Students will understand how to read
and write the various types of graphs, as well as
determine which types of graphs are appropriate to
use for different situations.**

**Mathematics Reader: Objective 37 Students will use
use coordinate systems to specify locations and to
describe paths.**

**Mathematics Reader: Objective 38 Students will find
the distance between points along horizontal and
vertical lines of a coordinate system.**

**Ocean Maps; Shipwreck Detectives Pages 108, 113
Objective 10 Students will understand how to read**

and create coordinate planes.

STANDARD

5.G.2.

Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Correlated Lessons:

CSI; The Jungle Park Case Pages 180, 185 Objective 19 Students will analyze and interpret graphs.

Graphs in Action; It's Our Business Pages 204, 209 Objective 22 Students will understand how to read and write the various types of graphs, as well as determine which types of graphs are appropriate to use for different situations.

Mathematics Reader: Objective 37 Students will use coordinate systems to specify locations and to describe paths.

Mathematics Reader: Objective 38 Students will find the distance between points along horizontal and vertical lines of a coordinate system.

Ocean Maps; Shipwreck Detectives Pages 108, 113 Objective 10 Students will understand how to read and create coordinate planes.

CATEGORY /
CLUSTER

STANDARD

5.G.4.

Classify two-dimensional figures into categories based on their properties.

Classify two-dimensional figures in a hierarchy based on properties.

Correlated Lessons:

Mathematics Reader: Objective 33 Students will describe images of objects, patterns, and paths.