Standards Correlated to Focused Mathematics Intervention Level K 21146

New York Core Curriculum

Grade K

 Mathematics

STRAND / DOMAIN	NY.CC.K.MP.	Mathematical Practices
CATEGORY / CLUSTER	K.MP.1.	Make sense of problems and persevere in solving them.
		Correlated Lessons:
		Objective 10: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. Adding Stories, page 173-180; Scoop and Subtract, page 181-188; I've got a Math Problem!, page 189-196
		Objective 11: Solve addition and subtraction word problems, and add and subtract within 10; e.g., by using objects or drawings to represent the problem. How Many In All?, page 197-204; Missing Parts, page 205-212; I Can Solve It!, page 213-220; Join or Take Away, page 221-228
		Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation. Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244
		Objective 13: For any number from 1–9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or an equation. Make a Ten, page 245-252
		Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.

Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300

Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292

CATEGORY / CLUSTER	K.MP.4.	Model with mathematics.
		Correlated Lessons:

Objective 10: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
Adding Stories, page 173-180; Scoop and Subtract, page 181-188; I've got a Math Problem!, page 189-196

Objective 11: Solve addition and subtraction word problems, and add and subtract within 10; e.g., by using objects or drawings to represent the problem.
How Many In All?, page 197-204; Missing Parts, page 205-212; I Can Solve It!, page 213-220; Join or Take Away, page 221-228

Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244

Objective 13: For any number from 1–9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or an equation.
Make a Ten, page 245-252

Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and

Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300

Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292

CATEGORY / CLUSTER	K.MP.6.	Attend to precision.

Correlated Lessons:
Objective 10: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
Adding Stories, page 173-180; Scoop and Subtract, page 181-188; I've got a Math Problem!, page 189-196

Objective 11: Solve addition and subtraction word problems, and add and subtract within 10; e.g., by using objects or drawings to represent the problem.
How Many In All?, page 197-204; Missing Parts, page 205-212; I Can Solve It!, page 213-220; Join or Take Away, page 221-228

Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244

Objective 13: For any number from 1–9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or an equation.
Make a Ten, page 245-252

Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300

Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245
Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292
Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.
Comparing Numbers: I want More, page 157-164
Objective 9: Compare two numbers between 1 and 10 presented as written numerals.
Comparing Numbers: Draw and Compare, page 165-172

CATEGORY / CLUSTER	K.MP.7.	Look for and make use of structure. Correlated Lessons: **Objective 10: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.** Adding Stories, page 173-180; Scoop and Subtract, page 181-188; I've got a Math Problem!, page 189-196 **Objective 11: Solve addition and subtraction word problems, and add and subtract within 10; e.g., by using objects or drawings to represent the problem.** How Many In All?, page 197-204; Missing Parts, page 205-212; I Can Solve It!, page 213-220; Join or Take Away, page 221-228 **Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.** Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244 **Objective 13: For any number from 1–9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or an equation.** Make a Ten, page 245-252 **Objective 14: Compose and decompose numbers**

from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300

Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292

Objective 17: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
Place the Shape, page 61-68

Objective 18: Correctly name shapes regardless of their orientations or overall size.
Shapes Upside Down, page 69-76

Objective 19: Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
Mix and Match 2-D and 3-D, page 77-84

Objective 1: Count to 100 by ones and by tens.
Empty a Jar, page 85-92; Chart Away, page 93-100; Counting by Tens, page 101-108

Objective 20: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, and describe their similarities, differences, parts and other attributes (e.g., having sides of equal length).
Mix and Match 2-D and 3-D, page 77-84

Objective 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
Chant Forward, page 109-116

Objective 3: Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

Write Away, page 117-124

Objective 4: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
One at a Time, page 125-132

Objective 5: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
Hide-and-Seek, page 133-140

Objective 6: Understand that each successive number name refers to a quantity that is one larger.
Build a Number, page 141-148

Objective 7: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
Count About, page 149-156

Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.
Comparing Numbers: I want More, page 157-164

Objective 9: Compare two numbers between 1 and 10 presented as written numerals.
Comparing Numbers: Draw and Compare, page 165-172

STRAND / DOMAIN	NY.CC.K.CC.	Counting and Cardinality
CATEGORY / CLUSTER		Know number names and the count sequence.
STANDARD	K.CC.1.	Count to 100 by ones and by tens.

Correlated Lessons:
Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292
Objective 1: Count to 100 by ones and by tens.
Empty a Jar, page 85-92; Chart Away, page 93-100; Counting by Tens, page 101-108
Objective 2: Count forward beginning from a given

number within the known sequence (instead of having to begin at 1).
Chant Forward, page 109-116
Objective 4: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
One at a Time, page 125-132
Objective 5: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
Hide-and-Seek, page 133-140
Objective 7: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
Count About, page 149-156
Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.
Comparing Numbers: I want More, page 157-164

STANDARD	K.CC.2.	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

Correlated Lessons:
Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292
Objective 1: Count to 100 by ones and by tens.
Empty a Jar, page 85-92; Chart Away, page 93-100; Counting by Tens, page 101-108
Objective 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
Chant Forward, page 109-116
Objective 4: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
One at a Time, page 125-132
Objective 5: Understand that the last number name

		said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. Hide-and-Seek, page 133-140 **Objective 7: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.** Count About, page 149-156 **Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.** Comparing Numbers: I want More, page 157-164
STANDARD	K.CC.3.	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). Correlated Lessons: **Objective 3: Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).** Write Away, page 117-124
CATEGORY / CLUSTER		Count to tell the number of objects.
STANDARD	K.CC.4.	Understand the relationship between numbers and quantities; connect counting to cardinality.
EXPECTATION	K.CC.4.a.	When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. Correlated Lessons: **Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.** Sort and Count, page 285-292 **Objective 1: Count to 100 by ones and by tens.** Empty a Jar, page 85-92; Chart Away, page 93-100; Counting by Tens, page 101-108 **Objective 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).**

Chant Forward, page 109-116
Objective 4: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
One at a Time, page 125-132
Objective 5: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
Hide-and-Seek, page 133-140
Objective 7: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
Count About, page 149-156
Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.
Comparing Numbers: I want More, page 157-164

EXPECTATION   K.CC.4.b.   Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

Correlated Lessons:
Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292
Objective 1: Count to 100 by ones and by tens.
Empty a Jar, page 85-92; Chart Away, page 93-100; Counting by Tens, page 101-108
Objective 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
Chant Forward, page 109-116
Objective 4: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
One at a Time, page 125-132
Objective 5: Understand that the last number name

said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
Hide-and-Seek, page 133-140
Objective 7: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
Count About, page 149-156
Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.
Comparing Numbers: I want More, page 157-164

EXPECTATION K.CC.4.c.	Understand that each successive number name refers to a quantity that is one larger.

Correlated Lessons:
Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292
Objective 1: Count to 100 by ones and by tens.
Empty a Jar, page 85-92; Chart Away, page 93-100; Counting by Tens, page 101-108
Objective 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
Chant Forward, page 109-116
Objective 4: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
One at a Time, page 125-132
Objective 5: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
Hide-and-Seek, page 133-140
Objective 7: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or as many as 10 things in a scattered configuration; given a

number from 1–20, count out that many objects.
Count About, page 149-156
Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.
Comparing Numbers: I want More, page 157-164

STANDARD	K.CC.5.	Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

Correlated Lessons:
Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
Sort and Count, page 285-292
Objective 1: Count to 100 by ones and by tens.
Empty a Jar, page 85-92; Chart Away, page 93-100; Counting by Tens, page 101-108
Objective 2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
Chant Forward, page 109-116
Objective 4: When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
One at a Time, page 125-132
Objective 5: Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
Hide-and-Seek, page 133-140
Objective 7: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
Count About, page 149-156
Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.

		Comparing Numbers: I want More, page 157-164
CATEGORY / CLUSTER		Compare numbers.
STANDARD	K.CC.6.	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
		Correlated Lessons: **Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.** Sort and Count, page 285-292 **Objective 8: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group; e.g., by using matching and counting strategies.** Comparing Numbers: I want More, page 157-164
STANDARD	K.CC.7.	Compare two numbers between 1 and 10 presented as written numerals.
		Correlated Lessons: **Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.** Sort and Count, page 285-292 **Objective 9: Compare two numbers between 1 and 10 presented as written numerals.** Comparing Numbers: Draw and Compare, page 165-172
STRAND / DOMAIN	NY.CC.K.OA.	Operations and Algebraic Thinking
CATEGORY / CLUSTER		Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.
STANDARD	K.OA.1.	Represent addition and subtraction with objects, fingers, mental images, drawings1, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
		Correlated Lessons: **Objective 10: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.**

Adding Stories, page 173-180; Scoop and Subtract, page 181-188; I've got a Math Problem!, page 189-196

Objective 11: Solve addition and subtraction word problems, and add and subtract within 10; e.g., by using objects or drawings to represent the problem.
How Many In All?, page 197-204; Missing Parts, page 205-212; I Can Solve It!, page 213-220; Join or Take Away, page 221-228

Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244

Objective 13: For any number from 1–9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or an equation.
Make a Ten, page 245-252

Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300

Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

STANDARD	K.OA.2.	Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

Correlated Lessons:
Objective 10: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
Adding Stories, page 173-180; Scoop and Subtract, page 181-188; I've got a Math Problem!, page 189-196
Objective 11: Solve addition and subtraction word problems, and add and subtract within 10; e.g., by

using objects or drawings to represent the problem.
How Many In All?, page 197-204; Missing Parts, page 205-212; I Can Solve It!, page 213-220; Join or Take Away, page 221-228

Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244

Objective 13: For any number from 1–9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or an equation.
Make a Ten, page 245-252

Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300

Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

STANDARD	K.OA.3.	Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or an equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

Correlated Lessons:
Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244

Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-

268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300
Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

STANDARD	K.OA.4.	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or an equation.

Correlated Lessons:
Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244
Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300
Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

STANDARD	K.OA.5.	Fluently add and subtract within 5.

Correlated Lessons:
Objective 10: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.
Adding Stories, page 173-180; Scoop and Subtract, page 181-188; I've got a Math Problem!, page 189-196
Objective 11: Solve addition and subtraction word

problems, and add and subtract within 10; e.g., by using objects or drawings to represent the problem.
How Many In All?, page 197-204; Missing Parts, page 205-212; I Can Solve It!, page 213-220; Join or Take Away, page 221-228

Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244

Objective 13: For any number from 1–9, find the number that makes 10 when added to the given number; e.g., by using objects or drawings, and record the answer with a drawing or an equation.
Make a Ten, page 245-252

Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300

Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

STRAND / DOMAIN	NY.CC.K.NBT.	Number and Operations in Base Ten
CATEGORY / CLUSTER		Work with numbers 11-19 to gain foundations for place value.
STANDARD	K.NBT.1.	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. Correlated Lessons: **Objective 12: Decompose numbers less than or equal to 10 into pairs in more than one way; e.g., by using objects or drawings, and record each**

decomposition by a drawing or an equation.
Shake, Shake, Shake!, page 229-236; Pick a Part, page 237-244
Objective 14: Compose and decompose numbers from 11–19 into 10 ones and some further ones; using objects or drawings, and record by a drawing or an equation and understand.
Teen Numbers, page 253-260; Group It, page 261-268; Make a Teen, page 269-276; Build Them and Break Them, page 277-284; Sort and Count, page 285-292; Make It or Break It!, page 293-300
Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.
Make a Ten, page 245

STRAND / DOMAIN	NY.CC.K.MD.	Measurement and Data
CATEGORY / CLUSTER		Describe and compare measurable attributes.
STANDARD	K.MD.1.	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
		Correlated Lessons: **Objective 15: Express the length of an object as a whole number of units, lay multiple copies of a shorter object end to end; understand that the length measurement is the number of same-size length units that span it with no gaps or overlaps.** Make a Ten, page 245
CATEGORY / CLUSTER		Classify objects and count the number of objects in each category.
STANDARD	K.MD.3.	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
		Correlated Lessons: **Objective 16: Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.** Sort and Count, page 285-292
STRAND / DOMAIN	NY.CC.K.G.	Geometry
CATEGORY /		Identify and describe shapes (squares, circles,

CLUSTER		triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres).
STANDARD	K.G.1.	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
		Correlated Lessons: **Objective 17: Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.** Place the Shape, page 61-68 **Objective 18: Correctly name shapes regardless of their orientations or overall size.** Shapes Upside Down, page 69-76
STANDARD	K.G.2.	Correctly name shapes regardless of their orientations or overall size.
		Correlated Lessons: **Objective 20: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, and describe their similarities, differences, parts and other attributes (e.g., having sides of equal length).** Mix and Match 2-D and 3-D, page 77-84
STANDARD	K.G.3.	Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
		Correlated Lessons: **Objective 20: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, and describe their similarities, differences, parts and other attributes (e.g., having sides of equal length).** Mix and Match 2-D and 3-D, page 77-84
CATEGORY / CLUSTER		Analyze, compare, create, and compose shapes.
STANDARD	K.G.4.	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/"corners") and other attributes (e.g., having

sides of equal length).

Correlated Lessons:
Objective 19: Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
Mix and Match 2-D and 3-D, page 77-84
Objective 20: Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, and describe their similarities, differences, parts and other attributes (e.g., having sides of equal length).
Mix and Match 2-D and 3-D, page 77-84

Standards Correlated to Focused Mathematics Intervention Level 1 21147

New York Core Curriculum

Grade 1

 Mathematics

STRAND / DOMAIN	NY.CC.1.MP.	Mathematical Practices
CATEGORY / CLUSTER	1.MP.1.	Make sense of problems and persevere in solving them.

Correlated Lessons:
Objective 1: Addition and subtraction within 20, solve word problems of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
Addition Word Problems, page 101; Subtraction Word Problems, page 117, Compare Addition: Bigger Unknown, page 141, Compare Subtraction: Difference Unknown, page 149; Counting by Tens and Ones, page 157
Objective 12: Add within 100, a two-digit number, one-digit number, and a multiple of 10, using models or strategies based on place value, explain the reasoning used.
Adding a Two-Digit Number and a One-Digit Number, page 197; Subtracting Multiples of Ten, page 213
Objective 13: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
Ten More or Less, page 205
Objective 14: Subtract multiples of 10, 10-90 relate the strategy to a written method and explain the reasoning used.
Subtracting Multiples of Ten, page 221
Objective 15: Order three objects by length; compare the lengths of two objects indirectly by using a third object.
Ordering Objects by Length, page 229; Indirect Measurements, page 237

Objective 16: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object end to end; Limit to contexts where the object being measured is spanned by a whole number with no gaps or overlaps.
Nonstandard Measurement: Length, page 245

Objective 17: Tell and write time in hours and half-hours using analog and digital clocks.
Telling and Writing Time, page 253

Objective 18: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
Interpreting Data, page 261

Objective 2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Three-Addend Addition, page 85

Objective 3: Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.)
Adding the Commutative Property, page 77; Adding with the Associative Property, page 93

Objective 4: Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.
Subtract Using a Missing Addend, page 133

Objective 5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
Counting To Add and Subtract, page 61

Objective 6: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.
Understanding the Equal Sign, page 69

Objective 7: Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ - 3, 6 + 6 = _.
Addition Equations with an Unknown, page 109;

Subtraction Equations with an Unknown, page 125
Objective 8: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
Reading, Writing, and Representing Numbers, page 189

CATEGORY / CLUSTER	1.MP.4.	Model with mathematics.

Correlated Lessons:
Objective 18: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
Interpreting Data, page 261
Objective 19: Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
Attributes of Geometric Shapes, page 269
Objective 20: Compose two-dimensional shapes or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
Composing Shapes, page 277

CATEGORY / CLUSTER	1.MP.5.	Use appropriate tools strategically.

Correlated Lessons:
Objective 15: Order three objects by length; compare the lengths of two objects indirectly by using a third object.
Ordering Objects by Length, page 229; Indirect Measurements, page 237
Objective 17: Tell and write time in hours and half-hours using analog and digital clocks.
Telling and Writing Time, page 253

CATEGORY / CLUSTER	1.MP.6.	Attend to precision.

Correlated Lessons:
Objective 1: Addition and subtraction within 20, solve word problems of adding to, taking from, putting together, taking apart, and comparing, with

unknowns in all positions.
Addition Word Problems, page 101; Subtraction Word Problems, page 117, Compare Addition: Bigger Unknown, page 141, Compare Subtraction: Difference Unknown, page 149; Counting by Tens and Ones, page 157
Objective 12: Add within 100, a two-digit number, one-digit number, and a multiple of 10, using models or strategies based on place value, explain the reasoning used.
Adding a Two-Digit Number and a One-Digit Number, page 197; Subtracting Multiples of Ten, page 213
Objective 13: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
Ten More or Less, page 205
Objective 14: Subtract multiples of 10, 10-90 relate the strategy to a written method and explain the reasoning used.
Subtracting Multiples of Ten, page 221
Objective 16: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object end to end; Limit to contexts where the object being measured is spanned by a whole number with no gaps or overlaps.
Nonstandard Measurement: Length, page 245
Objective 2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Three-Addend Addition, page 85
Objective 6: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false.
Understanding the Equal Sign, page 69
Objective 7: Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = \_ - 3$, $6 + 6 = \_$.
Addition Equations with an Unknown, page 109; Subtraction Equations with an Unknown, page 125

CATEGORY / CLUSTER	1.MP.7.	Look for and make use of structure.

Correlated Lessons:

Objective 10: The numbers 11 to 19 composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
Teen and Decade Numbers, page 165

Objective 11: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Counting Two-Digit Numbers, page 181

Objective 18: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
Interpreting Data, page 261

Objective 19: Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
Attributes of Geometric Shapes, page 269

Objective 20: Compose two-dimensional shapes or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
Composing Shapes, page 277

Objective 21: Partition circles and rectangles into two and four equal shares, describe using the words halves, fourths, and quarters. Understand that decomposing into more equal shares creates smaller shares.
Partitioning into Halves, page 285; Partitioning and Comparing Halves and Fourths, page 293

Objective 3: Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.)
Adding the Commutative Property, page 77; Adding with the Associative Property, page 93

Objective 4: Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when

added to 8.
Subtract Using a Missing Addend, page 133
Objective 5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
Counting To Add and Subtract, page 61
Objective 8: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
Reading, Writing, and Representing Numbers, page 189
Objective 9: 10 can be thought of as a bundle of ten ones-called a "ten."
Counting By Tens and Ones, page 173

STRAND / DOMAIN	NY.CC.1.OA.	Operations and Algebraic Thinking
CATEGORY / CLUSTER		Represent and solve problems involving addition and subtraction.
STANDARD	1.OA.1.	Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Correlated Lessons: **Objective 1: Addition and subtraction within 20, solve word problems of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.** Addition Word Problems, page 101; Subtraction Word Problems, page 117, Compare Addition: Bigger Unknown, page 141, Compare Subtraction: Difference Unknown, page 149; Counting by Tens and Ones, page 157
STANDARD	1.OA.2.	Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. Correlated Lessons: **Objective 2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown**

		number to represent the problem. Three-Addend Addition, page 85
CATEGORY / CLUSTER		Understand and apply properties of operations and the relationship between addition and subtraction.
STANDARD	1.OA.3.	Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.) Correlated Lessons: **Objective 3: Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.)** Adding the Commutative Property, page 77; Adding with the Associative Property, page 93
STANDARD	1.OA.4.	Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when added to 8. Correlated Lessons: **Objective 1: Addition and subtraction within 20, solve word problems of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.** Addition Word Problems, page 101; Subtraction Word Problems, page 117, Compare Addition: Bigger Unknown, page 141, Compare Subtraction: Difference Unknown, page 149; Counting by Tens and Ones, page 157 **Objective 2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.** Three-Addend Addition, page 85
CATEGORY / CLUSTER		Add and subtract within 20.
STANDARD	1.OA.6.	Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship

between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Correlated Lessons:
Objective 1: Addition and subtraction within 20, solve word problems of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
Addition Word Problems, page 101; Subtraction Word Problems, page 117, Compare Addition: Bigger Unknown, page 141, Compare Subtraction: Difference Unknown, page 149; Counting by Tens and Ones, page 157
Objective 12: Add within 100, a two-digit number, one-digit number, and a multiple of 10, using models or strategies based on place value, explain the reasoning used.
Adding a Two-Digit Number and a One-Digit Number, page 197; Subtracting Multiples of Ten, page 213
Objective 13: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
Ten More or Less, page 205
Objective 14: Subtract multiples of 10, 10-90 relate the strategy to a written method and explain the reasoning used.
Subtracting Multiples of Ten, page 221
Objective 2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Three-Addend Addition, page 85
Objective 3: Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.)
Adding the Commutative Property, page 77; Adding with the Associative Property, page 93
Objective 4: Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.

Subtract Using a Missing Addend, page 133
Objective 5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).
Counting to Add and Subtract, page 61

STRAND / DOMAIN	NY.CC.1.NBT.	Number and Operations in Base Ten
CATEGORY / CLUSTER		Extend the counting sequence.
STANDARD	1.NBT.1.	Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
		Correlated Lessons: **Objective 8: Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.** Reading, Writing, and Representing Numbers, page 189
CATEGORY / CLUSTER		Understand place value.
STANDARD	1.NBT.2.	Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
EXPECTATION	1.NBT.2.a.	10 can be thought of as a bundle of ten ones -- called a "ten."
		Correlated Lessons: **Objective 10: The numbers 11 to 19 composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).** Teen and Decade Numbers, page 165 **Objective 11: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.** Counting Two-Digit Numbers, page 181 **Objective 9: 10 can be thought of as a bundle of ten ones-called a "ten."** Counting By Tens and Ones, page 173
EXPECTATION	1.NBT.2.b.	The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.

Correlated Lessons:

Objective 10: The numbers 11 to 19 composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
Teen and Decade Numbers, page 165

Objective 11: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Counting Two-Digit Numbers, page 181

Objective 9: 10 can be thought of as a bundle of ten ones-called a "ten."
Counting By Tens and Ones, page 173

EXPECTATION	1.NBT.2.c.	The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Correlated Lessons:

Objective 10: The numbers 11 to 19 composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
Teen and Decade Numbers, page 165

Objective 11: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Counting Two-Digit Numbers, page 181

Objective 9: 10 can be thought of as a bundle of ten ones-called a "ten."
Counting By Tens and Ones, page 173

STANDARD	1.NBT.3.	Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

Correlated Lessons:

Objective 11: Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.
Counting Two-Digit Numbers, page 181

CATEGORY / CLUSTER		Use place value understanding and properties of operations to add and subtract.
STANDARD	1.NBT.4.	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

Correlated Lessons:

Objective 1: Addition and subtraction within 20, solve word problems of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions.
Addition Word Problems, page 101; Subtraction Word Problems, page 117, Compare Addition: Bigger Unknown, page 141, Compare Subtraction: Difference Unknown, page 149; Counting by Tens and Ones, page 157

Objective 12: Add within 100, a two-digit number, one-digit number, and a multiple of 10, using models or strategies based on place value, explain the reasoning used.
Adding a Two-Digit Number and a One-Digit Number, page 197; Subtracting Multiples of Ten, page 213

Objective 13: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.
Ten More or Less, page 205

Objective 14: Subtract multiples of 10, 10-90 relate the strategy to a written method and explain the reasoning used.
Subtracting Multiples of Ten, page 221

Objective 2: Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Three-Addend Addition, page 85

Objective 3: Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known.

		(Commutative property of addition.) Adding the Commutative Property, page 77; Adding with the Associative Property, page 93 **Objective 4: Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.** Subtract Using a Missing Addend, page 133 **Objective 5: Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).** Counting to Add and Subtract, page 61
STRAND / DOMAIN	NY.CC.1.MD.	Measurement and Data
CATEGORY / CLUSTER		Measure lengths indirectly and by iterating length units.
STANDARD	1.MD.1.	Order three objects by length; compare the lengths of two objects indirectly by using a third object. Correlated Lessons: **Objective 15: Order three objects by length; compare the lengths of two objects indirectly by using a third object.** Ordering Objects by Length, page 229; Indirect Measurements, page 237
STANDARD	1.MD.2.	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps. Correlated Lessons: **Objective 15: Order three objects by length; compare the lengths of two objects indirectly by using a third object.** Ordering Objects by Length, page 229; Indirect Measurements, page 237 **Objective 16: Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object end to end; Limit to contexts where the object being measured is spanned by a whole number with no gaps or overlaps.** Nonstandard Measurement: Length, page 245

CATEGORY / CLUSTER		Tell and write time and money.
STANDARD	1.MD.3.	Tell and write time in hours and half-hours using analog and digital clocks.

Correlated Lessons:
Objective 17: Tell and write time in hours and half-hours using analog and digital clocks.
Telling and Writing Time, page 253

CATEGORY / CLUSTER		Represent and interpret data.
STANDARD	1.MD.4.	Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Correlated Lessons:
Objective 18: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.
Interpreting Data, page 261

STRAND / DOMAIN	NY.CC.1.G.	Geometry
CATEGORY / CLUSTER		Reason with shapes and their attributes.
STANDARD	1.G.1.	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size) ; build and draw shapes to possess defining attributes.

Correlated Lessons:
Objective 20: Compose two-dimensional shapes or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
Composing Shapes, page 277

STANDARD	1.G.2.	Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose

new shapes from the composite shape.

Correlated Lessons:
Objective 20: Compose two-dimensional shapes or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.
Composing Shapes, page 277

STANDARD	1.G.3.	Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Correlated Lessons:
Objective 21: Partition circles and rectangles into two and four equal shares, describe using the words halves, fourths, and quarters. Understand that decomposing into more equal shares creates smaller shares.
Partitioning into Halves, page 285; Partitioning and Comparing Halves and Fourths, page 293

Standards Correlated to Focused Mathematics Intervention Level 2 21148

New York Core Curriculum

Grade 2

Mathematics

STRAND / DOMAIN	NY.CC.2.MP.	Mathematical Practices
CATEGORY / CLUSTER	2.MP.1.	Make sense of problems and persevere in solving them.
		Correlated Lessons: **Objective 10: Add up to four two-digit numbers using strategies based on place value and properties of operations.** Adding Multiple Two-Digit Numbers, page 125 **Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.** Adding Within 1,000, page 141; Subtracting Within 1,000, page 149 **Objective 12: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.** Adding and Subtracting 10 and 100, page 133 **Objective 14: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.** Measuring with Two Units, page 221 **Objective 16: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.** Finding Differences in Length, page 237 **Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings**

and equations with a symbol for the unknown number to represent the problem.
Adding in Measurement Word Problems, page 245; Subtracting in Measurement Word Problems, page 253
Objective 1: Use addition and subtraction within 100 to solve one- and two-step word problems with unknowns in all positions; e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Solving Addition Word Problems, page 157; Solving Subtraction Word Problems, page 165; Solving Two-Step Word Problems: Same Operation, page 173; Solving Two-Step Word Problems: Different Operations, page 181
Objective 20: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
Solving Money Problems, page 277
Objective 2: Determine whether a group of objects (up to 20) has an odd or even number of members; e.g., by pairing objects or counting them by twos; write an equation to express an even number as a sum of two equal addends.
Odd and Even Numbers, page 189
Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
Repeated Addition and Using Arrays, page 197
Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

CATEGORY / CLUSTER	2.MP.4.	Model with mathematics.
		Correlated Lessons:
		Objective 18: Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line diagram. Number Lines, page 261
		Objective 19: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m.

and p.m.
Telling Time, page 269
Objective 21: Draw a picture graph and a bar graph (with single-units scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
Bar Graphs, page 205
Objective 23: Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths.
Partitioning Shapes, page 293

CATEGORY / CLUSTER	2.MP.5.	Use appropriate tools strategically.
		Correlated Lessons: **Objective 14: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.** Measuring with Two Units, page 221 **Objective 16: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.** Finding Differences in Length, page 237 **Objective 19: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.** Telling Time, page 269
CATEGORY / CLUSTER	2.MP.6.	Attend to precision.
		Correlated Lessons: **Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.** Adding Within 1,000, page 141; Subtracting Within 1,000, page 149 **Objective 12: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.** Adding and Subtracting 10 and 100, page 133 **Objective 16: Measure to determine how much**

longer one object is than another, expressing the length difference in terms of a standard length unit.
Finding Differences in Length, page 237
Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Adding in Measurement Word Problems, page 245; Subtracting in Measurement Word Problems, page 253
Objective 18: Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line diagram.
Number Lines, page 261
Objective 1: Use addition and subtraction within 100 to solve one- and two-step word problems with unknowns in all positions; e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Solving Addition Word Problems, page 157; Solving Subtraction Word Problems, page 165; Solving Two-Step Word Problems: Same Operation, page 173; Solving Two-Step Word Problems: Different Operations, page 181
Objective 20: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
Solving Money Problems, page 277
Objective 21: Draw a picture graph and a bar graph (with single-units scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
Bar Graphs, page 205
Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

CATEGORY / CLUSTER	2.MP.7.	Look for and make use of structure.
		Correlated Lessons:
		Objective 10: Add up to four two-digit numbers

using strategies based on place value and properties of operations.

Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.

Objective 13: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

Objective 15: Estimate lengths using units of inches, feet, centimeters, and meters.

Objective 22: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

Objective 23: Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths.

Objective 2: Determine whether a group of objects (up to 20) has an odd or even number of members; e.g., by pairing objects or counting them by twos; write an equation to express an even number as a sum of two equal addends.

Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.

Objective 4: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.

Objective 5: 100 can be thought of as a bundle of

ten tens, called a "hundred." 2.NBT.1b The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
Tens and Hundreds, page 69
Objective 6: Count within 1,000; skip-count by fives, tens, and hundreds.
Skip-Counting, page 77
Objective 7: Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.
Numbers to 1,000, page 85; Expanded Form, page 93
Objective 8: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
Comparing Numbers, page 101
Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

STRAND / DOMAIN	NY.CC.2.OA.	Operations and Algebraic Thinking
CATEGORY / CLUSTER		Work with equal groups of objects to gain foundations for multiplication.
STANDARD	2.OA.4.	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
		Correlated Lessons: **Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.** Repeated Addition and Using Arrays, page 197
STRAND / DOMAIN	NY.CC.2.NBT.	Number and Operations in Base Ten
CATEGORY / CLUSTER		Understand place value.
STANDARD	2.NBT.1.	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:

EXPECTATION 2.NBT.1.a.	100 can be thought of as a bundle of ten tens -- called a "hundred."

Correlated Lessons:

Objective 10: Add up to four two-digit numbers using strategies based on place value and properties of operations.
Adding Multiple Two-Digit Numbers, page 125

Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
Adding Within 1,000, page 141; Subtracting Within 1,000, page 149

Objective 4: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
Ones, Tens, and Hundreds, page 61

Objective 5: 100 can be thought of as a bundle of ten tens, called a "hundred." 2.NBT.1b The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
Tens and Hundreds, page 69

Objective 7: Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.
Numbers to 1,000, page 85; Expanded Form, page 93

Objective 8: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
Comparing Numbers, page 101

Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

EXPECTATION 2.NBT.1.b.	The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).

Correlated Lessons:

Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
Adding Within 1,000, page 141; Subtracting Within 1,000, page 149
Objective 4: Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
Ones, Tens, and Hundreds, page 61
Objective 5: 100 can be thought of as a bundle of ten tens, called a "hundred." 2.NBT.1b The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
Tens and Hundreds, page 69
Objective 7: Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.
Numbers to 1,000, page 85; Expanded Form, page 93
Objective 8: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
Comparing Numbers, page 101

STANDARD	2.NBT.2.	Count within 1000; skip-count by 5s, 10s, and 100s. Correlated Lessons: **Objective 6: Count within 1,000; skip-count by fives, tens, and hundreds.** Skip-Counting, page 77
STANDARD	2.NBT.3.	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. Correlated Lessons: **Objective 7: Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.** Numbers to 1,000, page 85; Expanded Form, page 93
STANDARD	2.NBT.4.	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

Correlated Lessons:

Objective 8: Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.

Comparing Numbers, page 101

CATEGORY / CLUSTER		Use place value understanding and properties of operations to add and subtract.
STANDARD	2.NBT.5.	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Correlated Lessons:

Objective 10: Add up to four two-digit numbers using strategies based on place value and properties of operations.

Adding Multiple Two-Digit Numbers, page 125

Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.

Adding Within 1,000, page 141; Subtracting Within 1,000, page 149

Objective 12: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.

Adding and Subtracting 10 and 100, page 133

Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Adding in Measurement Word Problems, page 245; Subtracting in Measurement Word Problems, page 253

Objective 1: Use addition and subtraction within 100 to solve one- and two-step word problems with unknowns in all positions; e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Solving Addition Word Problems, page 157; Solving Subtraction Word Problems, page 165; Solving Two-Step Word Problems: Same Operation, page 173; Solving Two-Step Word Problems: Different Operations, page 181

Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
Repeated Addition and Using Arrays, page 197
Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

STANDARD	2.NBT.6.	Add up to four two-digit numbers using strategies based on place value and properties of operations.

Correlated Lessons:
Objective 10: Add up to four two-digit numbers using strategies based on place value and properties of operations.
Adding Multiple Two-Digit Numbers, page 125
Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
Adding Within 1,000, page 141; Subtracting Within 1,000, page 149
Objective 12: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
Adding and Subtracting 10 and 100, page 133
Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Adding in Measurement Word Problems, page 245; Subtracting in Measurement Word Problems, page 253
Objective 1: Use addition and subtraction within 100 to solve one- and two-step word problems with unknowns in all positions; e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Solving Addition Word Problems, page 157; Solving Subtraction Word Problems, page 165; Solving Two-Step Word Problems: Same Operation, page 173; Solving Two-Step Word Problems: Different

Operations, page 181

Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
Repeated Addition and Using Arrays, page 197

Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

STANDARD	2.NBT.7.	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.

Correlated Lessons:
Objective 10: Add up to four two-digit numbers using strategies based on place value and properties of operations.
Adding Multiple Two-Digit Numbers, page 125

Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
Adding Within 1,000, page 141; Subtracting Within 1,000, page 149

Objective 12: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
Adding and Subtracting 10 and 100, page 133

Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Adding in Measurement Word Problems, page 245; Subtracting in Measurement Word Problems, page 253

Objective 1: Use addition and subtraction within

100 to solve one- and two-step word problems with unknowns in all positions; e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Solving Addition Word Problems, page 157; Solving Subtraction Word Problems, page 165; Solving Two-Step Word Problems: Same Operation, page 173; Solving Two-Step Word Problems: Different Operations, page 181

Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
Repeated Addition and Using Arrays, page 197

Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

STANDARD	2.NBT.8.	Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.

Correlated Lessons:
Objective 12: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
Adding and Subtracting 10 and 100, page 133

STANDARD	2.NBT.9.	Explain why addition and subtraction strategies work, using place value and the properties of operations.

Correlated Lessons:
Objective 10: Add up to four two-digit numbers using strategies based on place value and properties of operations.
Adding Multiple Two-Digit Numbers, page 125

Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
Adding Within 1,000, page 141; Subtracting Within 1,000, page 149

Objective 12: Mentally add 10 or 100 to a given

number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
Adding and Subtracting 10 and 100, page 133
Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Adding in Measurement Word Problems, page 245; Subtracting in Measurement Word Problems, page 253
Objective 1: Use addition and subtraction within 100 to solve one- and two-step word problems with unknowns in all positions; e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.
Solving Addition Word Problems, page 157; Solving Subtraction Word Problems, page 165; Solving Two-Step Word Problems: Same Operation, page 173; Solving Two-Step Word Problems: Different Operations, page 181
Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
Repeated Addition and Using Arrays, page 197
Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

STRAND / DOMAIN	NY.CC.2.MD.	Measurement and Data
CATEGORY / CLUSTER		Measure and estimate lengths in standard units.
STANDARD	2.MD.1.	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

Correlated Lessons:
Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
Adding Within 1,000, page 141; Subtracting Within

bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
Solving Money Problems, page 277
Objective 21: Draw a picture graph and a bar graph (with single-units scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
Bar Graphs, page 205
Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

STANDARD	2.MD.3.	Estimate lengths using units of inches, feet, centimeters, and meters. Correlated Lessons: **Objective 15: Estimate lengths using units of inches, feet, centimeters, and meters.** Estimating Length, page 229
STANDARD	2.MD.4.	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit. Correlated Lessons: **Objective 16: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.** Finding Differences in Length, page 237
CATEGORY / CLUSTER		Relate addition and subtraction to length.
STANDARD	2.MD.5.	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem. Correlated Lessons: **Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.**

		Adding in Measurement Word Problems, page 245; Subtracting in Measurement Word Problems, page 253
STANDARD	2.MD.6.	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram. Correlated Lessons: **Objective 18: Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line diagram.** Number Lines, page 261
CATEGORY / CLUSTER		Work with time and money.
STANDARD	2.MD.7.	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. Correlated Lessons: **Objective 19: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.** Telling Time, page 269
STANDARD	2.MD.8.	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and cents symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have? Correlated Lessons: **Objective 20: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.** Solving Money Problems, page 277
CATEGORY / CLUSTER		Represent and interpret data.
STANDARD	2.MD.9.	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. Correlated Lessons:

Objective 11: Add and subtract within 1,000, models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method.
Objective 12: Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.
Objective 13: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
Objective 14: Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
Objective 16: Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.
Objective 17: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units; e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
Objective 18: Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …, and represent whole-number sums and differences within 100 on a number line diagram.
Objective 19: Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
Objective 1: Use addition and subtraction within 100 to solve one- and two-step word problems with unknowns in all positions; e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Solving Addition Word Problems, page 157; Solving Subtraction Word Problems, page 165; Solving Two-Step Word Problems: Same Operation, page 173; Solving Two-Step Word Problems: Different Operations, page 181

Objective 20: Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
Solving Money Problems, page 277

Objective 21: Draw a picture graph and a bar graph (with single-units scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
Bar Graphs, page 205

Objective 9: Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Adding Within 100, page 109; Subtracting Within 100, page 117

STANDARD	2.MD.10.	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.
		Correlated Lessons: **Objective 21: Draw a picture graph and a bar graph (with single-units scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.** Bar Graphs, page 205
STRAND / DOMAIN	NY.CC.2.G.	Geometry
CATEGORY / CLUSTER		Reason with shapes and their attributes.
STANDARD	2.G.1.	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
		Correlated Lessons: **Objective 22: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify**

triangles, quadrilaterals, pentagons, hexagons, and cubes.
Shapes and Their Attributes, page 285

STANDARD	2.G.2.	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. Correlated Lessons: **Objective 3: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.** Repeated Addition and Using Arrays, page 197
STANDARD	2.G.3.	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. Correlated Lessons: **Objective 23: Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths.** Partitioning Shapes, page 293

Standards Correlated to Focused Mathematics Intervention Level 3 21149

New York Core Curriculum

Grade 3

  Mathematics

STRAND / DOMAIN	NY.CC.3.MP.	Mathematical Practices
CATEGORY / CLUSTER	3.MP.1.	Make sense of problems and persevere in solving them.

Correlated Lessons:
Objective 16: Solve word problems involving addition and subtraction of time intervals in minutes; e.g., by representing the problem on a number line diagram.
Elapsed Time, page 85
Objective 17: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes.
Volume and Mass, page 277
Objective 18: 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.
Scaled Graphs, page 269
Objective 19: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show data by making a line plot, where the horizontal scale is marked off in appropriate units-whole numbers, halves, or quarters.
Line Plots, page 285
Objective 1: Interpret products of whole numbers; e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.

Objective 22: Measure areas by counting unit squares (square cm, square m, square in., square ft., and improvised units).

Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.

Objective 26: Solve problems involving perimeters of polygons. Finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or same area and different perimeters.

Objective 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.

Objective 3: Use multiplication and division in 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.

Objective 4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in

each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?
Using Inverse Relationships, page 141
Objective 5: Apply properties of operations as strategies to multiply and divide.
Multiplying with the Associative Property, page 149
Objective 6: 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.
Two-Step Word Problems, page 157
Objective 7: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
Addition Patterns, page 69; Multiplication Patterns, page 125
Objective 8: Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Addition Strategies, page 61; Subtraction Strategies, page 77

CATEGORY / CLUSTER	3.MP.4.	Model with mathematics.
		Correlated Lessons:
		Objective 10: Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.
		Plotting Fractions on Number Lines, page 229
		Objective 11: Represent a fraction a/b on a number line diagram by marking off a length 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
		Plotting Fractions on Number Lines, page 229
		Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
		Equivalent Fractions, page 237
		Objective 13: Recognize and generate simple equivalent fractions; e.g., 1/2 = 2/4 , 4/6 = 2/3 . Explain why the fractions are equivalent; e.g., by using a visual fraction model.

Equivalent Fractions, page 237

Objective 17: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes.

Volume and Mass, page 277

Objective 1: Interpret products of whole numbers; e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.

Multiplication Models, page 93

Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

Problem Solving with Area, page 189

Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.

Area of Rectilinear Figures, page 197

Objective 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.

Partitive Division, page 101; Measurement Division, page 109

Objective 3: Use multiplication and division in 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.

Problem Solving with Multiplication, page 117; Problem Solving with Division, page 133

Objective 7: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Addition Patterns, page 69; Multiplication Patterns, page 125

Objective 8: Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

		Addition Strategies, page 61; Subtraction Strategies, page 77
CATEGORY / CLUSTER	3.MP.6.	Attend to precision. Correlated Lessons: **Objective 16: Solve word problems involving addition and subtraction of time intervals in minutes; e.g., by representing the problem on a number line diagram.** Elapsed Time, page 85 **Objective 17: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes.** Volume and Mass, page 277 **Objective 18: 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.** Scaled Graphs, page 269 **Objective 1: Interpret products of whole numbers; e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.** Multiplication Models, page 93 **Objective 22: Measure areas by counting unit squares (square cm, square m, square in., square ft., and improvised units).** Measuring with Square Units, page 173 **Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.** Finding the Area Formula, page 181 **Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.** Problem Solving with Area, page 189 **Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.**

Area of Rectilinear Figures, page 197
Objective 26: Solve problems involving perimeters of polygons. Finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or same area and different perimeters.
Recognizing Perimeter, page 205
Objective 2: Interpret whole-number quotients of whole numbers; e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares.
Partitive Division, page 101; Measurement Division, page 109
Objective 3: Use multiplication and division in 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.
Problem Solving with Multiplication, page 117; Problem Solving with Division, page 133
Objective 4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = \_ \div 3$, $6 \times 6 = ?$
Using Inverse Relationships, page 141
Objective 5: Apply properties of operations as strategies to multiply and divide.
Multiplying with the Associative Property, page 149
Objective 6: 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.
Two-Step Word Problems, page 157
Objective 8: Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Addition Strategies, page 61; Subtraction Strategies, page 77

CATEGORY / CLUSTER	3.MP.7.	Look for and make use of structure.
		Correlated Lessons:
		Objective 10: Represent a fraction 1/b on a number

line diagram by defining the interval from 0 to 1 as the whole. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.
Plotting Fractions on Number Lines, page 229

Objective 11: Represent a fraction a/b on a number line diagram by marking off a length 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
Plotting Fractions on Number Lines, page 229

Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
Equivalent Fractions, page 237

Objective 13: Recognize and generate simple equivalent fractions; e.g., 1/2 = 2/4 , 4/6 = 2/3 . Explain why the fractions are equivalent; e.g., by using a visual fraction model.
Equivalent Fractions, page 237

Objective 14: Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
Fractions Equal to One, page 245

Objective 15: Compare two fractions with the same numerator or denominator. Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons using symbols >, =, or <.
Comparing Fractions 1, page 253; Comparing Fractions 2, page 261

Objective 19: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show data by making a line plot, where the horizontal scale is marked off in appropriate units-whole numbers, halves, or quarters.
Line Plots, page 285

Objective 20: A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
Square Units, page 165

Objective 21: A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.
Square Units, page 165

Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
Finding the Area Formula, page 181
Objective 26: Solve problems involving perimeters of polygons. Finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or same area and different perimeters.
Recognizing Perimeter, page 205
Objective 27: Understand that shapes in different categories, may share attributes (e.g., having four sides), and that the shared attributes can define a larger category. Recognize rhombuses, rectangles, and squares as examples of quadrilaterals.
Quadrilaterals, page 293
Objective 7: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
Addition Patterns, page 69; Multiplication Patterns, page 125
Objective 9: Understand a fraction 1/b as the quantity formed by one part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b .
Unit Fractions, page 213; Building Fractions from Unit Fractions, page 221

STRAND / DOMAIN	NY.CC.3.OA.	Operations and Algebraic Thinking
CATEGORY / CLUSTER		Represent and solve problems involving multiplication and division.
STANDARD	3.OA.2.	Interpret whole-number quotients of whole numbers, e.g., interpret 56 / 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 / 8.

Correlated Lessons:
Objective 2: Interpret whole-number quotients of

whole numbers; e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares.
Partitive Division, page 101; Measurement Division, page 109
Objective 3: Use multiplication and division in 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.
Problem Solving with Multiplication, page 117; Problem Solving with Division, page 133

STANDARD	3.OA.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. Correlated Lessons: **Objective 3: Use multiplication and division in 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.** Problem Solving with Multiplication, page 117; Problem Solving with Division, page 133 **Objective 6: 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.** Two-Step Word Problems, page 157
CATEGORY / CLUSTER		Understand properties of multiplication and the relationship between multiplication and division.
STANDARD	3.OA.5.	Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.) Correlated Lessons:

		Objective 5: Apply properties of operations as strategies to multiply and divide. Multiplying with the Associative Property, page 149 **Objective 7: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.** Addition Patterns, page 69; Multiplication Patterns, page 125 **Objective 8: Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.** Addition Strategies, page 61; Subtraction Strategies, page 77
STANDARD	3.OA.6.	Understand division as an unknown-factor problem. For example, find 32 / 8 by finding the number that makes 32 when multiplied by 8. Correlated Lessons: **Objective 4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48, 5 = \_ \div 3, 6 \times 6 = ?$** Using Inverse Relationships, page 141
CATEGORY / CLUSTER		Multiply and divide within 100.
STANDARD	3.OA.7.	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 / 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. Correlated Lessons: **Objective 1: Interpret products of whole numbers; e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.** Multiplication Models, page 93 **Objective 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.** Partitive Division, page 101; Measurement Division,

page 109
Objective 3: Use multiplication and division in 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.
Problem Solving with Multiplication, page 117; Problem Solving with Division, page 133
Objective 4: Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48, 5 = \_ \div 3, 6 \times 6 = ?$
Using Inverse Relationships, page 141
Objective 5: Apply properties of operations as strategies to multiply and divide.
Multiplying with the Associative Property, page 149

CATEGORY / CLUSTER		Solve problems involving the four operations, and identify and explain patterns in arithmetic.
STANDARD	3.OA.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 including rounding. Correlated Lessons: **Objective 3: Use multiplication and division in 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.** Problem Solving with Multiplication, page 117; Problem Solving with Division, page 133 **Objective 6: 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.** Two-Step Word Problems, page 157
STANDARD	3.OA.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.

Correlated Lessons:
Objective 7: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
Addition Patterns, page 69; Multiplication Patterns, page 125

STRAND / DOMAIN	NY.CC.3.NBT.	Number and Operations in Base Ten
CATEGORY / CLUSTER		Use place value understanding and properties of operations to perform multi-digit arithmetic.
STANDARD	3.NBT.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.

Correlated Lessons:
Objective 8: Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Addition Strategies, page 61; Subtraction Strategies, page 77

STRAND / DOMAIN	NY.CC.3.NF.	Number and Operations--Fractions
CATEGORY / CLUSTER		Develop understanding of fractions as numbers.
STANDARD	3.NF.1.	Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.

Correlated Lessons:
Objective 10: Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.
Plotting Fractions on Number Lines, page 229
Objective 11: Represent a fraction a/b on a number line diagram by marking off a length 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

Plotting Fractions on Number Lines, page 229
Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
Equivalent Fractions, page 237
Objective 13: Recognize and generate simple equivalent fractions; e.g., 1/2 = 2/4 , 4/6 = 2/3 . Explain why the fractions are equivalent; e.g., by using a visual fraction model.
Equivalent Fractions, page 237
Objective 14: Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
Fractions Equal to One, page 245
Objective 15: Compare two fractions with the same numerator or denominator. Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons using symbols >, =, or <.
Comparing Fractions 1, page 253; Comparing Fractions 2, page 261
Objective 9: Understand a fraction 1/b as the quantity formed by one part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b .
Unit Fractions, page 213; Building Fractions from Unit Fractions, page 221

STANDARD	3.NF.2.	Understand a fraction as a number on the number line; represent fractions on a number line diagram.
EXPECTATION	3.NF.2.a.	Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.

Correlated Lessons:
Objective 10: Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.
Plotting Fractions on Number Lines, page 229
Objective 11: Represent a fraction a/b on a number line diagram by marking off a length 1/b from 0.

Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
Plotting Fractions on Number Lines, page 229
Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
Equivalent Fractions, page 237

EXPECTATION	3.NF.2.b.	Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.

Correlated Lessons:
Objective 10: Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.
Plotting Fractions on Number Lines, page 229
Objective 11: Represent a fraction a/b on a number line diagram by marking off a length 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
Plotting Fractions on Number Lines, page 229
Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
Equivalent Fractions, page 237

STANDARD	3.NF.3.	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
EXPECTATION	3.NF.3.a.	Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

Correlated Lessons:
Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
Equivalent Fractions, page 237
Objective 13: Recognize and generate simple equivalent fractions; e.g., 1/2 = 2/4 , 4/6 = 2/3 . Explain why the fractions are equivalent; e.g., by using a visual fraction model.
Equivalent Fractions, page 237

EXPECTATION 3.NF.3.b.	Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent, e.g., by using a visual fraction model. Correlated Lessons: **Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.** Equivalent Fractions, page 237 **Objective 13: Recognize and generate simple equivalent fractions; e.g., 1/2 = 2/4 , 4/6 = 2/3 . Explain why the fractions are equivalent; e.g., by using a visual fraction model.** Equivalent Fractions, page 237
EXPECTATION 3.NF.3.c.	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. Correlated Lessons: **Objective 10: Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.** Plotting Fractions on Number Lines, page 229 **Objective 11: Represent a fraction a/b on a number line diagram by marking off a length 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.** Plotting Fractions on Number Lines, page 229 **Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.** Equivalent Fractions, page 237 **Objective 13: Recognize and generate simple equivalent fractions; e.g., 1/2 = 2/4 , 4/6 = 2/3 . Explain why the fractions are equivalent; e.g., by using a visual fraction model.** Equivalent Fractions, page 237 **Objective 14: Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.** Fractions Equal to One, page 245

Objective 15: Compare two fractions with the same numerator or denominator. Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons using symbols >, =, or <.
Comparing Fractions 1, page 253; Comparing Fractions 2, page 261
Objective 9: Understand a fraction 1/b as the quantity formed by one part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b .
Unit Fractions, page 213; Building Fractions from Unit Fractions, page 221

EXPECTATION	3.NF.3.d.	Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. Correlated Lessons: **Objective 15: Compare two fractions with the same numerator or denominator. Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons using symbols >, =, or <.** Comparing Fractions 1, page 253; Comparing Fractions 2, page 261
STRAND / DOMAIN	NY.CC.3.MD.	Measurement and Data
CATEGORY / CLUSTER		Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
STANDARD	3.MD.1.	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. Correlated Lessons: **Objective 16: Solve word problems involving addition and subtraction of time intervals in minutes; e.g., by representing the problem on a number line diagram.**

		Elapsed Time, page 85
STANDARD	3.MD.2.	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. Correlated Lessons: **Objective 17: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes.** Volume and Mass, page 277
CATEGORY / CLUSTER		Represent and interpret data.
STANDARD	3.MD.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. Correlated Lessons: **Objective 18: 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.** Scaled Graphs, page 269
STANDARD	3.MD.4.	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units-- whole numbers, halves, or quarters. Correlated Lessons: **Objective 19: Generate measurement data by measuring lengths using rulers marked with halves and fourths an inch. Show data by making a line plot, where the horizontal scale is marked off in appropriate units-whole numbers, halves, or quarters.**

		Line Plots, page 285
CATEGORY / CLUSTER		Geometric measurement: understand concepts of area and relate area to multiplication and to addition.
STANDARD	3.MD.5.	Recognize area as an attribute of plane figures and understand concepts of area measurement.
EXPECTATION	3.MD.5.a.	A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.

Correlated Lessons:
Objective 20: A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
Square Units, page 165
Objective 21: A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units..
Square Units, page 165
Objective 22: Measure areas by counting unit squares (square cm, square m, square in., square ft., and improvised units).
Measuring with Square Units, page 173
Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
Finding the Area Formula, page 181
Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
Problem Solving with Area, page 189
Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.
Area of Rectilinear Figures, page 197

| EXPECTATION | 3.MD.5.b. | A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units. |

Correlated Lessons:
Objective 20: A square with side length 1 unit,

called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
Square Units, page 165
Objective 21: A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units..
Square Units, page 165
Objective 22: Measure areas by counting unit squares (square cm, square m, square in., square ft., and improvised units).
Measuring with Square Units, page 173
Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
Finding the Area Formula, page 181
Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
Problem Solving with Area, page 189
Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.
Area of Rectilinear Figures, page 197

STANDARD	3.MD.6.	Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

Correlated Lessons:
Objective 22: Measure areas by counting unit squares (square cm, square m, square in., square ft., and improvised units).
Measuring with Square Units, page 173
Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
Finding the Area Formula, page 181
Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

Problem Solving with Area, page 189
Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.
Area of Rectilinear Figures, page 197

STANDARD	3.MD.7.	Relate area to the operations of multiplication and addition.
EXPECTATION	3.MD.7.a.	Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

Correlated Lessons:
Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.
Finding the Area Formula, page 181
Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
Problem Solving with Area, page 189
Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.
Area of Rectilinear Figures, page 197

EXPECTATION	3.MD.7.b.	Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

Correlated Lessons:
Objective 1: Interpret products of whole numbers; e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.
Multiplication Models, page 93
Objective 23: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by

multiplying the side lengths.
Finding the Area Formula, page 181
Objective 24: Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
Problem Solving with Area, page 189
Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.
Area of Rectilinear Figures, page 197
Objective 2: Interpret whole-number quotients of whole numbers; e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares.
Partitive Division, page 101; Measurement Division, page 109
Objective 3: Use multiplication and division in 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.
Problem Solving with Multiplication, page 117; Problem Solving with Division, page 133

EXPECTATION 3.MD.7.c.	Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a x b and a x c. Use area models to represent the distributive property in mathematical reasoning.

Correlated Lessons:
Objective 7: Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
Addition Patterns, page 69; Multiplication Patterns, page 125
Objective 8: Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Addition Strategies, page 61; Subtraction Strategies, page 77

EXPECTATION	3.MD.7.d.	Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.
		Correlated Lessons: **Objective 25: Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.** Area of Rectilinear Figures, page 197
CATEGORY / CLUSTER		Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.
STANDARD	3.MD.8.	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
		Correlated Lessons: **Objective 26: Solve problems involving perimeters of polygons. Finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or same area and different perimeters.** Recognizing Perimeter, page 205
STRAND / DOMAIN	NY.CC.3.G.	Geometry
CATEGORY / CLUSTER		Reason with shapes and their attributes.
STANDARD	3.G.1.	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
		Correlated Lessons: **Objective 27: Understand that shapes in different**

		categories, may share attributes (e.g., having four sides), and that the shared attributes can define a larger category. Recognize rhombuses, rectangles, and squares as examples of quadrilaterals. Quadrilaterals, page 293
STANDARD	3.G.2.	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape.

Correlated Lessons:

Objective 10: Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line.
Plotting Fractions on Number Lines, page 229
Objective 11: Represent a fraction a/b on a number line diagram by marking off a length 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
Plotting Fractions on Number Lines, page 229
Objective 12: Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
Equivalent Fractions, page 237
Objective 13: Recognize and generate simple equivalent fractions; e.g., 1/2 = 2/4 , 4/6 = 2/3 . Explain why the fractions are equivalent; e.g., by using a visual fraction model.
Equivalent Fractions, page 237
Objective 14: Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
Fractions Equal to One, page 245
Objective 15: Compare two fractions with the same numerator or denominator. Recognize comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons using symbols >, =, or <.
Comparing Fractions 1, page 253; Comparing Fractions 2, page 261
Objective 9: Understand a fraction 1/b as the quantity formed by one part when a whole is

partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b .
Unit Fractions, page 213; Building Fractions from Unit Fractions, page 221

Standards Correlated to Focused Mathematics Intervention Level 4 21150

New York Core Curriculum

Grade 4

Mathematics

STRAND / DOMAIN	NY.CC.4.MP.	Mathematical Practices
CATEGORY / CLUSTER	4.MP.1.	Make sense of problems and persevere in solving them.

Correlated Lessons:
Objective 10: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations.
Multiplying Multi-Digit Numbers I, page 173;
Multiplying Multi-Digit Numbers II, page 181
Objective 11: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.
Dividing with Multi-Digit Dividends, page 189
Objective 15: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Add and subtract mixed numbers with like denominators.
Adding and Subtracting Mixed Numbers, page 229
Objective 16: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.
Problem Solving with Fractions, page 237
Objective 18: Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.
Multiplying Whole Numbers and Fractions, page 245
Objective 19: Express a fraction with denominator

10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.
Fractions in Tenths and Hundredths, page 253
Objective 20: Use decimal notation for fractions with denominators 10 or 100.
Writing Fractions as Decimals, page 261
Objective 21: Compare two decimals to hundredths. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.
Comparing Decimals, page 269
Objective 22: Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
Problem Solving with Area and Perimeter, page 277
Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e .g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.
Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77
Objective 3: Solve multi-step word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for an unknown quantity.
Multi-Step Word Problems, page 85; Solving Division Word Problems with Remainders, page 93
Objective 9: Fluently add and subtract multi-digit whole numbers using the standard algorithm.
Adding Multi-Digit Numbers, page 157; Subtracting Multi-Digit Numbers, page 165

CATEGORY / CLUSTER	4.MP.4.	Model with mathematics.

Correlated Lessons:
Objective 1: Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as equations.
Understanding Multiplicative Comparison, page 61
Objective 25: Draw points, lines, line segments,

		rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. Understanding Geometric Language, page 293 **Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e .g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.** Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77
CATEGORY / CLUSTER	4.MP.6.	Attend to precision. Correlated Lessons: **Objective 10: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations.** Multiplying Multi-Digit Numbers I, page 173; Multiplying Multi-Digit Numbers II, page 181 **Objective 11: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.** Dividing with Multi-Digit Dividends, page 189 **Objective 15: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Add and subtract mixed numbers with like denominators.** Adding and Subtracting Mixed Numbers, page 229 **Objective 16: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.** Problem Solving with Fractions, page 237 **Objective 18: Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.** Multiplying Whole Numbers and Fractions, page 245 **Objective 19: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.** Fractions in Tenths and Hundredths, page 253

Objective 20: Use decimal notation for fractions with denominators 10 or 100.
Writing Fractions as Decimals, page 261
Objective 22: Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
Problem Solving with Area and Perimeter, page 277
Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e .g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.
Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77
Objective 3: Solve multi-step word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for an unknown quantity.
Multi-Step Word Problems, page 85; Solving Division Word Problems with Remainders, page 93
Objective 9: Fluently add and subtract multi-digit whole numbers using the standard algorithm.
Adding Multi-Digit Numbers, page 157; Subtracting Multi-Digit Numbers, page 165

CATEGORY / CLUSTER	4.MP.7.	Look for and make use of structure.

Correlated Lessons:
Objective 12: Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × a) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions are the same size.
Finding Equivalent Fractions, page 197
Objective 13: Compare two fractions with different numerators and different denominators. Recognize comparisons are valid only when the two fractions refer to the same whole using symbols >, =, or <, and justify the conclusion.
Comparing Fractions: Common Denominations, page 205; Comparing Fractions: Benchmark Numbers, page 213
Objective 14: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Understand addition and subtraction of fractions as joining and separating

parts referring to the same whole.
Objective 17: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number: Understand a fraction a/b as a multiple of 1/b.
Objective 18: Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.
Objective 1: Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as equations.
Objective 21: Compare two decimals to hundredths. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.
Objective 23: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
Objective 24: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
Objective 25: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
Objective 4: Find all factor pairs for a whole numbers 1–100. Recognize that a whole number is a multiple of its factors. Determine whether a given number in the range is a multiple of a one-digit number, and if it is prime or composite.

Objective 5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.
Patterns and Pattern Features, page 117
Objective 6: Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
Connecting Place Value to Multiplication and Division, page 125
Objective 7: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results.
Reading and Writing Multi-Digit Numbers, page 133; Comparing Multi-Digit Numbers, page 141
Objective 8: Use place value understanding to round multi-digit whole numbers to any place.
Rounding Multi-Digit Numbers, page 149

STRAND / DOMAIN	NY.CC.4.OA.	Operations and Algebraic Thinking
CATEGORY / CLUSTER		Use the four operations with whole numbers to solve problems.
STANDARD	4.OA.1.	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
		Correlated Lessons: **Objective 1: Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as equations.** Understanding Multiplicative Comparison, page 61 **Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.** Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77
STANDARD	4.OA.2.	Multiply or divide to solve word problems involving

multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

Correlated Lessons:
Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.
Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77
Objective 3: Solve multi-step word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for an unknown quantity.
Multi-Step Word Problems, page 85; Solving Division Word Problems with Remainders, page 93

| STANDARD | 4.OA.3. | Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. |

Correlated Lessons:
Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.
Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77
Objective 3: Solve multi-step word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for an unknown quantity.
Multi-Step Word Problems, page 85; Solving Division Word Problems with Remainders, page 93

CATEGORY / CLUSTER		Gain familiarity with factors and multiples.
STANDARD	4.OA.4.	Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite. Correlated Lessons: **Objective 4: Find all factor pairs for a whole numbers 1–100. Recognize that a whole number is a multiple of its factors. Determine whether a given number in the range is a multiple of a one-digit number, and if it is prime or composite.** Finding Factor Pairs, page 101; Determining Prime and Composite, page 109
CATEGORY / CLUSTER		Generate and analyze patterns.
STANDARD	4.OA.5.	Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way. Correlated Lessons: **Objective 5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.** Patterns and Pattern Features, page 117
STRAND / DOMAIN	NY.CC.4.NBT.	Number and Operations in Base Ten
CATEGORY / CLUSTER		Generalize place value understanding for multi-digit whole numbers.
STANDARD	4.NBT.1.	Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 / 70 = 10 by applying concepts of place value and division. Correlated Lessons:

Objective 10: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations.
Multiplying Multi-Digit Numbers I, page 173; Multiplying Multi-Digit Numbers II, page 181
Objective 11: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.
Dividing with Multi-Digit Dividends, page 189
Objective 6: Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
Connecting Place Value to Multiplication and Division, page 125
Objective 7: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results.
Reading and Writing Multi-Digit Numbers, page 133; Comparing Multi-Digit Numbers, page 141
Objective 8: Use place value understanding to round multi-digit whole numbers to any place.
Rounding Multi-Digit Numbers, page 149

STANDARD	4.NBT.2.	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Correlated Lessons:
Objective 7: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results.
Reading and Writing Multi-Digit Numbers, page 133; Comparing Multi-Digit Numbers, page 141

STANDARD	4.NBT.3.	Use place value understanding to round multi-digit

whole numbers to any place.

Correlated Lessons:
Objective 8: Use place value understanding to round multi-digit whole numbers to any place.
Rounding Multi-Digit Numbers, page 149

CATEGORY / CLUSTER		Use place value understanding and properties of operations to perform multi-digit arithmetic.
STANDARD	4.NBT.4.	Fluently add and subtract multi-digit whole numbers using the standard algorithm.

Correlated Lessons:
Objective 9: Fluently add and subtract multi-digit whole numbers using the standard algorithm.
Adding Multi-Digit Numbers, page 157; Subtracting Multi-Digit Numbers, page 165

STANDARD	4.NBT.5.	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Correlated Lessons:
Objective 10: Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations.
Multiplying Multi-Digit Numbers I, page 173; Multiplying Multi-Digit Numbers II, page 181
Objective 1: Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as equations.
Understanding Multiplicative Comparison, page 61
Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.
Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77
Objective 3: Solve multi-step word problems posed

		with whole numbers and having whole-number answers, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for an unknown quantity. Multi-Step Word Problems, page 85; Solving Division Word Problems with Remainders, page 93
STANDARD	4.NBT.6.	Find whole-number quotients and remainders with up to four-digit dividends and one-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: **Objective 11: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.** Dividing with Multi-Digit Dividends, page 189 **Objective 2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison.** Multiplying to Solve Comparison Problems, page 69; Dividing to Solve Comparison, page 77 **Objective 3: Solve multi-step word problems posed with whole numbers and having whole-number answers, including problems in which remainders must be interpreted; represent these problems using equations with a letter standing for an unknown quantity.** Multi-Step Word Problems, page 85; Solving Division Word Problems with Remainders, page 93
STRAND / DOMAIN	NY.CC.4.NF.	Number and Operations--Fractions
CATEGORY / CLUSTER		Extend understanding of fraction equivalence and ordering.
STANDARD	4.NF.1.	Explain why a fraction a/b is equivalent to a fraction (n x a)/(n x b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate

equivalent fractions.

Correlated Lessons:
Objective 12: Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × a) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions are the same size.
Finding Equivalent Fractions, page 197

STANDARD	4.NF.2.	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
		Correlated Lessons: **Objective 13: Compare two fractions with different numerators and different denominators. Recognize comparisons are valid only when the two fractions refer to the same whole using symbols >, =, or <, and justify the conclusion.** Comparing Fractions: Common Denominations, page 205; Comparing Fractions: Benchmark Numbers, page 213
CATEGORY / CLUSTER		Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
STANDARD	4.NF.3.	Understand a fraction a/b with a > 1 as a sum of fractions 1/b.
EXPECTATION	4.NF.3.a.	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
		Correlated Lessons: **Objective 14: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.** Adding and Subtracting Fractions, page 221 **Objective 15: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Add and subtract mixed numbers with like denominators.**

Adding and Subtracting Mixed Numbers, page 229
Objective 16: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.
Problem Solving with Fractions, page 237
Objective 19: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.
Fractions in Tenths and Hundredths, page 253

EXPECTATION 4.NF.3.b.	Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$. Correlated Lessons: **Objective 14: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.** Adding and Subtracting Fractions, page 221 **Objective 15: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Add and subtract mixed numbers with like denominators.** Adding and Subtracting Mixed Numbers, page 229 **Objective 16: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.** Problem Solving with Fractions, page 237
EXPECTATION 4.NF.3.c.	Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. Correlated Lessons: **Objective 15: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Add and subtract mixed numbers with like denominators.**

		Adding and Subtracting Mixed Numbers, page 229
EXPECTATION	4.NF.3.d.	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem. Correlated Lessons: **Objective 15: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Add and subtract mixed numbers with like denominators.** Adding and Subtracting Mixed Numbers, page 229 **Objective 16: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.** Problem Solving with Fractions, page 237
STANDARD	4.NF.4.	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
EXPECTATION	4.NF.4.a.	Understand a fraction a/b as a multiple of 1/b. For example, use a visual fraction model to represent 5/4 as the product 5 x (1/4), recording the conclusion by the equation 5/4 = 5 x (1/4). Correlated Lessons: **Objective 12: Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × a) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions are the same size.** Finding Equivalent Fractions, page 197 **Objective 13: Compare two fractions with different numerators and different denominators. Recognize comparisons are valid only when the two fractions refer to the same whole using symbols >, =, or <, and justify the conclusion.** Comparing Fractions: Common Denominations, page 205; Comparing Fractions: Benchmark Numbers, page 213 **Objective 14: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.** Adding and Subtracting Fractions, page 221

Objective 15: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Add and subtract mixed numbers with like denominators.
Adding and Subtracting Mixed Numbers, page 229
Objective 16: Understand a fraction a/b with a > 1 as a sum of fractions 1/b: Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.
Problem Solving with Fractions, page 237
Objective 17: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number: Understand a fraction a/b as a multiple of 1/b.
Multiplying Whole Numbers and Fractions, page 245
Objective 18: Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.
Multiplying Whole Numbers and Fractions, page 245
Objective 19: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.
Fractions in Tenths and Hundredths, page 253
Objective 20: Use decimal notation for fractions with denominators 10 or 100.
Writing Fractions as Decimals, page 261

EXPECTATION 4.NF.4.b.	Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express 3 x (2/5) as 6 x (1/5), recognizing this product as 6/5. (In general, n x (a/b) = (n x a)/b.) Correlated Lessons: **Objective 17: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number: Understand a fraction a/b as a multiple of 1/b.** Multiplying Whole Numbers and Fractions, page 245 **Objective 18: Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.** Multiplying Whole Numbers and Fractions, page 245
EXPECTATION 4.NF.4.c.	Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual

fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?

Correlated Lessons:
Objective 17: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number: Understand a fraction a/b as a multiple of 1/b.
Multiplying Whole Numbers and Fractions, page 245
Objective 18: Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number.
Multiplying Whole Numbers and Fractions, page 245

CATEGORY / CLUSTER		Understand decimal notation for fractions, and compare decimal fractions.
STANDARD	4.NF.5.	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100. Correlated Lessons: **Objective 19: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.** Fractions in Tenths and Hundredths, page 253 **Objective 20: Use decimal notation for fractions with denominators 10 or 100.** Writing Fractions as Decimals, page 261
STANDARD	4.NF.6.	Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram. Correlated Lessons: **Objective 19: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.** Fractions in Tenths and Hundredths, page 253

Objective 20: Use decimal notation for fractions with denominators 10 or 100.
Writing Fractions as Decimals, page 261

| STANDARD | 4.NF.7. | Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or < and justify the conclusions, e.g., by using a visual model. |

Correlated Lessons:
Objective 21: Compare two decimals to hundredths. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.
Comparing Decimals, page 269

STRAND / DOMAIN	NY.CC.4.MD.	Measurement and Data
CATEGORY / CLUSTER		Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
STANDARD	4.MD.3.	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Correlated Lessons:
Objective 22: Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
Problem Solving with Area and Perimeter, page 277

CATEGORY / CLUSTER		Geometric measurement: understand concepts of angle and measure angles.
STANDARD	4.MD.5.	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:
EXPECTATION	4.MD.5.a.	An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.

Correlated Lessons:
Objective 23: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
Measuring Angles, page 285
Objective 24: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
Measuring Angles, page 285
Objective 25: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
Understanding Geometric Language, page 293

EXPECTATION	4.MD.5.b.	An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

Correlated Lessons:
Objective 23: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
Measuring Angles, page 285
Objective 24: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
Measuring Angles, page 285

STANDARD	4.MD.6.	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Correlated Lessons:
Objective 23: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
Measuring Angles, page 285
Objective 24: Measure angles in whole-number degrees using a protractor. Sketch angles of

specified measure.
Measuring Angles, page 285

STRAND / DOMAIN	NY.CC.4.G.	Geometry
CATEGORY / CLUSTER		Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
STANDARD	4.G.1.	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

Correlated Lessons:

Objective 23: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: An angle that turns through n one-degree angles is said to have an angle measure of n degrees.
Measuring Angles, page 285

Objective 24: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
Measuring Angles, page 285

Objective 25: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
Understanding Geometric Language, page 293

Standards Correlated to Focused Mathematics Intervention Level 5 21151

New York Core Curriculum

Grade 5

  Mathematics

STRAND / DOMAIN	NY.CC.5.MP.	Mathematical Practices
CATEGORY / CLUSTER	5.MP.1.	Make sense of problems and persevere in solving them.

Correlated Lessons:
Objective 10: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
Adding Fractions: Unlike Denominators, page 157; Subtracting Fractions: Unlike Denominators, page 165; Adding and Subtracting Fractions: Unlike Denominators, page 173; Adding Mixed Numbers, page 181; Subtracting Mixed Numbers, page 189
Objective 11: 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.
Solving Word Problems by Adding/Subtracting Fractions, page 197
Objective 12: Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers of fractions or mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Interpreting Fractions as Division, page 205
Objective 13: Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of

operations a × q ÷ b.
Multiplying Fractions, page 213
Objective 14: Find the area of a rectangle with fractional side lengths and show that the area is the same as would be found by multiplying the side lengths. Multiply to find areas of rectangles, and represent fraction product areas.
Multiplying Mixed Numbers Using Area Models, page 221
Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Solving Word Problems by Multiplying Fractions, page 229
Objective 16: Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
Dividing Fractions, Part II, page 245
Objective 17: Interpret division of a whole number by a unit fraction, and compute such quotients.
Dividing Fractions, Part I, page 237
Objective 18: Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions; e.g., by using visual fraction models and equations to represent the problem.
Solving Word Problems by Dividing Fractions, page 253
Objective 19: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0 .05 m), and use these conversions in solving multi-step, real-world problems.
Converting Measurement Units, page 261
Objective 20: Find the volume of a right rectangular prism with whole-number side lengths. Represent threefold whole-number products as volumes; e.g., to represent the Associative Property of Multiplication.
Finding Volume, page 269
Objective 21: 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.

Finding the Volume of Solid Figures Using a Formula, page 277

Objective 22: 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.
Finding the Volume of Solid Figures Using a Formula, page 277

Objective 4: Explain patterns in the number of zero of the product when multiplying a number by powers of 10, placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
Multiplying and Dividing by Powers, page 85

Objective 5: Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
Comparing Decimals to the Thousandths, page 93

Objective 7: Fluently multiply multi-digit whole numbers using the standard algorithm.
Multiplying Using the Standard Algorithm, page 109

Objective 8: Find quotients of whole numbers with up to four-digit dividends and two-digit divisors, based on place value, the properties of operations, the relationship between multiplication and division. Equations, rectangular arrays, area models.
Dividing Multi-Digit Numbers, page 117

Objective 9: Add, subtract, multiply, and divide decimals to hundredths, based on place value, properties of operations, and/or the relationship between addition and subtraction; explain the reasoning used.
Adding and Subtracting Decimals, page 125; Multiplying Decimals, page 133; Dividing Decimals, page 141; Solving Decimal Word Problems, page 149

CATEGORY / CLUSTER	5.MP.3.	Construct viable arguments and critique the reasoning of others.

Correlated Lessons:
Objective 9: Add, subtract, multiply, and divide decimals to hundredths, based on place value, properties of operations, and/or the relationship

		between addition and subtraction; explain the reasoning used. Adding and Subtracting Decimals, page 125; Multiplying Decimals, page 133; Dividing Decimals, page 141; Solving Decimal Word Problems, page 149
CATEGORY / CLUSTER	5.MP.4.	Model with mathematics. Correlated Lessons: **Objective 12: Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers of fractions or mixed numbers; e.g., by using visual fraction models or equations to represent the problem.** Interpreting Fractions as Division, page 205 **Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.** Solving Word Problems by Multiplying Fractions, page 229 **Objective 18: Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions; e.g., by using visual fraction models and equations to represent the problem.** Solving Word Problems by Dividing Fractions, page 253
CATEGORY / CLUSTER	5.MP.6.	Attend to precision. Correlated Lessons: **Objective 10: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.** Adding Fractions: Unlike Denominators, page 157; Subtracting Fractions: Unlike Denominators, page 165; Adding and Subtracting Fractions: Unlike Denominators, page 173; Adding Mixed Numbers, page 181; Subtracting Mixed Numbers, page 189 **Objective 11: 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.
Solving Word Problems by Adding/Subtracting Fractions, page 197
Objective 12: Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers of fractions or mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Interpreting Fractions as Division, page 205
Objective 14: Find the area of a rectangle with fractional side lengths and show that the area is the same as would be found by multiplying the side lengths. Multiply to find areas of rectangles, and represent fraction product areas.
Multiplying Mixed Numbers Using Area Models, page 221
Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Solving Word Problems by Multiplying Fractions, page 229
Objective 16: Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
Dividing Fractions, Part II, page 245
Objective 17: Interpret division of a whole number by a unit fraction, and compute such quotients.
Dividing Fractions, Part I, page 237
Objective 18: Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions; e.g., by using visual fraction models and equations to represent the problem.
Solving Word Problems by Dividing Fractions, page 253
Objective 19: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0 .05 m), and use these conversions in solving multi-step, real-world problems.
Converting Measurement Units, page 261
Objective 20: Find the volume of a right rectangular prism with whole-number side lengths. Represent threefold whole-number products as

volumes; e.g., to represent the Associative Property of Multiplication.
Finding Volume, page 269

Objective 21: Apply the formulas V = l × w × h and V = b × 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.
Finding the Volume of Solid Figures Using a Formula, page 277

Objective 22: 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.
Finding the Volume of Solid Figures Using a Formula, page 277

Objective 4: Explain patterns in the number of zero of the product when multiplying a number by powers of 10, placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
Multiplying and Dividing by Powers, page 85

Objective 7: Fluently multiply multi-digit whole numbers using the standard algorithm.
Multiplying Using the Standard Algorithm, page 109

Objective 8: Find quotients of whole numbers with up to four-digit dividends and two-digit divisors, based on place value, the properties of operations, the relationship between multiplication and division. Equations, rectangular arrays, area models.
Dividing Multi-Digit Numbers, page 117

Objective 9: Add, subtract, multiply, and divide decimals to hundredths, based on place value, properties of operations, and/or the relationship between addition and subtraction; explain the reasoning used.
Adding and Subtracting Decimals, page 125; Multiplying Decimals, page 133; Dividing Decimals, page 141; Solving Decimal Word Problems, page 149

CATEGORY / CLUSTER	5.MP.7.	Look for and make use of structure.
		Correlated Lessons:
		Objective 10: Add and subtract fractions with

unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
Adding Fractions: Unlike Denominators, page 157; Subtracting Fractions: Unlike Denominators, page 165; Adding and Subtracting Fractions: Unlike Denominators, page 173; Adding Mixed Numbers, page 181; Subtracting Mixed Numbers, page 189

Objective 11: 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.
Solving Word Problems by Adding/Subtracting Fractions, page 197

Objective 13: Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b.
Multiplying Fractions, page 213

Objective 1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
Using Parentheses, Brackets, and Braces, page 61

Objective 23: Use a pair to define a coordinate system, using an ordered pair. Understand how far to travel from the origin in the direction of one axis, and how far to travel in the direction of the second axis.
Locating and Plotting on a Coordinate Plane, page 285

Objective 24: 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.
Problem Solving with Coordinate Planes, page 293

Objective 2: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
Working with Expressions, page 69

Objective 3: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
Understanding Place Value Relationships, page 77

Objective 5: Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
Comparing Decimals to the Thousandths, page 93
Objective 6: Use place value understanding to round decimals to any place.
Rounding Decimals, page 101

STRAND / DOMAIN	NY.CC.5.OA.	Operations and Algebraic Thinking
CATEGORY / CLUSTER		Write and interpret numerical expressions.
STANDARD	5.OA.1.	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. Correlated Lessons: **Objective 1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.** Using Parentheses, Brackets, and Braces, page 61
STANDARD	5.OA.2.	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8 + 7). Recognize that 3 x (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product. Correlated Lessons: **Objective 2: Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.** Working with Expressions, page 69
STRAND / DOMAIN	NY.CC.5.NBT.	Number and Operations in Base Ten
CATEGORY / CLUSTER		Understand the place value system.
STANDARD	5.NBT.1.	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. Correlated Lessons: **Objective 3: Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it**

represents in the place to its right and 1/10 of what it represents in the place to its left.
Understanding Place Value Relationships, page 77
Objective 5: Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
Comparing Decimals to the Thousandths, page 93
Objective 6: Use place value understanding to round decimals to any place.
Rounding Decimals, page 101
Objective 9: Add, subtract, multiply, and divide decimals to hundredths, based on place value, properties of operations, and/or the relationship between addition and subtraction; explain the reasoning used.
Adding and Subtracting Decimals, page 125; Multiplying Decimals, page 133; Dividing Decimals, page 141; Solving Decimal Word Problems, page 149

STANDARD	5.NBT.2.	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Correlated Lessons:
Objective 4: Explain patterns in the number of zero of the product when multiplying a number by powers of 10, placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
Multiplying and Dividing by Powers, page 85

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:
Objective 9: Add, subtract, multiply, and divide decimals to hundredths, based on place value, properties of operations, and/or the relationship between addition and subtraction; explain the

		reasoning used. Adding and Subtracting Decimals, page 125; Multiplying Decimals, page 133; Dividing Decimals, page 141; Solving Decimal Word Problems, page 149
EXPECTATION	5.NBT.3.b.	Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. Correlated Lessons: **Objective 5: Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.** Comparing Decimals to the Thousandths, page 93
STANDARD	5.NBT.4.	Use place value understanding to round decimals to any place. Correlated Lessons: **Objective 6: Use place value understanding to round decimals to any place.** Rounding Decimals, page 101
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: **Objective 7: Fluently multiply multi-digit whole numbers using the standard algorithm.** Multiplying Using the Standard Algorithm, page 109
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: **Objective 8: Find quotients of whole numbers with up to four-digit dividends and two-digit divisors, based on place value, the properties of operations, the relationship between multiplication and division. Equations, rectangular arrays, area models.**

		Dividing Multi-Digit Numbers, page 117
STANDARD	5.NBT.7.	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
		Correlated Lessons: **Objective 9: Add, subtract, multiply, and divide decimals to hundredths, based on place value, properties of operations, and/or the relationship between addition and subtraction; explain the reasoning used.** Adding and Subtracting Decimals, page 125; Multiplying Decimals, page 133; Dividing Decimals, page 141; Solving Decimal Word Problems, page 149
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.1.	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)
		Correlated Lessons: **Objective 10: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.** Adding Fractions: Unlike Denominators, page 157; Subtracting Fractions: Unlike Denominators, page 165; Adding and Subtracting Fractions: Unlike Denominators, page 173; Adding Mixed Numbers, page 181; Subtracting Mixed Numbers, page 189 **Objective 11: 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.** Solving Word Problems by Adding/Subtracting Fractions, page 197

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 $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.
		Correlated Lessons: **Objective 11: 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.** Solving Word Problems by Adding/Subtracting Fractions, page 197 **Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.** Solving Word Problems by Multiplying Fractions, page 229 **Objective 18: Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions; e.g., by using visual fraction models and equations to represent the problem.** Solving Word Problems by Dividing Fractions, page 253 **Objective 23: Use a pair to define a coordinate system, using an ordered pair. Understand how far to travel from the origin in the direction of one axis, and how far to travel in the direction of the second axis.** Locating and Plotting on a Coordinate Plane, page 285 **Objective 24: 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.** Problem Solving with Coordinate Planes, page 293
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 / 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:
Objective 10: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
Adding Fractions: Unlike Denominators, page 157; Subtracting Fractions: Unlike Denominators, page 165; Adding and Subtracting Fractions: Unlike Denominators, page 173; Adding Mixed Numbers, page 181; Subtracting Mixed Numbers, page 189
Objective 11: 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.
Solving Word Problems by Adding/Subtracting Fractions, page 197
Objective 12: Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers of fractions or mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Interpreting Fractions as Division, page 205
Objective 13: Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b.
Multiplying Fractions, page 213
Objective 14: Find the area of a rectangle with fractional side lengths and show that the area is the

same as would be found by multiplying the side lengths. Multiply to find areas of rectangles, and represent fraction product areas.
Multiplying Mixed Numbers Using Area Models, page 221
Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Solving Word Problems by Multiplying Fractions, page 229

STANDARD	5.NF.4.	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
EXPECTATION	5.NF.4.a.	Interpret the product (a/b) x q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a x q / b. For example, use a visual fraction model to show (2/3) x 4 = 8/3, and create a story context for this equation. Do the same with (2/3) x (4/5) = 8/15. (In general, (a/b) x (c/d) = ac/bd.)

Correlated Lessons:
Objective 13: Interpret the product (a/b) × q as a part of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b.
Multiplying Fractions, page 213
Objective 14: Find the area of a rectangle with fractional side lengths and show that the area is the same as would be found by multiplying the side lengths. Multiply to find areas of rectangles, and represent fraction product areas.
Multiplying Mixed Numbers Using Area Models, page 221
Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Solving Word Problems by Multiplying Fractions, page 229

EXPECTATION	5.NF.4.b.	Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths.

Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

Correlated Lessons:
Objective 13: Interpret the product (a/b) × q as a part of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b.
Multiplying Fractions, page 213
Objective 14: Find the area of a rectangle with fractional side lengths and show that the area is the same as would be found by multiplying the side lengths. Multiply to find areas of rectangles, and represent fraction product areas.
Multiplying Mixed Numbers Using Area Models, page 221
Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Solving Word Problems by Multiplying Fractions, page 229

STANDARD	5.NF.6.	Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Correlated Lessons:
Objective 10: Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
Adding Fractions: Unlike Denominators, page 157; Subtracting Fractions: Unlike Denominators, page 165; Adding and Subtracting Fractions: Unlike Denominators, page 173; Adding Mixed Numbers, page 181; Subtracting Mixed Numbers, page 189
Objective 13: Interpret the product (a/b) × q as a part of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b.
Multiplying Fractions, page 213
Objective 14: Find the area of a rectangle with fractional side lengths and show that the area is the same as would be found by multiplying the side

lengths. Multiply to find areas of rectangles, and represent fraction product areas.
Multiplying Mixed Numbers Using Area Models, page 221
Objective 15: Solve real-world problems involving multiplication of fractions and mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Solving Word Problems by Multiplying Fractions, page 229

STANDARD	5.NF.7.	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.
EXPECTATION	5.NF.7.a.	Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) / 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) / 4 = 1/12 because (1/12) x 4 = 1/3.

Correlated Lessons:
Objective 12: Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers of fractions or mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Interpreting Fractions as Division, page 205
Objective 16: Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
Dividing Fractions, Part II, page 245
Objective 17: Interpret division of a whole number by a unit fraction, and compute such quotients.
Dividing Fractions, Part I, page 237
Objective 18: Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions; e.g., by using visual fraction models and equations to represent the problem.
Solving Word Problems by Dividing Fractions, page 253

EXPECTATION	5.NF.7.b.	Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 / (1/5), and use a visual fraction

model to show the quotient. Use the relationship between multiplication and division to explain that 4 / (1/5) = 20 because 20 x (1/5) = 4.

Correlated Lessons:
Objective 12: Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers of fractions or mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Interpreting Fractions as Division, page 205
Objective 16: Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
Dividing Fractions, Part II, page 245
Objective 17: Interpret division of a whole number by a unit fraction, and compute such quotients.
Dividing Fractions, Part I, page 237
Objective 18: Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions; e.g., by using visual fraction models and equations to represent the problem.
Solving Word Problems by Dividing Fractions, page 253

EXPECTATION 5.NF.7.c.	Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?

Correlated Lessons:
Objective 12: Interpret a fraction as division of the numerator by the denominator. Solve word problems involving division of whole numbers of fractions or mixed numbers; e.g., by using visual fraction models or equations to represent the problem.
Interpreting Fractions as Division, page 205
Objective 16: Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
Dividing Fractions, Part II, page 245 |

Objective 17: Interpret division of a whole number by a unit fraction, and compute such quotients.
Dividing Fractions, Part I, page 237
Objective 18: Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions; e.g., by using visual fraction models and equations to represent the problem.
Solving Word Problems by Dividing Fractions, page 253

STRAND / DOMAIN	NY.CC.5.MD.	Measurement and Data
CATEGORY / CLUSTER		Convert like measurement units within a given measurement system.
STANDARD	5.MD.1.	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems.
		Correlated Lessons: **Objective 19: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0 .05 m), and use these conversions in solving multi-step, real-world problems.** Converting Measurement Units, page 261
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: **Objective 20: Find the volume of a right rectangular prism with whole-number side lengths. Represent threefold whole-number products as volumes; e.g., to represent the Associative Property of Multiplication.** Finding Volume, page 269 **Objective 21: 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.
Finding the Volume of Solid Figures Using a Formula, page 277
Objective 22: 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.
Finding the Volume of Solid Figures Using a Formula, page 277

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:
Objective 20: Find the volume of a right rectangular prism with whole-number side lengths. Represent threefold whole-number products as volumes; e.g., to represent the Associative Property of Multiplication.
Finding Volume, page 269
Objective 21: Apply the formulas V = l × w × h and V = b × 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.
Finding the Volume of Solid Figures Using a Formula, page 277
Objective 22: 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.
Finding the Volume of Solid Figures Using a Formula, page 277

STANDARD	5.MD.4.	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft., and improvised units.

Correlated Lessons:
Objective 20: Find the volume of a right rectangular prism with whole-number side lengths. Represent threefold whole-number products as volumes; e.g., to represent the Associative Property of Multiplication.

Finding Volume, page 269

Objective 21: Apply the formulas V = l × w × h and V = b × 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.

Finding the Volume of Solid Figures Using a Formula, page 277

Objective 22: 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.

Finding the Volume of Solid Figures Using a Formula, page 277

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:

Objective 20: Find the volume of a right rectangular prism with whole-number side lengths. Represent threefold whole-number products as volumes; e.g., to represent the Associative Property of Multiplication.

Finding Volume, page 269

Objective 21: Apply the formulas V = l × w × h and V = b × 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.

Finding the Volume of Solid Figures Using a Formula, page 277

Objective 22: 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.
Finding the Volume of Solid Figures Using a Formula, page 277

EXPECTATION	5.MD.5.b.	Apply the formulas V = l x w x h and V = b x 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: **Objective 20: Find the volume of a right rectangular prism with whole-number side lengths. Represent threefold whole-number products as volumes; e.g., to represent the Associative Property of Multiplication.** Finding Volume, page 269 **Objective 21: Apply the formulas V = l × w × h and V = b × 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.** Finding the Volume of Solid Figures Using a Formula, page 277 **Objective 22: 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.** Finding the Volume of Solid Figures Using a Formula, page 277
STRAND / DOMAIN	NY.CC.5.G.	Geometry
CATEGORY / CLUSTER		Graph points on the coordinate plane to solve real-world and mathematical problems.
STANDARD	5.G.1.	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:
Objective 23: Use a pair to define a coordinate system, using an ordered pair. Understand how far to travel from the origin in the direction of one axis, and how far to travel in the direction of the second axis.
Locating and Plotting on a Coordinate Plane, page 285
Objective 24: 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.
Problem Solving with Coordinate Planes, page 293

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:
Objective 23: Use a pair to define a coordinate system, using an ordered pair. Understand how far to travel from the origin in the direction of one axis, and how far to travel in the direction of the second axis.
Locating and Plotting on a Coordinate Plane, page 285
Objective 24: 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.
Problem Solving with Coordinate Planes, page 293

Standards Correlated to Focused Mathematics Intervention Level 6 21152

New York Core Curriculum

Grade 6

Mathematics

STRAND / DOMAIN	NY.CC.6.RP.	Ratios and Proportional Relationships
CATEGORY / CLUSTER		Understand ratio concepts and use ratio reasoning to solve problems.
STANDARD	6.RP.1.	Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."
		Correlated Lessons: **Objective 1: Understand concept ratio and describe a ratio relationship between two quantities.** Writing Ratios, page 61 **Objective 2: Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.** Using Unit Rates, page 69 **Objective 3: Use ratio and rate reasoning to solve real-world and mathematical problems; e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.** Using Ratios and Rates, page 77
STANDARD	6.RP.2.	Understand the concept of a unit rate a/b associated with a ratio a:b with b not equal to 0, and use rate language in the context of a ratio relationship. For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per

hamburger."

Correlated Lessons:
Objective 2: Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.
Using Unit Rates, page 69
Objective 3: Use ratio and rate reasoning to solve real-world and mathematical problems; e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
Using Ratios and Rates, page 77

STANDARD	6.RP.3.	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

EXPECTATION	6.RP.3.b.	Solve unit rate problems including those involving unit pricing and constant speed. For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?

Correlated Lessons:
Objective 2: Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship.
Using Unit Rates, page 69
Objective 3: Use ratio and rate reasoning to solve real-world and mathematical problems; e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
Using Ratios and Rates, page 77

EXPECTATION	6.RP.3.c.	Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

Correlated Lessons:
Objective 4: Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.
Exploring Percents, page 85; Using Percent, page 93

STRAND / DOMAIN	NY.CC.6.NS.	The Number System
CATEGORY / CLUSTER		Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
STANDARD	6.NS.1.	Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. For example, create a story context for $(2/3) / (3/4)$ and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that $(2/3) / (3/4) = 8/9$ because $3/4$ of $8/9$ is $2/3$. (In general, $(a/b) / (c/d) = ad/bc$.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Correlated Lessons: **Objective 5: Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions; e.g., by using visual fraction models and equations to represent the problem.** Division with Fractions, page 101
CATEGORY / CLUSTER		Compute fluently with multi-digit numbers and find common factors and multiples.
STANDARD	6.NS.3.	Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. Correlated Lessons: **Objective 6: Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.** Operations with Decimals, page 125
STANDARD	6.NS.4.	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express $36 + 8$ as $4 (9 + 2)$. Correlated Lessons: **Objective 17: Apply the properties of operations to**

generate equivalent expressions. Apply the Distributive Property; apply properties of operations to y + y + y to produce the equivalent expression 3y.
Equivalent Expressions, page 181
Objective 7: Find the greatest common factor of whole numbers to 100 and the least common multiple to 12. Use the Distributive Property with a common factor as a multiple of a sum of two whole numbers with no common factor.
Finding the Greatest Common Factor, page109; Least Common Multiple, page 117

CATEGORY / CLUSTER		Apply and extend previous understandings of numbers to the system of rational numbers.
STANDARD	6.NS.5.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. Correlated Lessons: **Objective 8: Understand positive and negative numbers to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.** Graphing Rational Numbers, page 133
STANDARD	6.NS.6.	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.
EXPECTATION	6.NS.6.b.	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. Correlated Lessons: **Objective 12: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include absolute value to find distances between points.** Absolute Value and Distance in the Plane, 149

		Objective 9: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Graphing Rational Numbers, page 133
EXPECTATION	6.NS.6.c.	Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. Correlated Lessons: **Objective 11: Understand absolute value of a rational number as its distance from 0 on the number line and quantity in a real-world situation.** Absolute Value and Distance in the Plane, page 149 **Objective 12: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include absolute value to find distances between points.** Absolute Value and Distance in the Plane, page 149 **Objective 3: Use ratio and rate reasoning to solve real-world and mathematical problems; e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.** Using Ratios and Rates, page 77 **Objective 8: Understand positive and negative numbers to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.** Graphing Rational Numbers, page 133 **Objective 9: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.** Graphing Rational Numbers, page 133
STANDARD	6.NS.7.	Understand ordering and absolute value of rational numbers.
EXPECTATION	6.NS.7.a.	Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret -3 > -7 as a statement

that -3 is located to the right of -7 on a number line oriented from left to right.

Correlated Lessons:
Objective 8: Understand positive and negative numbers to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
Graphing Rational Numbers, page 133

| EXPECTATION 6.NS.7.b. | Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write -3 degrees C > -7 degrees C to express the fact that -3 degrees C is warmer than -7 degrees C. |

Correlated Lessons:
Objective 10: Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write -3 degrees C > -7 degrees C to express the fact that -3 degrees C is warmer than -7 degrees C.
Order of Rational Numbers, page 141

| EXPECTATION 6.NS.7.c. | Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars. |

Correlated Lessons:
Objective 11: Understand absolute value of a rational number as its distance from 0 on the number line and quantity in a real-world situation.
Absolute Value and Distance in the Plane, page 149

| EXPECTATION 6.NS.7.d. | Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars. |

Correlated Lessons:
Objective 11: Understand absolute value of a rational number as its distance from 0 on the number line and quantity in a real-world situation.
Absolute Value and Distance in the Plane, page 149

STANDARD	6.NS.8.	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
		Correlated Lessons: **Objective 12: Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include absolute value to find distances between points.** Absolute Value and Distance in the Plane, 149 **Objective 9: Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.** Graphing Rational Numbers, page 133
STRAND / DOMAIN	NY.CC.6.EE.	Expressions and Equations
CATEGORY / CLUSTER		Apply and extend previous understandings of arithmetic to algebraic expressions.
STANDARD	6.EE.1.	Write and evaluate numerical expressions involving whole-number exponents.
		Correlated Lessons: **Objective 13:Write and evaluate numerical expressions involving whole-number exponents.** Evaluating Expressions with Exponents, page 157 **Objective 16: Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations involving whole-number exponents, in the conventional order.** Evaluating Expressions, page 173
STANDARD	6.EE.2.	Write, read, and evaluate expressions in which letters stand for numbers.
EXPECTATION	6.EE.2.a.	Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 - y.
		Correlated Lessons: **Objective 14: Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 – y.**

Reading and Writing Expressions, page 165
Objective 15: Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.
Reading and Writing Expressions, page 165
Objective 16: Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations involving whole-number exponents, in the conventional order.
Evaluating Expressions, page 173
Objective 17: Apply the properties of operations to generate equivalent expressions. Apply the Distributive Property; apply properties of operations to y + y + y to produce the equivalent expression 3y.
Equivalent Expressions, page 181
Objective 18: Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).
Simplifying Expressions, page 189
Objective 20: Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or depending on the purpose at hand, any number in a specified set.
Writing Expressions for Real-Life Situations, page 197

EXPECTATION 6.EE.2.b.	Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms.

Correlated Lessons:
Objective 14: Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 – y.
Reading and Writing Expressions, page 165
Objective 15: Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.
Reading and Writing Expressions, page 165

Objective 16: Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations involving whole-number exponents, in the conventional order.
Evaluating Expressions, page 173
Objective 17: Apply the properties of operations to generate equivalent expressions. Apply the Distributive Property; apply properties of operations to y + y + y to produce the equivalent expression 3y.
Equivalent Expressions, page 181
Objective 18: Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).
Simplifying Expressions, page 189

EXPECTATION   6.EE.2.c.   Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length $s = 1/2$.

Correlated Lessons:
Objective 16: Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations involving whole-number exponents, in the conventional order.
Evaluating Expressions, page 173
Objective 18: Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).
Simplifying Expressions, page 189
Objective 19: Understand solving an equation or inequality as a process of answering a question: Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
Writing and Solving Addition Equations, page 205; Writing and Solving Multiplication Equations, page 213; Solutions to Inequalities, page 221

STANDARD	6.EE.3.	Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y.
		Correlated Lessons: **Objective 17: Apply the properties of operations to generate equivalent expressions. Apply the Distributive Property; apply properties of operations to y + y + y to produce the equivalent expression 3y.** Equivalent Expressions, page 181 **Objective 18: Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).** Simplifying Expressions, page 189
STANDARD	6.EE.4.	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.
		Correlated Lessons: **Objective 17: Apply the properties of operations to generate equivalent expressions. Apply the Distributive Property; apply properties of operations to y + y + y to produce the equivalent expression 3y.** Equivalent Expressions, page 181 **Objective 18: Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).** Simplifying Expressions, page 189
CATEGORY / CLUSTER		Reason about and solve one-variable equations and inequalities.
STANDARD	6.EE.5.	Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

Correlated Lessons:

Objective 19: Understand solving an equation or inequality as a process of answering a question: Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
Writing and Solving Addition Equations, page 205; Writing and Solving Multiplication Equations, page 213; Solutions to Inequalities, page 221

Objective 21: Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers.
Writing and Solving Addition Equations, page 205; Writing and Solving Multiplication Equations; page 213

Objective 22: Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. inequalities of the form x > c or x < c have infinitely many solutions;
Graphing Inequalities, page 229

STANDARD	6.EE.6.	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

Correlated Lessons:

Objective 14: Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5 – y.
Reading and Writing Expressions, page 165

Objective 15: Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity.
Reading and Writing Expressions, page 165

Objective 16: Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations involving whole-number exponents, in the conventional order.
Evaluating Expressions, page 173

Objective 17: Apply the properties of operations to generate equivalent expressions. Apply the Distributive Property; apply properties of operations

to y + y + y to produce the equivalent expression 3y.
Equivalent Expressions, page 181
Objective 18: Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).
Simplifying Expressions, page 189
Objective 20: Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or depending on the purpose at hand, any number in a specified set.
Writing Expressions for Real-Life Situations, page 197
Objective 21: Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers.
Writing and Solving Addition Equations, page 205; Writing and Solving Multiplication Equations; page 213
Objective 23: Use variables to represent two quantities in a real-world problem that change in relationship. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
Independent and Dependent Variables, page 237; Analyzing Graphs, page 245

STANDARD	6.EE.7.	Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers. Correlated Lessons: **Objective 21: Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q, and x are all nonnegative rational numbers.** Writing and Solving Addition Equations, page 205; Writing and Solving Multiplication Equations; page 213
STANDARD	6.EE.8.	Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x < c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

Correlated Lessons:
Objective 22:Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Inequalities of the form x > c or x < c have infinitely many solutions.
Graphing Inequalities, page 229

CATEGORY / CLUSTER		Represent and analyze quantitative relationships between dependent and independent variables.
STANDARD	6.EE.9.	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.

Correlated Lessons:
Objective 23: Use variables to represent two quantities in a real-world problem that change in relationship. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.
Independent and Dependent Variables, page 237; Analyzing Graphs, page 245

STRAND / DOMAIN	NY.CC.6.G.	Geometry
CATEGORY / CLUSTER		Solve real-world and mathematical problems involving area, surface area, and volume.
STANDARD	6.G.2.	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas V = lwh and V = bh to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

Correlated Lessons:
Objective 25: Find the volume of a right rectangular prism with fractional edge lengths. Apply the formulas V = lwh and V = bh to find volumes of right rectangular prisms with fractional edge lengths in the

		context of solving real-world problems. Unit Volume, page 269
STANDARD	6.G.4.	Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems. Correlated Lessons: **Objective 26: Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.** Surface Area, page 277
STRAND / DOMAIN	NY.CC.6.SP.	Statistics and Probability
CATEGORY / CLUSTER		Develop understanding of statistical variability.
STANDARD	6.SP.3.	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number. Correlated Lessons: **Objective 27: Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.** Mean, Median, Range, page 285 **Objective 28: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.** Interpret Data with Box Plots, page 293 **Objective 29: Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), describing any pattern and any striking deviations from the pattern.** Interpret Data with Box Plots, page 293
CATEGORY / CLUSTER		Summarize and describe distributions.
STANDARD	6.SP.4.	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

Correlated Lessons:
Objective 28: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
Interpret Data with Box Plots, page 293
Objective 29: Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), describing any pattern and any striking deviations from the pattern.
Interpret Data with Box Plots, page 293

STANDARD	6.SP.5.	Summarize numerical data sets in relation to their context, such as by:
EXPECTATION	6.SP.5.c.	Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.

Correlated Lessons:
Objective 27: Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
Mean, Median, Range, page 285
Objective 28: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
Interpret Data with Box Plots, page 293
Objective 29: Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), describing any pattern and any striking deviations from the pattern.
Interpret Data with Box Plots, page 293

Standards Correlated to Focused Mathematics Intervention Level 7 21153

New York Core Curriculum
Grade 7
 Mathematics
 STRAND / DOMAIN NY.CC.7.RP. Ratios and Proportional Relationships

CATEGORY / CLUSTER		Analyze proportional relationships and use them to solve real-world and mathematical problems.
STANDARD	7.RP.1.	Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction 1/2/1/4 miles per hour, equivalently 2 miles per hour.
		Correlated Lessons: **Objective 1: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units.** Unit Rates with Ratios of Fractions, page 61 **Objective 3: Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.** Identifying the Constant of Proportionality, page 77 **Objective 5: Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.** Interpret Graphs of Proportional Relationships, page 93
STANDARD	7.RP.2.	Recognize and represent proportional relationships between quantities.
EXPECTATION	7.RP.2.a.	Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing

whether the graph is a straight line through the origin.

Correlated Lessons:
Objective 2: Decide whether two quantities are in a proportional relationship; e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
Proportional Relationships, page 69
Objective 3: Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
Identifying the Constant of Proportionality, page 77
Objective 4: Represent proportional relationships by equations. For example, if cost t is proportional to n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.
Representing Proportional Relationships with Equations, page 85
Objective 5: Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.
Interpret Graphs of Proportional Relationships, page 93
Objective 6: Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.
Solve Multi-Step Ratio/Percent Problems, page 101

| EXPECTATION   7.RP.2.b. | Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. |

Correlated Lessons:
Objective 4: Represent proportional relationships by equations. For example, if cost t is proportional to n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.
Representing Proportional Relationships with Equations, page 85

| EXPECTATION   7.RP.2.c. | Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of |

items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.

Correlated Lessons:
Objective 4: Represent proportional relationships by equations. For example, if cost t is proportional to n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.
Representing Proportional Relationships with Equations, page 85

| EXPECTATION | 7.RP.2.d. | Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. |

Correlated Lessons:
Objective 2: Decide whether two quantities are in a proportional relationship; e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
Proportional Relationships, page 69
Objective 3: Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
Identifying the Constant of Proportionality, page 77
Objective 5: Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.
Interpret Graphs of Proportional Relationships, page 93

| STANDARD | 7.RP.3. | Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. |

Correlated Lessons:
Objective 6: Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.
Solve Multi-Step Ratio/Percent Problems, page 101

STRAND / DOMAIN	NY.CC.7.NS.	The Number System
CATEGORY / CLUSTER		Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
STANDARD	7.NS.1.	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
EXPECTATION	7.NS.1.a.	Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. Correlated Lessons: **Objective 8: Understand subtraction of rational numbers as adding the additive inverse. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.** Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125
EXPECTATION	7.NS.1.b.	Understand $p + q$ as the number located a distance $|q|$ from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. Correlated Lessons: **Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.** Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149 **Objective 16: Solve multi-step, real-life, and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.** Solve Word Problems with Rational Numbers, page 181; Solve Multi-Step Problems Using Estimation, page 189 **Objective 7: Understand $p + q$ as the number located**

a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums of rational numbers by describing real-world contexts.

Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125

Objective 8: Understand subtraction of rational numbers as adding the additive inverse. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125

Objective 9: Apply properties of operations as strategies to add and subtract rational numbers.

Solving More Problems with Rational Numbers, page 149

EXPECTATION 7.NS.1.c.

Understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

Correlated Lessons:
Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.

Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149

Objective 16: Solve multi-step, real-life, and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.

Solve Word Problems with Rational Numbers, page 181; Solve Multi-Step Problems Using Estimation, page 189

Objective 7: Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums of rational numbers by describing real-world contexts.

Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125

Objective 8: Understand subtraction of rational numbers as adding the additive inverse. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125

Objective 9: Apply properties of operations as strategies to add and subtract rational numbers.
Solving More Problems with Rational Numbers, page 149

EXPECTATION 7.NS.1.d.   Apply properties of operations as strategies to add and subtract rational numbers.

Correlated Lessons:
Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149

Objective 16: Solve multi-step, real-life, and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.
Solve Word Problems with Rational Numbers, page 181; Solve Multi-Step Problems Using Estimation, page 189

Objective 7: Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums of rational numbers by describing real-world contexts.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125

Objective 8: Understand subtraction of rational numbers as adding the additive inverse. Show that the distance between two rational numbers on the number line is the absolute value of their difference,

and apply this principle in real-world contexts.
Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125
Objective 9: Apply properties of operations as strategies to add and subtract rational numbers.
Solving More Problems with Rational Numbers, page 149

STANDARD	7.NS.2.	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.
EXPECTATION	7.NS.2.a.	Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as $(-1)(-1) = 1$ and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.

Correlated Lessons:
Objective 10: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, the Distributive Property, and the rules for multiplying signed numbers.
Multiplying with Rational Numbers, page 133
Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149
Objective 16: Solve multi-step, real-life, and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.
Solve Word Problems with Rational Numbers, page 181; Solve Multi-Step Problems Using Estimation, page 189

EXPECTATION	7.NS.2.b.	Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret

quotients of rational numbers by describing real-world contexts.

Correlated Lessons:
Objective 11: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. Interpret quotients of rational numbers by describing real-world contexts.
Dividing with Rational Numbers, page 141
Objective 12: Apply properties of operations as strategies to multiply and divide rational numbers.
Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149
Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149
Objective 16: Solve multi-step, real-life, and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.
Solve Word Problems with Rational Numbers, page 181; Solve Multi-Step Problems Using Estimation, page 189

EXPECTATION 7.NS.2.c.   Apply properties of operations as strategies to multiply and divide rational numbers.

Correlated Lessons:
Objective 10: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, the Distributive Property, and the rules for multiplying signed numbers.
Multiplying with Rational Numbers, page 133
Objective 11: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. Interpret quotients of rational numbers by describing real-world contexts.

Dividing with Rational Numbers, page 141

Objective 12: Apply properties of operations as strategies to multiply and divide rational numbers.
Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149

Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149

Objective 16: Solve multi-step, real-life, and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.
Solve Word Problems with Rational Numbers, page 181; Solve Multi-Step Problems Using Estimation, page 189

Objective 7: Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums of rational numbers by describing real-world contexts.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125

Objective 8: Understand subtraction of rational numbers as adding the additive inverse. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125

Objective 9: Apply properties of operations as strategies to add and subtract rational numbers.
Solving More Problems with Rational Numbers, page 149

EXPECTATION 7.NS.2.d.   Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

Correlated Lessons:

Objective 13: Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
Converting Rational Numbers to Decimals, page 157

STANDARD	7.NS.3.	Solve real-world and mathematical problems involving the four operations with rational numbers.

Correlated Lessons:
Objective 10: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, the Distributive Property, and the rules for multiplying signed numbers.
Multiplying with Rational Numbers, page 133
Objective 11: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. Interpret quotients of rational numbers by describing real-world contexts.
Dividing with Rational Numbers, page 141
Objective 12: Apply properties of operations as strategies to multiply and divide rational numbers.
Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149
Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149
Objective 16: Solve multi-step real-life and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.
Solve Word Problems with Rational Numbers, page 181; Solve Multi-Step Problems Using Estimation, page 189
Objective 6: Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase

and decrease, percent error.
Solve Multi-Step Ratio/Percent Problems, page 101
Objective 7: Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums of rational numbers by describing real-world contexts.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125
Objective 8: Understand subtraction of rational numbers as adding the additive inverse. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125
Objective 9: Apply properties of operations as strategies to add and subtract rational numbers.
Solving More Problems with Rational Numbers, page 149

STRAND / DOMAIN	NY.CC.7.EE.	Expressions and Equations
CATEGORY / CLUSTER		Use properties of operations to generate equivalent expressions.
STANDARD	7.EE.1.	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. Correlated Lessons: **Objective 15: Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.** Adding, Subtracting, Factoring, and Expanding Linear Expressions, page 165; Linear Expressions Related to Properties of Shapes, page 173
CATEGORY / CLUSTER		Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
STANDARD	7.EE.3.	Solve multi-step, real-life, and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour

gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.

Correlated Lessons:
Objective 10: Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, the Distributive Property, and the rules for multiplying signed numbers.
Multiplying with Rational Numbers, page 133
Objective 11: Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. Interpret quotients of rational numbers by describing real-world contexts.
Dividing with Rational Numbers, page 141
Objective 12: Apply properties of operations as strategies to multiply and divide rational numbers.
Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149
Objective 13: Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
Converting Rational Numbers to Decimals, page 157
Objective 14: Solve real-world and mathematical problems involving the four operations with rational numbers.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125; Multiplying with Rational Numbers, page 133; Dividing with Rational Numbers, page 141; Solving More Problems with Rational Numbers, page 149
Objective 16: Solve multi-step, real-life, and mathematical problems with positive and negative rational numbers in any form. Apply properties of operations to calculate with numbers; convert forms; assess with mental computation and estimation.
Solve Word Problems with Rational Numbers, page 181;

Solve Multi-Step Problems Using Estimation, page 189
Objective 6: Use proportional relationships to solve multi-step ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.
Solve Multi-Step Ratio/Percent Problems, page 101
Objective 7: Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Interpret sums of rational numbers by describing real-world contexts.
Addition with Rational Numbers, page 109; Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125
Objective 8: Understand subtraction of rational numbers as adding the additive inverse. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
Subtracting with Rational Numbers, page 117; Solving Problems with Rational Numbers, page 125
Objective 9: Apply properties of operations as strategies to add and subtract rational numbers.
Solving More Problems with Rational Numbers, page 149

STANDARD	7.EE.4.	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
EXPECTATION	7.EE.4.a.	Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?

Correlated Lessons:
Objective 17: Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations. Compare an algebraic to an arithmetic solution.
Solve Equations Containing One Variable, page 197

EXPECTATION	7.EE.4.b.	Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.
		Correlated Lessons: **Objective 18: Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.** Writing Inequalities to Represent Word Problems, page 205; Write and Graph Inequalities, page 213
STRAND / DOMAIN	NY.CC.7.G.	Geometry
CATEGORY / CLUSTER		Draw, construct, and describe geometrical figures and describe the relationships between them.
STANDARD	7.G.1.	Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.
		Correlated Lessons: **Objective 19: Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.** Solving Problems with Scale Drawings, page 221
STANDARD	7.G.3.	Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.
		Correlated Lessons: **Objective 20: Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.** 2-D Planes in 3-D Figures, page 229
CATEGORY / CLUSTER		Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.
STANDARD	7.G.4.	Know the formulas for the area and circumference of a

circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Correlated Lessons:
Objective 21: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
Area and Circumference of Circles, page 237

STRAND / DOMAIN	NY.CC.7.SP.	Statistics and Probability
CATEGORY / CLUSTER		Use random sampling to draw inferences about a population.
STANDARD	7.SP.1.	Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. Correlated Lessons: **Objective 24: Understand that statistics can be used to gain information about a population by examining a sample of the population; Understand that random sampling tends to produce representative samples and support valid inferences.** Understanding Random Samples, page 261 **Objective 25: Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.** Comparing Data, page 269
STANDARD	7.SP.2.	Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be. Correlated Lessons:

Objective 24: Understand that statistics can be used to gain information about a population by examining a sample of the population; Understand that random sampling tends to produce representative samples and support valid inferences.
Understanding Random Samples, page 261
Objective 25: Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations.
Comparing Data, page 269

CATEGORY / CLUSTER		Investigate chance processes and develop, use, and evaluate probability models.
STANDARD	7.SP.5.	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. Correlated Lessons: **Objective 26: Understand that the probability of a chance event is a number between 0 and 1. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event.** Understanding Probability, page 277 **Objective 27: Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.** Calculating Relative Frequency, page 285 **Objective 28: Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.** Representing Compound Events, page 293
STANDARD	7.SP.6.	Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.

Correlated Lessons:
Objective 27: Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.
Calculating Relative Frequency, page 285

STANDARD	7.SP.8.	Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.
EXPECTATION	7.SP.8.a.	Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

Correlated Lessons:
Objective 28: Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
Representing Compound Events, page 293

EXPECTATION	7.SP.8.b.	Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.

Correlated Lessons:
Objective 28: Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.
Representing Compound Events, page 293

Standards Correlated to Focused Mathematics Intervention Level 8 21154

New York Core Curriculum

Grade 8

 Mathematics

STRAND / DOMAIN	NY.CC.8.NS.	The Number System
CATEGORY / CLUSTER		Know that there are numbers that are not rational, and approximate them by rational numbers.
STANDARD	8.NS.1.	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

Correlated Lessons:
Objective 1: Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
Repeating Decimals, page 61
Objective 2: Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2).
Approximating Irrational Numbers, page 69

STRAND / DOMAIN	NY.CC.8.EE.	Expressions and Equations
CATEGORY / CLUSTER		Work with radicals and integer exponents.
STANDARD	8.EE.1.	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.

Correlated Lessons:
Objective 3: Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3} = 1/33 = 1/27$.
Multiplication and Division with Exponents, page 77
Objective 6: Perform operations in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.
Computing with Scientific Notation, page 109

STANDARD	8.EE.2.	Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that square root of 2 is irrational.

Correlated Lessons:
Objective 4: Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes.
Solving Equations with Squares and Square Roots, page 85; Solving Cubic Equations, page 93

STANDARD	8.EE.3.	Use numbers expressed in the form of a single digit times a whole-number power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3 times 10^8 and the population of the world as 7 times 10^9, and determine that the world population is more than 20 times larger.

Correlated Lessons:
Objective 5: Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.
Scientific Notation, page 101
Objective 6: Perform operations in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.

		Computing with Scientific Notation, page 109
STANDARD	8.EE.4.	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology. Correlated Lessons: **Objective 5: Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.** Scientific Notation, page 101 **Objective 6: Perform operations in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities.** Computing with Scientific Notation, page 109
CATEGORY / CLUSTER		Understand the connections between proportional relationships, lines, and linear equations.
STANDARD	8.EE.5.	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed. Correlated Lessons: **Objective 17: Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.** Linear/Nonlinear, page 173 **Objective 7: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.** Slope and Unit Rate, page 117
STANDARD	8.EE.6.	Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.

Correlated Lessons:

Objective 18: Construct a function to model a linear relationship between quantities. Determine the rate of change, initial value of the function from a description of a relationship or from two values, including reading a table or from a graph.
Writing Linear Functions, page 181; Modeling with Linear Functions, page 189

Objective 34: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.
Interpreting Scatter Plots with Linear Associations, page 293

Objective 7: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.
Slope and Unit Rate, page 117

CATEGORY / CLUSTER		Analyze and solve linear equations and pairs of simultaneous linear equations.
STANDARD	8.EE.7.	Solve linear equations in one variable.
EXPECTATION	8.EE.7.a.	Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).

Correlated Lessons:

Objective 10: Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.
Number of Solutions, page 125; Solving Linear Equations, page 133

Objective 8: Solve linear equations in one variable.
Number of Solutions, page 125; Solving Linear Equations, page 133

Objective 9: Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Successively transforming the equation into simpler forms, until an equivalent

		equation of the form x = a, a = a, or a = b. Number of Solutions, page 125; Solving Linear Equations, page 133
EXPECTATION	8.EE.7.b.	Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. Correlated Lessons: **Objective 10: Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.** Number of Solutions, page 125; Solving Linear Equations, page 133 **Objective 8: Solve linear equations in one variable.** Number of Solutions, page 125; Solving Linear Equations, page 133 **Objective 9: Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Successively transforming the equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b.** Number of Solutions, page 125; Solving Linear Equations, page 133
STANDARD	8.EE.8.	Analyze and solve pairs of simultaneous linear equations.
EXPECTATION	8.EE.8.a.	Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. Correlated Lessons: **Objective 12: Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.** Systems of Equations, page 141; Using Systems of Equations, page 149 **Objective 13: Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.** Systems of Equations, page 141; Using Systems of Equations, page 149

		Objective 14: Solve real-world and mathematical problems leading to two linear equations in two variables. Systems of Equations, page 141; Using Systems of Equations, page 149
EXPECTATION	8.EE.8.b.	Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6. Correlated Lessons: **Objective 11: Analyze and solve pairs of simultaneous linear equations.** Systems of Equations, page 141; Using Systems of Equations, page 149 **Objective 12: Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.** Systems of Equations, page 141; Using Systems of Equations, page 149 **Objective 13: Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.** Systems of Equations, page 141; Using Systems of Equations, page 149 **Objective 14: Solve real-world and mathematical problems leading to two linear equations in two variables.** Systems of Equations, page 141; Using Systems of Equations, page 149
EXPECTATION	8.EE.8.c.	Solve real-world and mathematical problems leading to two linear equations in two variables. For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair. Correlated Lessons: **Objective 14: Solve real-world and mathematical problems leading to two linear equations in two variables.** Systems of Equations, page 141; Using Systems of Equations, page 149

STRAND / DOMAIN	NY.CC.8.F.	Functions
CATEGORY / CLUSTER		Define, evaluate, and compare functions.
STANDARD	8.F.1.	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

Correlated Lessons:
Objective 15: Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
Definition of Function, page 157
Objective 16: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).
Comparing Rates of Change, page 165
Objective 18: Construct a function to model a linear relationship between quantities. Determine the rate of change, initial value of the function from a description of a relationship or from two values, including reading a table or from a graph.
Writing Linear Functions, page 181; Modeling with Linear Functions, page 189

STANDARD	8.F.3.	Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points $(1,1)$, $(2,4)$ and $(3,9)$, which are not on a straight line.

Correlated Lessons:
Objective 17: Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.
Linear/Nonlinear, page 173
Objective 18: Construct a function to model a linear relationship between quantities. Determine the rate of change, initial value of the function from a description of a relationship or from two values, including reading a table or from a graph.
Writing Linear Functions, page 181; Modeling with Linear Functions, page 189

CATEGORY / CLUSTER		Use functions to model relationships between quantities.
STANDARD	8.F.4.	Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. Correlated Lessons: **Objective 17: Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.** Linear/Nonlinear, page 173 **Objective 18: Construct a function to model a linear relationship between quantities. Determine the rate of change, initial value of the function from a description of a relationship or from two values, including reading a table or from a graph.** Writing Linear Functions, page 181; Modeling with Linear Functions, page 189 **Objective 19: Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.** Increasing and Decreasing Functions, page 197 **Objective 34: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.** Interpreting Scatter Plots with Linear Associations, page 293 **Objective 7: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.** Slope and Unit Rate, page 117)
STANDARD	8.F.5.	Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.

Correlated Lessons:

Objective 15: Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.
Definition of Function, page 157

Objective 16: Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).
Comparing Rates of Change, page 165

Objective 19: Describe qualitatively the functional relationship between two quantities by analyzing a graph. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.
Increasing and Decreasing Functions, page 197

Objective 7: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.
Slope and Unit Rate, page 117

STRAND / DOMAIN	NY.CC.8.G.	Geometry
CATEGORY / CLUSTER		Understand congruence and similarity using physical models, transparencies, or geometry software.
STANDARD	8.G.1.	Verify experimentally the properties of rotations, reflections, and translations:
EXPECTATION	8.G.1.a.	Lines are taken to lines, and line segments to line segments of the same length.

Correlated Lessons:

Objective 24: Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations.
Congruent Figures, page 213

Objective 26: Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures.
Similarity, page 229

Objective 27: Use informal arguments to establish facts about the angle sum and exterior angle of

triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.
Angles, Parallel Lines, and Triangles, page 237; Angles and Similar Triangles, page 245

EXPECTATION   8.G.1.b.   Angles are taken to angles of the same measure.

Correlated Lessons:
Objective 24: Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations.
Congruent Figures, page 213
Objective 26: Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures.
Similarity, page 229
Objective 27: Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.
Angles, Parallel Lines, and Triangles, page 237; Angles and Similar Triangles, page 245

EXPECTATION   8.G.1.c.   Parallel lines are taken to parallel lines.

Correlated Lessons:
Objective 24: Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations.
Congruent Figures, page 213
Objective 26: Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures.
Similarity, page 229
Objective 27: Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

Angles, Parallel Lines, and Triangles, page 237; Angles and Similar Triangles, page 245

| STANDARD | 8.G.2. | Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

Correlated Lessons:
Objective 24: Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations.
Congruent Figures, page 213 |

| STANDARD | 8.G.3. | Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

Correlated Lessons:
Objective 25: Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
Transformations with Dilations, page 221 |

| STANDARD | 8.G.4. | Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.

Correlated Lessons:
Objective 24: Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations.
Congruent Figures, page 213
Objective 25: Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
Transformations with Dilations, page 221
Objective 26: Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures. |

		Similarity, page 229
STANDARD	8.G.5.	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so. Correlated Lessons: **Objective 27: Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.** Angles, Parallel Lines, and Triangles, page 237; Angles and Similar Triangles, page 245
CATEGORY / CLUSTER		Understand and apply the Pythagorean Theorem.
STANDARD	8.G.6.	Explain a proof of the Pythagorean Theorem and its converse. Correlated Lessons: **Objective 28: Explain a proof of the Pythagorean Theorem and its converse.** Determining Right Triangles, page 253
STANDARD	8.G.7.	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. Correlated Lessons: **Objective 28: Explain a proof of the Pythagorean Theorem and its converse.** Determining Right Triangles, page 253 **Objective 29: Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.** Using the Pythagorean Theorem, 261 **Objective 30:Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.** Distance Between Two Points, page 269
CATEGORY /		Solve real-world and mathematical problems involving

CLUSTER		volume of cylinders, cones, and spheres.
STANDARD	8.G.9.	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.
		Correlated Lessons: **Objective 31: Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.** Volume of Cylinders, Cones, and Spheres, page 277
STRAND / DOMAIN	NY.CC.8.SP.	Statistics and Probability
CATEGORY / CLUSTER		Investigate patterns of association in bivariate data.
STANDARD	8.SP.1.	Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
		Correlated Lessons: **Objective 32: Construct and interpret scatter plots for bivariate measurement data. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.** Association in Scatter Plots, page 285 **Objective 33: Straight lines are widely used to model relationships between two quantitative variables. For scatter plots n, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.** Interpreting Scatter Plots with Linear Associations, page 293 **Objective 34: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.** Interpreting Scatter Plots with Linear Associations, page 293
STANDARD	8.SP.2.	Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

Correlated Lessons:

Objective 32: Construct and interpret scatter plots for bivariate measurement data. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.
Association in Scatter Plots, page 285

Objective 33: Straight lines are widely used to model relationships between two quantitative variables. For scatter plots n, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
Interpreting Scatter Plots with Linear Associations, page 293

Objective 34: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.
Interpreting Scatter Plots with Linear Associations, page 293

| STANDARD | 8.SP.3. | Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height. |

Correlated Lessons:

Objective 33: Straight lines are widely used to model relationships between two quantitative variables. For scatter plots n, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.
Interpreting Scatter Plots with Linear Associations, page 293

Objective 34: Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.
Interpreting Scatter Plots with Linear Associations, page 293