

The STAR Program

Strategies for Teaching based on Autism Research

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Grades K-4 Math

Relationship Between the Common Core & Common Core Essential Elements and The STAR Program Lessons

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Kindergarten Mathematics Standards: Counting and Cardinality			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Know number names and the count sequence			
K.CC.1. Count to 100 by ones and by tens.			L2/A1, L2/A3 L3/A1, L3/A2
	EEK.CC.1. Starting with one, count to 10 by ones.	Level IV AA Students will: EEK.CC.1. Starting with any number greater than one, count to 10 by ones.	
		Level III AA Students will: EEK.CC.1. Starting with one, count to 10 by ones.	
		Level II AA Students will: EEK.CC.1. Starting with one, count by ones to five. Ex. Count own fingers to five verbally.	
		Level I AA Students will: EEK.CC.1. Count with teacher from one to two. Ex. Count with the teacher to two.	
K.CC.2. Count forward beginning from a given number within the known sequence (instead of having to begin at one).	EEK.CC.2. N/A		
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).	EEK.CC.3. N/A		L2/A12
Count to tell the number of objects			
K.CC.4. Understand the relationship between numbers and quantities; connect counting to cardinality. 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. 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.			L2/A2, L3/A4
	EEK.CC.4. Demonstrate one-to-one correspondence pairing each object with one and only one number and each name with only one object.	Level IV AA Students will: EEK.CC.4. Demonstrates one-to-one correspondence with more than one.	
		Level III AA Students will: EEK.CC.4. Demonstrate one-to-one correspondence pairing each object with one and only one number and each name with only one object.	
		Level II AA Students will: EEK.CC.4. Demonstrate one object's correspondence with one object.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level I AA Students will: EEK.CC.4. With guidance and support, count one object.	
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.			L2/A5
	EEK.CC.5. Count out up to three objects from a larger set, pairing each object with one and only one number name to tell how many.	Level IV AA Students will: EEK.CC.5. Counts five objects out of a group of more than five objects. Counts a given set of five objects, pairing each object with one and only one number name and when asked, “how many”, says five without recounting.	
		Level III AA Students will: EEK.CC.5. Count out up to three objects from a larger set, pairing each object with one and only one number name to tell how many.	
		Level II AA Students will: EEK.CC.5. Counts either one or two objects out of a group of five objects.	
		Level I AA Students will: EEK.CC.5. Identify one object out of a group of objects.	
Compare Numbers			
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.			L3/S3, L2/A5
	EEK.CC.6. Identify whether the number of objects in one group is more or less than (when the quantities are clearly different) or equal to the number of objects in another group.	Level IV AA Students will: EEK.CC.6. Identify whether the number of objects in one group is more or less than or equal to the number of objects in another group.	
		Level III AA Students will: EEK.CC.6. Identify whether the number of objects in one group is more or less (when the quantities are clearly different) or equal to the number of objects in another group.	
		Level II AA Students will: EEK.CC.6. Given two groups of dramatically different quantities of objects, identify which group has more.	
		Level I AA Students will: EEK.CC.6. Explore groups that have more and less.	
KK.CC.7. Compare two numbers between 1 and 10 presented as written numerals.	EEK.CC.7. N/A		L2/A3

Kindergarten Mathematics Standards: Operations and Algebraic Thinking

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from			
K.OA.1. Represent addition and subtraction with objects, fingers, mental images, drawings ¹ , sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.			L3/A5, L3/A6
	EEK.OA.1. Represent addition as “putting together” or subtraction as “taking from” in everyday activities.	Level IV AA Students will: EEK.OA.1. Represent addition as “putting together” and subtraction as “taking from” with quantities to 10.	
		Level III AA Students will: EEK.OA.1. Represent addition as “putting together” or subtraction as “taking from” in everyday activities.	
		Level II AA Students will: EEK.OA.1. Follow directions to “put together” by adding one or “take from” by taking one.	
		Level I AA Students will: EEK.OA.1. “Put together” or “take from” with teacher.	
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.	EEK.OA.2. N/A		L3/A5, L3/A6
K.OA.3. Decompose numbers less than or equal to 10 into pairs in more than one way by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).	EEK.OA.3. N/A		L3/A5, L3/A6
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 equation	EEK.OA.4. N/A		L3/A5, L3/A6
K.OA.5. Fluently add and subtract within 5.	EEK.OA.5. N/A		L3/A5, L3/A6

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Kindergarten Mathematics Standards: Number and Operations in Base Ten			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Work with numbers 11-19 to gain foundations for place value			
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.	EEK.NBT.1. N/A (See EEK.NBT.1.4 and EEK.NBT.1.6)		L3/A5, L3/A6, L3/A2 L3/A3, L2/A2
Kindergarten Mathematics Standards: Measurement and Data			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Describe and compare measurable attributes			
K.MD.1. Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. K.MD.2. Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.			
	EEK.MD.1-3. Classify objects according to attributes (big/small, heavy/light).	Level IV AA Students will: EEK.MD.1-3. Order objects according to attributes (big/smaller/smallest, heavy/lighter/lightest).	L3/E3, L3/S2
Classify objects and count the number of objects in each category			
K.MD.3. Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. ²		Level III AA Students will: EEK.MD.1-3. Classify objects according to attributes (big/small, heavy/light).	L2/R7
		Level II AA Students will: EEK.MD.1-3. Using a model or a template, sort objects by one attribute (big/small or heavy/light).	
		Level I AA Students will: EEK.MD.1-3. Match objects by attribute big and small.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Kindergarten Mathematics Standards: Geometry			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)			
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.			L2/R1, L2/E2 L3/E2
	EEK.G.1. Identify words of proximity to describe the relative position.	Level IV AA Students will: EEK.G.1. Use words referring to frames of reference or demonstrate relative position.	
		Level III AA Students will: EEK.G.1. Identify words of proximity to describe the relative position.	
		Level II AA Students will: EEK.G.1. Respond to spatial words that describe relative position of an object using position terms (e.g., on, in, off).	
		Level I AA Students will: EEK.G.1. Repeat positional words during an activity or lesson in which the teacher demonstrates the relative position of an object.	
K.G.2. Correctly name shapes regardless of their orientations or overall size. K.G.3. Identify shapes as two-dimensional (lying in a plane, "flat"; or three-dimensional, "solid").			L2/E2 (K.G.2)
	EEK.G.2-3. Match two-dimensional shapes (circle, square, triangle).	Level IV AA Students will: EEK.G.2-3. Match two-dimensional shapes that vary in size (circle, square, triangle).	L1/A3 (K.G.3-Level IV)
		Level III AA Students will: EEK.G.2-3. Match two-dimensional shapes (circle, square, triangle).	
		Level II AA Students will: EEK.G.2-3. Match a shape to its duplicate.	
		Level I AA Students will: EEK.G.2-3. Repeat a model to match shapes.	

First Grade Mathematics Standards: Operations and Algebraic Thinking					
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons		
Represent and solve problems involving addition and subtraction					
<p>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.1</p>		<p>Level IV AA Students will: EE1.OA.1.a. Use words like take away, subtract, give, add, more, and same quantity, when putting together and taking apart.</p>	L3/A5, L3/A6 L3/S3		
			<p>Level III AA Students will: EE1.OA.1.a. Use language to describe putting together and taking apart, aspects of addition and subtraction.</p>		
			<p>Level II AA Students will: EE1.OA.1.a. Put together or take away.</p>		
			<p>Level I AA Students will: EE1.OA.1.a. Follow directions to put together or take away an object with a verbal prompt.</p>		
			<p>Level IV AA Students will: EE1.OA.1.b. Create two groups that have the same or equal quantity.</p>	L3/R3, L2/A2	
			<p>Level III AA Students will: EE1.OA.1.b. Recognize two groups that have the same or equal quantity.</p>		
			<p>Level II AA Students will: EE1.OA.1.b. Add one more to a group to make it the same or equal to the other.</p>		
			<p>Level I AA Students will: EE1.OA.1.b. Replicate a group of objects.</p>		
				<p>Level IV AA Students will: EE1.OA.2. Use “putting together” to solve problems using three sets.</p>	L2/A5, L3/S3
				<p>Level III AA Students will: EE1.OA.2. Use “putting together” to solve problems with two sets.</p>	
		<p>Level II AA Students will: EE1.OA.2. Use “putting together” to solve a problem with one set and adding one more.</p>			

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level I AA Students will: EE1.OA.2. Put in an item from a group, using technology or objects.	
First Grade Mathematics Standards: Number and Operations in Base Ten			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Extend the counting sequence			
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.			
	EE1.NBT.1.a. Count by ones.	Level IV AA Students will: EE1.NBT.1.a. Count from 1 - 30 with meaning; cardinality.	L3/A1
		Level III AA Students will: EE1NBT.1.a. Count by ones.	
		Level II AA Students will: EE1.NBT.1.a. Count to 10.	
		Level I AA Students will: EE1.NBT.1.a. Count to two.	
	EE1.NBT.1.b. Count as many as 10 objects and represent the quantity with the corresponding numeral.	Level IV AA Students will: EE1.NBT.1.b. Count up to 20 objects and represent the quantity with a numeral.	L2/A6
		Level III AA Students will: EE1.NBT.1.b. Count as many as 10 objects and represent the quantity with the corresponding numeral.	
		Level II AA Students will: EE1.NBT.1.b. Count as many as five objects and/or represent the quantity with the appropriate numeral.	
		Level I AA Students will: EE1.NBT.1.b. Count up to two objects.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Understand place value			
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: 10 can be thought of as a bundle of ten ones — called a “ten.” The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. 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).	EE1.NBT.2. Create sets of 10	Level IV AA Students will: EE1.NBT.2. Create multiple sets of ten with an odd number of objects (remainders).	L2/A5, L3/A4
		Level III AA Students will: EE1.NBT.2. Create sets of 10.	
		Level II AA Students will: EE1.NBT.2. Create one set of 10 to match another set of 10.	
		Level I AA Students will: EE1.NBT.2. Identify a set of five.	
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 $<$.	EE1.NBT.3. Compare two groups of 10 or fewer items when the quantity of items in each group is similar.	Level IV AA Students will: EE1.NBT.2. Create multiple sets of ten with an odd number of objects (remainders).	L3/A3, L3/S3
		Level III AA Students will: EE1.NBT.3. Compare two groups of 10 or fewer items when the quantity of items in each group is similar.	
		Level II AA Students will: EE1.NBT.2. Create one set of 10 to match another set of 10.	
		Level I AA Students will: EE1.NBT.2. Identify a set of five.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Use place value understanding and properties of operations to add and subtract			
<p>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.</p>			
	<p>EE1.NBT.4. Compose numbers less than or equal to five in more than one way.</p>	<p>Level IV AA Students will: EE1.NBT.4. Compose numbers less than or equal to 10 in more than one way.</p>	L2/A5
		<p>Level III AA Students will: EE1.NBT.4. Compose numbers less than or equal to five in more than one way.</p>	
		<p>Level II AA Students will: EE1.NBT.4. Identify (subitize) sets of one to three objects.</p>	
		<p>Level I AA Students will: EE1.NBT.4. Repeat the number of objects in sets of 1-3 objects.</p>	
<p>1.NBT.5. Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p>	<p>EE1.NBT.5. N/A (See EE1.OA.5.a and EE1.OA.5.b)</p>		
<p>1.NBT.6. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), 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.</p>			
	<p>EE1.NBT.6. Decompose numbers less than or equal to five in more than one way.</p>	<p>Level IV AA Students will: EE1.NBT.6. Decompose numbers less than or equal to 10 in more than one way.</p>	L2/A5
		<p>Level III AA Students will: EE1.NBT.6. Decompose numbers less than or equal to five in more than one way.</p>	
		<p>Level II AA Students will: EE1.NBT.6. Decompose numbers less than or equal to five in one way.</p>	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level I AA Students will: EE1.NBT.6. Identify two sets of the same object (less than five) as they are being decomposed.	
First Grade Mathematics Standards: Measurement and Data			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Measure lengths indirectly and by iterating length units			
1.MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object. 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.			
	EE1.MD.1-2. Use appropriate vocabulary to describe the length of an object using the language of longer/shorter, taller/shorter.	Level IV AA Students will: EE1.MD.1-2. Measure and compare two similar objects aligned at the same starting point, and describe which is longer/shorter, taller/shorter.	L3/E3, L3/S2
		Level III AA Students will: EE1.MD.1-2. Use appropriate vocabulary to describe the length of an object using the language of longer/shorter, taller/shorter.	
		Level II AA Students will: EE1.MD.1-2. With guidance and support, select from two everyday objects based on the stated attribute (long/short, tall/short).	
		Level I AA Students will: EE1.MD.1-2. Explore tall/short objects.	
Tell and write time			
1.MD.3. Tell and write time in hours and half-hours using analog and digital clocks.			
	EE1.MD.3.a. Demonstrate an understanding of the terms "tomorrow, yesterday, and today."	Level IV AA Students will: EE1.MD.3.a. Use the words "today, tomorrow, and yesterday" to refer to personal activities and events.	L3/A8
		Level III AA Students will: EE1.MD.3.a. Demonstrate understanding of the terms "tomorrow, yesterday, and today."	
		Level II AA Students will: EE1.MD.3.a. Indicate understanding of the term "today."	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level I AA Students will: EE1.MD.3.a. Identify an activity that will take place "today."	
	EE1.MD.3.b. Name a day of the week for tomorrow and yesterday.	Level IV AA Students will: EE1.MD.3.b. Using a calendar, recall the seven days of the week and identify the appropriate day for tomorrow and yesterday.	L3/F5, L3/E12
		Level III AA Students will: EE1.MD.3.b. Name a day of the week for tomorrow and yesterday.	
		Level II AA Students will: EE1.MD.3.b. Name a day of the week.	
		Level I AA Students will: EE1.MD.3.b. Identify an activity that is happening today.	
	EE1.MD.3.c. Identify activities that come next, before, and after.	Level IV AA Students will: EE1.MD.3.c. Correctly sequence the activities given the direction to identify what comes next, before, and after in the day's or week's schedule.	L3/E14, L3/R7
		Level III AA Students will: EE1.MD.3.c. Identify activities that come next, before, and after.	
		Level II AA Students will: EE1.MD.3.c. Indicate activities that come next.	
		Level I AA Students will: EE1.MD.3.c. Recognize the next activity.	
	EE1.MD.3.d. Demonstrate an understanding that telling time is the same every day.	Level IV AA Students will: EE1.MD.3.d. Demonstrate an understanding of telling time with a clock or watch related to real-life context.	L3/A8
		Level III AA Students will: EE1.MD.3.d. Demonstrate an understanding that telling time is the same every day.	
		Level II AA Students will: EE1.MD.3.d. Demonstrate an understanding of the use of a clock (time).	
		Level I AA Students will: EE1.MD.3.d. Recognize representations of different parts of the day; morning, noon, and night.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Represent and interpret data			
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.			
	EE1.MD.4. Given a count of the total number of data points in two categories, determine whether there are more or less in each category.	Level IV AA Students will: EE1.MD.4. Collect and count data into at least two categories to answer questions about the total number of data points and whether there are more or less in one category than in another.	L2/R7, L2/A2
		Level III AA Students will: EE1.MD.4. Given a count of the total number of data points in two categories, determine whether there are more or less in each category.	
		Level II AA Students will: EE1.MD.4. Put objects and choices into categories.	
		Level I AA Students will: EE1.MD.4. Participate in data collection by voting or otherwise choosing.	
First Grade Mathematics Standards: Geometry			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Reason with shapes and their attributes			
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. 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.			L2/E1, L3/A17 (1.G.1)
	EE1.G.1. Identify common two-dimensional shapes: square, circle, triangle, and rectangle.	Level IV AA Students will: EE1.G.1-2. Identify attributes of common two-dimensional shapes: square, circle, triangle, and rectangle.	L2/E1, L2/R7 L2/A2 (1.G.2-Level IV)
		Level III AA Students will: EE1.G.1-2. Identify common two-dimensional shapes: square, circle, triangle, and rectangle.	

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Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level II AA Students will: EE1.G.1-2. Match shape to shape	
		Level I AA Students will: EE1.G.1-2. Recognize a shape.	
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.			
	EE1.G.3. Put together two pieces to make a shape that relates to the whole (i.e., two semicircles to make a circle, two squares to make a rectangle).	Level IV AA Students will: EE1.G.3. Demonstrate part and whole terminology understanding.	
		Level III AA Students will: EE1.G.3. Put together two pieces to make a shape that relates to the whole (i.e., two semicircles to make a circle, two squares to make a rectangle).	L2/R1, L3/A17
		Level II AA Students will: EE1.G.3. Put together two pieces.	
		Level I AA Students will: EE1.G.3. Given an inset puzzle or technology equivalent, insert a shape.	

Second Grade Mathematics Standards: Operations and Algebraic Thinking			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Represent and solve problems involving addition and subtraction			
2.OA.1. Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.			
	EE2.OA.1. Add and subtract to solve real world one-step story problems from 0-20 when the result is unknown.	Level IV AA Students will: EE2.OA.1. Add and subtract to solve real world one-step story problems from 0-20 when any number in the problem is unknown (result, start, change, difference).	L3/A5, L3/A6 L3/S3
Add and subtract within 20			
		Level III AA Students will: EE2.OA.1. Add and subtract to solve real world one-step story problems from 0-20 when the result is unknown.	
		Level II AA Students will: EE2.OA.1. Given the equation, add to solve real world one-step story problems from 0-10.	
		Level I AA Students will: EE2.OA.1. Identify the object(s) that appear in the real world one-step story problem.	
2.OA.2. Fluently add and subtract within 20 using mental strategies.5 By end of Grade 2, know from memory all sums of two one-digit numbers.	EE2.OA.2. N/A (See EE2.NBT.7)		
Work with equal groups of objects to gain foundations for multiplication			
2.OA.3. 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 2s; write an equation to express an even number as a sum of two equal addends.			
	EE2.OA.3. Equally distribute even numbers of objects between two groups.	Level IV AA Students will: EE2.OA.3. Determine that a quantity of objects is even or odd by separating them into two groups. that if there are leftovers, the quantity is odd and if the quantity divides evenly, the number is even.	L2/A2, L3/E4
		Level III AA Students will: EE2.OA.3. Equally distribute even numbers of objects between two groups.	
		Level II AA Students will: EE2.OA.3. Separate objects into two groups.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level I AA Students will: EE2.OA.3. Make two groups of two.	
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.			
	EE2.OA.4. Use addition to find the total number of objects arranged within equal groups up to a total of 10.	Level IV AA Students will: EE2.OA.4. Use addition to find the total number of objects arranged within equal groups beyond 10.	L3/A5, L3/S3
		Level III AA Students will: EE2.OA.4. Use addition to find the total number of objects arranged within equal groups up to a total of 10.	
		Level II AA Students will: EE2.OA.4. Recognize that two groups are made up of equal quantities up to a total of less than 10.	
		Level I AA Students will: EE2.OA.4. Differentiate same/different when presented with two objects.	
Second Grade Mathematics Standards: Number and Operations in Base Ten			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Understand place value			
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: <ul style="list-style-type: none"> • 100 can be thought of as a bundle of ten tens — called a “hundred.” • 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). 			
	EE2.NBT.1. Represent numbers through 30 with sets of tens and ones with objects in columns or arrays.	Level IV AA Students will: EE2.NBT.1. Put numbers through 30 into sets of tens and ones with numbers.	
		Level III AA Students will: EE2.NBT.1. Represent numbers through 30 with sets of tens and ones with objects in columns or arrays.	L2/A5

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level II AA Students will: EE2.NBT.1. Indicate that 10 ones equals one 10 and zero ones (base 10).	
		Level I AA Students will: EE2.NBT.1. Demonstrates one-to-one correspondence.	
2.NBT.2. Count within 1000; skip-count by 5s,			
	EE2.NBT.2.a. Count from 1 to 30 (count with meaning; cardinality).	Level IV AA Students will: EE2.NBT.2.a. Count beyond 30 (count with meaning; cardinality)..	
		Level III AA Students will: EE2.NBT.2.a. Count from 1 to 30 (count with meaning; cardinality).	L3/A1, L2/A2
		Level II AA Students will: EE2.NBT.2.a. Count numbers 1 to 20, skipping numbers or repeating.	
		Level I AA Students will: EE2.NBT.2.a. Repeat numbers 1 to 30.	
	EE2.NBT.2.b. Name the next number in a sequence between 1 and 10.	Level IV AA Students will: EE2.NBT.2.b. Count forward beginning from a given number within the known sequence 2 to 10 (instead of having to begin at one).	L2/A1
		Level III AA Students will: EE2.NBT.2.b. Name the next number in a sequence between 1 and 10. E	
		Level II AA Students will: EE2.NBT.2.b. Indicate the higher number in a progression of numbers (with or without gaps).	
		Level I AA Students will: EE2.NBT.2.b. Communicate a number.	
2.NBT.3. Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.			
	EE2.NBT.3. Identify number symbols 1 to 30.	Level IV AA Students will: EE2.NBT.3. Express number symbols beyond 30.	L3/A3
		Level III AA Students will: EE2.NBT.3. Identify number symbols 1 to 30.	
		Level II AA Students will: EE2.NBT.3. Identify number symbols 1-10.	
		Level I AA Students will: EE2.NBT.3.a. Differentiate between numbers and letters.	
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.			

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
	EE2.NBT.4. Compare sets of objects and numbers using appropriate vocabulary (more, less, equal).	Level IV AA Students will: EE2.NBT.4. Compare sets of objects and numbers using appropriate vocabulary as equal or more or less when two or fewer units apart.	L2/A6
		Level III AA Students will: EE2.NBT.4. Compare sets of objects and numbers using appropriate vocabulary (more, less, equal).	
		Level II AA Students will: EE2.NBT.4. Determine equality of sets of objects using appropriate vocabulary (equal).	
		Level I AA Students will: EE2.NBT.4. Match groups of objects.	
<i>Use place value understanding and properties of operations to add and subtract</i>			
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.			
	EE2.NBT.5.a. Identify the meaning of the “+” sign (i.e., combine, plus, add), and the “=” sign (equal).	Level IV AA Students will: EE2.NBT.5.a. Identify the meaning of the “+” sign (i.e., combine, plus, add), the “=” sign (equal), and the “-” sign (minus, take away, less).	L3/A5, L3/A6
		Level III AA Students will: EE2.NBT.5.a. Identify the meaning of the “+” sign (i.e., combine, plus, add), and the “=” sign (equal).	
		Level II AA Students will: EE2.NBT.5.a. Recognize the “+” and “=” signs.	
		Level I AA Students will: EE2.NBT.5.a. Match the “+” and “=” signs. EE2.NBT.5.a. Match the “+” and “=” signs.	
	EE2.NBT.5.b. Using concrete examples, compose and decompose numbers up to 10 in more than one way	Level IV AA Students will: EE2.NBT.5.b. Using numbers or representations, compose and decompose numbers up to 10 in more than one way.	L2/A5
		Level III AA Students will: EE2.NBT.5.b. Using concrete examples, compose and decompose numbers up to 10 in more than one way.	
		Level II AA Students will: EE2.NBT.5.b. Using concrete examples, compose and decompose numbers up to five in at least one way.	
		Level I AA Students will: EE2.NBT.5.b. Recognize that groups of objects can be put together or taken apart.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
<p>2.NBT.6. Add up to four two-digit numbers using strategies based on place value and properties of operations.</p> <p>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.</p>			
	EE2.NBT.6-7. Use objects, representations, and numbers (0-20) to add and subtract.	<p>Level IV AA Students will: EE2.NBT.6-7. Use objects, representations, and numbers beyond 20 to add and subtract.</p>	L3/A5, L3/A6
		<p>Level III AA Students will: EE2.NBT.6-7. Use objects, representations, and numbers (0-20) to add and subtract.</p>	
		<p>Level II AA Students will: EE2.NBT.6-7. Use objects, representations, and numbers (0-10) to add.</p>	
		<p>Level I AA Students will: EE2.NBT.6-7. Count objects 1-10.</p>	
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.	EE2.NBT.8. N/A		N/A
2.NBT.9. Explain why addition and subtraction strategies work, using place value and the properties of operations.6	EE2.NBT.9. N/A		N/A
Second Grade Mathematics Standards: Measurement and Data			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Measure and estimate lengths and standard units			
<p>2.MD.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p>2.MD.2. 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.</p>			

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
	EE2.MD.1. Measure the length of objects using non-standard units.	<p>Level IV AA Students will: EE2.MD.1. Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks, by repeating the use of the measurement tool/unit.</p> <p>Level III AA Students will: EE2.MD.1. Measure the length of objects using non-standard units.</p> <p>Level II AA Students will: EE2.MD.1. Begin to measure from an end point using a non-standard tool.</p> <p>Level I AA Students will: EE2.MD.1. Match objects of like length.</p>	L1/R7
<p>2.MD.3. Estimate lengths using units of inches, feet, centimeters, and meters.</p> <p>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.</p>			
	EE2.MD.3-4. Order by length using non-standard units.	<p>Level IV AA Students will: EE2.MD.3-4. Use non-standard units to measure length of objects (i.e., paperclips, blocks).</p> <p>Level III AA Students will: EE2.MD.3-4. Order by length using non-standard units.</p> <p>Level II AA Students will: EE2.MD.3-4. Compare two non-standard units of length and determine which is shorter and which is longer.</p> <p>Level I AA Students will: EE2.MD.3-4. Compare an item to a model that is shorter or longer.</p>	L3/E3
Relate addition and subtraction to length			
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.			
	EE2.MD.5. Increase or decrease length by adding or subtracting unit(s).	<p>Level IV AA Students will: EE2.MD.5. Increase or decrease length by adding or subtracting multiple units.</p> <p>Level III AA Students will: EE2.MD.5. Increase or decrease length by adding or subtracting unit(s).</p> <p>Level II AA Students will: EE2.MD.5. Increase length by adding a single unit.</p> <p>Level I AA Students will: EE2.MD.5. Compare two objects and determine which is longer.</p>	L3/A4, L3A5

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
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.			
	EE2.MD.6. Use a number line to add one more unit of length.	Level IV AA Students will: EE2.MD.6. Use a number line to add more than one unit of length.	
		Level III AA Students will: EE2.MD.6. Use a number line to add one more unit of length.	
		Level II AA Students will: EE2.MD.6. Count forward on a number line to 10 showing units of length.	L2/A1, L2/A2 L2/A3, L2/A4
		Level I AA Students will: EE2.MD.6. Indicate one more number on a number line and track left to right.	
Work with time and money			
2.MD.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.			
	EE2.MD.7. Indicate the digit that tells the hour on a digital clock.	Level IV AA Students will: EE2.MD.7. Tell time to the hour on a digital and analog clock.	L3/A8
		Level III AA Students will: EE2.MD.7. Indicate the digit that tells the hour on a digital clock.	
		Level II AA Students will: EE2.MD.7. Indicate the relationship between a clock and their daily schedule.	
		Level I AA Students will: EE2.MD.7. Indicate that a clock is used to tell time.	
2.MD.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?			
	EE2.MD.8. Recognize that money has value.	Level IV AA Students will: EE2.MD.8. Recognize that money is used in exchange for goods.	L3/A7
		Level III AA Students will: EE2.MD.8. Recognize that money has value.	
		Level II AA Students will: EE2.MD.8. Sort money from other objects.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Represent and interpret data			
<p>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.</p> <p>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.</p>		<p>Level I AA Students will: EE2.MD.8. Understand that goods (items) have value.</p>	
	EE2.MD.9-10. Create picture graphs from collected measurement data.	<p>Level IV AA Students will: EE2.MD.9-10. Organize, represent, and interpret length/height data using concrete objects to create picture graphs.</p>	
		<p>Level III AA Students will: EE2.MD.9-10. Create picture graphs from collected measurement data.</p>	
		<p>Level II AA Students will: EE2.MD.9-10. Create picture graphs from collected measurement data using model.</p>	
		<p>Level I AA Students will: EE2.MD.9-10. Contribute to data collection.</p>	L2/R7, L2/R1
Second Grade Mathematics Standards: Geometry			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Reason with shapes and their attributes			
<p>2.G.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.7 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.2.G.1. Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.7 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p>			
	EE2.G.1. Describe attributes of two-dimensional shapes.EE2.G.1. Describe attributes of two- dimensional shapes.	<p>Level IV AA Students will: EE2.G.1. Describe mathematical attributes of two- and three-dimensional shapes.E</p>	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level III AA Students will: EE2.G.1. Describe attributes of two-dimensional shapes.	L2/R1, L2/E2 L3/A17
		Level II AA Students will: EE2.G.1. Sort by one attribute (shape).	
		Level I AA Students will: EE2.G.1. Explore shapes with different attributes.	
2.G.2. Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	EE2.G.2. N/A		
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.	EE2.G.3. N/A		

Third Grade Mathematics Standards: Operations and Algebraic Thinking

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Represent and solve problems involving addition and subtraction			
<p>3.OA.1. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5×7.</p> <p>3.OA.2. Interpret whole- number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.</p>			
	EE3.OA.1-2. Use repeated addition and equal groups to find the total number of objects to find the sum.	<p>Level IV AA Students will:</p> <p>EE3.OA.1-2. Use repeated addition to find the total number of objects arranged in a square or rectangular array.</p>	L3/A5, L2/A2 L3/S3
		<p>Level III AA Students will:</p> <p>EE3.OA.1-2. Use repeated addition and equal groups to find the total number of objects to find the sum.</p>	
		<p>Level II AA Students will:</p> <p>EE3.OA.1-2. Use addition to find the total number of objects. Ex. Three apples + four apples = six apples.</p>	
		<p>Level I AA Students will:</p> <p>EE3.OA.1-2. Identify which group has more or less when objects are added or taken away.</p>	
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.	EE3.OA.3. See EE3.OA.1. for repeated addition, a foundational skill for multiplication and division. (Multiplication begins in grade 4 and division begins in grade 5).		
3.OA.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 $8 \times ? = 48$, $5 = _ \div 3$, $6 \times 6 = ?$			
	EE3.OA.4. Solve addition and subtraction problems when result is unknown with number 0-30.	<p>Level IV AA Students will:</p> <p>EE3.OA.4. Solve addition and subtraction problems when any number in the problem is unknown (result, start, change, difference) with numbers to 50</p>	L3/A5, L3/A6 L3/S3

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level III AA Students will: EE3.OA.4. Solve addition and subtraction problems when result is unknown with number 0-30.	
		Level II AA Students will: EE3.OA.4. Solve addition and subtraction problems with numbers 0-10.	
		Level I AA Students will: EE3.OA.4. Identify numbers 1 to 9.	
Understand properties of multiplication and the relationship between multiplication and division			
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.)	EE3.OA.5. N/A (Multiplication begins at grade 4).		
3.OA.6. Understand division as an unknown-factor problem. For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.	EE3.OA.6. N/A (Division begins at grade 5).		
Multiply and divide within 100			
3.OA.7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.	EE3.OA.7. N/A (Multiplication begins grade 4 and division begins in grade 5).		
Solve problems involving the four operations and identify and explain patterns in arithmetic			
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.			L3/A5, L3/S3
	EE3.OA.8. Add to solve real world one-step story problems from 0-30.	Level IV AA Students will: EE3.OA.8. Add to solve real world one-step story problems with sums up to 50 using various problem-solving models.	
		Level III AA Students will: EE3.OA.8. Add to solve real world one-step story problems from 0-30. Represent the problem in pictures or with objects.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level II AA Students will: EE3.OA.8. Add to solve word problems identified through symbol representation.	
		Level I AA Students will: EE3.OA.8. Identify the object(s) that appear in a real world one-step story problem.	
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.			
	EE3.OA.9. Identify arithmetic patterns.	Level IV AA Students will: EE3.OA.9. Complete a complex arithmetic pattern.	
		Level III AA Students will: EE3.OA.9. Identify arithmetic patterns.	
		Level II AA Students will: EE3.OA.9. Identify a pattern.	L3/S3, L3/E3
		Level I AA Students will: EE3.OA.9. Follow patterns.	
Third Grade Mathematics Standards: Number and Operations in Base Ten			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
<i>Use place value understanding and properties of operations to perform multi-digit arithmetic</i>			
3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.			
	EE3.NBT.1. Identify the two 10s a number comes in between on a number line (numbers 0-30).	Level IV AA Students will: EE3.NBT.1. Identify the two 10s a number comes in between and tell which is closest (numbers 0-50).	L3/A4
		Level III AA Students will: EE3.NBT.1. Identify the two 10s a number comes in between on a number line (numbers 0-30).	
		Level II AA Students will: EE3.NBT.1. Identify tens on a number line.	
		Level I AA Students will: EE3.NBT.1. Identify a number.	
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.			

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
	EE3.NBT.2. Identify place value to tens.	Level IV AA Students will: EE3.NBT.2. Identify place value to 50.	
		Level III AA Students will: EE3.NBT.2. Identify place value to tens.	
		Level II AA Students will: EE3.NBT.2. Count to 10 using one-to-one correspondence.	L2/A2
		Level I AA Students will: EE3.NBT.2. Identify more or less.	
3.NBT.3. Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.			
	EE3.NBT.3. Count by tens using money.	Level IV AA Students will: EE3.NBT.3. Compare the value of money based on place value.	L3/A7
		Level III AA Students will: EE3.NBT.3. Count by tens using money.	
		Level II AA Students will: EE3.NBT.3. Identify whole numbers to 10.	
		Level I AA Students will: EE3.NBT.3. Count pennies to 10.	
Third Grade Mathematics Standards: Measurement and Data			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
<i>Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects</i>			
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.			
	EE3.MD.1. Tell time to the hour on a digital clock.	Level IV AA Students will: EE3.MD.1. Tell time to the half hour using a digital clock.	L3/A8
		Level III AA Students will: EE3.MD.1. Tell time to the hour on a digital clock.	
		Level II AA Students will: EE3.MD.1. Identify which is the hour on a digital clock.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
3.MD.2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). ¹² 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. ¹³		Level I AA Students will: EE3.MD.1. Differentiate a digital clock from other measurement tools as a tool for telling time.	
	EE3.MD.2. Identify standard units of measure for mass and liquid.	Level IV AA Students will: EE3.MD.2. Measure liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).	
		Level III AA Students will: EE3.MD.2. Identify standard units of measure for mass and liquid.	
		Level II AA Students will: EE3.MD.2. Select the appropriate tool to measure a solid or a liquid.	L2/R2
		Level I AA Students will: EE3.MD.2. Determine if an object is a solid and a liquid.	
Represent and interpret data			
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			
	EE3.MD.3. Use picture or bar graph data to answer questions about data.	Level IV AA Students will: EE3.MD.3. Interpret data to answer questions.	
		Level III AA Students will: EE3.MD.3. Use picture or bar graph data to answer questions about data.	
		Level II AA Students will: EE3.MD.3. Organize data.	
		Level I AA Students will: EE3.MD.3. Collect data.	L2/R7, L2/R2

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
<p>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.</p>			
Geometric measurement: understand concepts of area and relate to multiplication and to addition			
<p>3.MD.5. Recognize area as an attribute of plane figures and understand concepts of area measurement.</p> <ul style="list-style-type: none"> • A square with side length of 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. • 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. <p>3.MD.6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).</p> <p>3.MD.7. Relate area to the operations of multiplication and addition. 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. 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. the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. applying this technique to solve real world problems. Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</p>	<p>EE3.MD.5-7. N/A (Area begins at grade 6).</p>		
<p>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.</p>	<p>EE3.MD.8. N/A (Perimeter begins at grade 7).</p>		

Third Grade Mathematics Standards: Geometry			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Reason with shapes and their attributes			
<p>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.</p>	<p>EE3.G.1. Recognize that shapes in different categories can share attributes.</p>	<p>Level IV AA Students will: DD3.G.1. Identify the shared attributes of shapes in different categories.</p>	<p>L2/E2, L3/E3 L3/E4</p>
		<p>Level III AA Students will: EE3.G.1. Recognize that shapes in different categories can share attributes.</p>	
		<p>Level II AA Students will: EE3.G.1. Sort shapes by attributes.</p>	
		<p>Level I AA Students will: EE3.G.1. Match shapes (e.g., squares, rectangles, circles, triangles).</p>	
<p>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.</p>	<p>EE3.G.2. Recognize that shapes can be partitioned into equal areas.</p>	<p>Level IV AA Students will: 3.G.2. Given shapes with multiple lines of symmetry, will be able to identify equal areas.</p>	<p>L2/R1, L3/R3 L3/A17</p>
		<p>Level III AA Students will: EE3.G.2. Recognize that shapes can be partitioned into equal areas.</p>	
		<p>Level II AA Students will: EE3.G.2. Create shapes.</p>	
		<p>Level I AA Students will: EE3.G.2. Match shapes.</p>	

Third Grade Mathematics Standards: Number and Operations--Fractions			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Develop understanding of fractions as numbers.			
<p>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 $1/b$.</p> <p>3.NF.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.</p> <ul style="list-style-type: none"> • 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. <p>3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. 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. $= 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram. symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.</p>			
	EE3.NF.1-3. Differentiate a fractional part from a whole.	<p>Level IV AA Students will: EE3.NF.1-3. Identify halves or fourths as related to the whole.</p>	
		<p>Level III AA Students will: EE3.NF.1-3. Differentiate a fractional part from a whole.</p>	L2/R7
		<p>Level II AA Students will: EE3.NF.1-3. Recognize that fractions are part of a whole.</p>	
		<p>Level I AA Students will: EE3.NF.1-3. Identify a whole.</p>	

Fourth Grade Mathematics Standards: Operations and Algebraic Thinking

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Use the four operations with whole numbers to solve problems			
<p>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.</p> <p>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.</p>	<p>EE4.OA.1-2. Demonstrate the connection between repeated addition and multiplication.</p>	<p>Level IV AA Students will: EE4.OA.1-2. Apply repeated addition to solve a multiplication problem represented with numbers.</p>	
		<p>Level III AA Students will: EE4.OA.1-2. Demonstrate the connection between repeated addition and multiplication.</p>	L3/A5
<p>4.OA.3. Solve multistep 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.</p>	<p>EE4.OA.3. Solve one-step word problems using addition or subtraction.</p>	<p>Level II AA Students will: EE4.OA.1-2. Demonstrate repeated addition to sums of 10.</p>	
		<p>Level I AA Students will: EE4.OA.1-2. Make a set of 10 and count to 10.</p>	
		<p>Level IV AA Students will: EE4.OA.3. Solve two-step problems using addition or subtraction when a number in the problem is unknown (result, start, change, difference).</p>	L3/A5, L3/S3
		<p>Level III AA Students will: EE4.OA.3. Solve one-step problems using addition or subtraction.</p>	
		<p>Level II AA Students will: EE4.OA.3. Solve one-step addition or subtraction problems when there is an unknown (result, start, change, difference) up to 10.</p>	
		<p>Level I AA Students will: EE4.OA.3. Add up to five.</p>	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Gain familiarity with factors and multiples			
<p>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.</p>			
	<p>EE4.OA.4. Show one way to arrive at product.</p>	<p>Level IV AA Students will: EE4.OA.4. Show multiple ways to arrive at the same product.</p>	
		<p>Level III AA Students will: EE4.OA.4. Show one way to arrive at a product.</p>	
		<p>Level II AA Students will: EE4.OA.4. Make equal sets and count to determine the product.</p>	L2/A5, L3/S3
		<p>Level I AA Students will: EE4.OA.4. Replicate one way to arrive at a product.</p>	
Generate and analyze patterns			
<p>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.</p>			
	<p>EE4.OA.5. Use repeating patterns to make predictions.</p>	<p>Level IV AA Students will: EE4.OA.5. Create a pattern based on a given rule and their prediction of what comes next.</p>	
		<p>Level III AA Students will: EE4.OA.5. Use repeating patterns to make predictions.</p>	
		<p>Level II AA Students will: EE4.OA.5. Replicate a pattern.</p>	
		<p>Level I AA Students will: EE4.OA.5. Differentiate between a pattern and a non-pattern.</p>	L3/E4, L3/E3

Fourth Grade Mathematics Standards: Number and Operations in Base Ten			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Generalize place value understanding for multi-digit whole numbers			
<p>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 $700 \div 70 = 10$ by applying concepts of place value and division.</p>			
	<p>EE4.NBT.1. Compare numbers to each other based on place value groups by composing and decomposing to 50.</p>	<p>Level IV AA Students will: EE4.NBT.1. Compare numbers to each other based on place value groups by composing and decomposing greater than 50.</p>	
		<p>Level III AA Students will: EE4.NBT.1. Compare numbers to each other based on place value groups by composing and decomposing to 50.</p>	
		<p>Level II AA Students will: EE4.NBT.1. Compose and decompose whole numbers to 20.</p>	L3/A4
<p>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.</p>			
	<p>EE4.NBT.2. Compare whole numbers ($<$, $>$, $=$).</p>	<p>Level IV AA Students will: EE4.NBT.2. Compare whole numbers using symbols ($<$, $>$, $=$).</p>	
		<p>Level III AA Students will: EE4.NBT.2. Compare whole numbers ($<$, $>$, $=$).</p>	
		<p>Level II AA Students will: EE4.NBT.2. Compare whole numbers ($<$, $>$, $=$) from 0-20.</p>	L3/E3, L3/S3
<p>4.NBT.3. Use place value understanding to round multi-digit whole numbers to any place.</p>			
	<p>EE4.NBT.3. Round one- and two-digit whole numbers from 0—50 to the nearest 10</p>	<p>Level IV AA Students will: EE4.NBT.3. Round one- and two-digit numbers, greater than 50, to the nearest 10.</p>	
		<p>Level III AA Students will: EE4.NBT.3. Round single one- and two-digit whole numbers from 0-50 to the nearest 10.</p>	L3/A4, L3/A7
		<p>Level II AA Students will: EE4.NBT.3. Round single one-digit numbers to the nearest 10.</p>	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level I AA Students will: EE4.NBT.3. Identify numbers that are more or less than five on a number line.	
<i>Use place value understanding and properties of operations to perform multi-digit arithmetic</i>			
4.NBT.4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.			
	EE4.NBT.4. Add and subtract double-digit whole numbers.	Level IV AA Students will: EE4.NBT.4. Add and subtract multi-digit whole numbers.	
		Level III AA Students will: EE4.NBT.4. Add and subtract double-digit whole numbers.	
		Level II AA Students will: EE4.NBT.4. Solve addition with numbers 20-50 and subtraction problems with numbers 0-20.	
		Level I AA Students will: EE4.NBT.4. Solve single digit addition problems to add one to another number.	L3/A5
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.	EE4.NF.5. N/A (Decimals begin at grade 7).		
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.			

Fourth Grade Mathematics Standards: Measurement and Data			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects			
<p>4.MD.1. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft. is 12 times as long as 1 in. Express the length of a 4 ft. snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...</p>		<p>Level IV AA Students will: EE4.MD.1. Solve problems by demonstrating whole units can be broken into smaller units.</p>	
		<p>Level III AA Students will: EE4.MD.1. Identify the smaller measurement units that divide a larger unit within a measurement system.</p>	
		<p>Level II AA Students will: EE4.MD.1. Identify standard units of measurements.</p>	
		<p>Level I AA Students will: EE4.MD.1. Use measurement tools.</p>	L3/E3
<p>4.MD.2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.</p>	<p>EE4.MD.2.a. Tell time to the half hour using a digital or to the hour using an analog clock.</p>	<p>Level IV AA Students will: EE4.MD.2.a. Tell time to the quarter hour using a digital or analog clock.</p>	
		<p>Level III AA Students will: EE4.MD.2.a. Tell time to the half hour using a digital clock or to the hour using an analog clock.</p>	L3/A8
		<p>Level II AA Students will: EE4.MD.2.a. Relate time to the hour to activities.</p>	
		<p>Level I AA Students will: EE4.MD.2.a. Differentiate a digital and analog clock from other measurement tools as a tool for telling time.</p>	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
	EE4.MD.2.b. Select the appropriate measurement tool from two related options to solve problems.	Level IV AA Students will: EE4.MD.2.b. Use the appropriate measurement tools to solve problems.	
		Level III AA Students will: EE4.MD.2.b. Select the appropriate measurement tool from two related options to solve problems.	
		Level II AA Students will: EE4.MD.2.b. Select the appropriate measurement tool from two unrelated options to solve problems.	
		Level I AA Students will: EE4.MD.2.b. Identify measurement tools.	L2/R2
	EE4.MD.2.c. Use standard measurement to compare lengths of objects.	Level IV AA Students will: EE4.MD.2.c. Use standard measurements to compare length of objects and indicate how many each is by standard measures.	
		Level III AA Students will: EE4.MD.2.c. Use standard measurement to compare lengths of objects. Ex. Given a pencil and book, mark the length of each on a ruler to tell which is longer.	
		Level II AA Students will: EE4.MD.2.c. Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks.	
		Level I AA Students will: EE4.MD.2.c. Identify items as long or short.	L3/R3, L3/E3
	EE4.MD.2.d. Identify objects that have volume.	Level IV AA Students will: EE4.MD.2.d. Determine volume of a cube by counting units of measure.	
		Level III AA Students will: EE4.MD.2.d. Identify objects that have volume.	
		Level II AA Students will: EE4.MD.2.d. Demonstrate solid or full, empty and part full.	
		Level I AA Students will: EE4.MD.2.d. Identify vocabulary related to volume (full, empty).	L3/R3, L3/E3
	EE4.MD.2.e. Identify coins (penny, nickel, dime, quarter) and their values.	Level IV AA Students will: EE4.MD.2.e. Identify relative value of different collections of coins.	
		Level III AA Students will: EE4.MD.2.e. Identify coins (penny, nickel, dime, quarter) and their values.	L3/A7
		Level II AA Students will: EE4.MD.2.e. Match coins that are alike (penny, nickel, dime, quarter).	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
<p>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.</p>	<p>EE4.MD.3. N/A (Area begins at 6th grade and perimeter begins at 7th grade).</p>	<p>Level I AA Students will: EE4.MD.2.e. Select objects that are used for money.</p>	
<p>Represent and interpret data</p>			
<p>4.MD.4. Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</p>			
	<p>EE4.MD.4.a. Insert data into a preconstructed bar graph template.</p>	<p>Level IV AA Students will: EE4.MD.4.a. Insert data into a graph to represent a data set with a scale equal to 10 (0 to 10 by ones).</p>	
		<p>Level III AA Students will: EE4.MD.4.a. Insert data into a preconstructed bar graph template.</p>	
		<p>Level II AA Students will: EE4.MD.4.a. Identify an appropriate scale for the data set.</p>	
		<p>Level I AA Students will: EE4.MD.4.a. Given a topic, identify appropriate data to collect.</p>	
	<p>EE4.MD.4.b. Interpret data from a variety of graphs to answer questions.</p>	<p>Level IV AA Students will: EE4.MD.4.b. Create their own questions that can be answered by the data on a picture and bar graph.</p>	
		<p>Level III AA Students will: EE4.MD.4.b. Interpret data from a variety of graphs to answer questions.</p>	
		<p>Level II AA Students will: EE4.MD.4.b. Make observational statements about data in a picture and bar graph.</p>	
		<p>Level I AA Students will: EE4.MD.4.b. Demonstrate awareness that symbols may be used to represent objects and events.</p>	<p>L3/A12, L2/E3 L3/E1</p>

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Geometric measurement: understand concepts of angle and measure angles			
<p>4.MD.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:</p> <ul style="list-style-type: none"> • 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 $\frac{1}{360}$ of a circle is called a “one-degree angle,” and can be used to measure angles. • An angle that turns through n one-degree angles is said to have an angle measure of n degrees. 			
	EE4.MD.5. Recognize angles in geometric shapes.	<p>Level IV AA Students will: EE4.MD.5. Label different types of angles in geometric shapes.</p> <p>Level III AA Students will: EE4.MD.5. Recognize angles in geometric shapes. shape on a whiteboard.</p> <p>Level II AA Students will: EE4.MD.5. Identify an angle.</p> <p>Level I AA Students will: EE4.MD.5. Identify shapes that contain angles.</p>	L2/R1, L2/E2
4.MD.6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.			
	EE4.MD.6. Identify angles as larger and smaller.	<p>Level IV AA Students will: EE4.MD.6. Construct angles of various sizes.</p> <p>Level III AA Students will: EE4.MD.6. Identify angles as larger and smaller.</p> <p>Level II AA Students will: EE4.MD.6. Differentiate angles in shapes.</p> <p>Level I AA Students will: EE4.MD.6. Replicate an angle.</p>	L3/A17

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
4.MD.7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	EE4.MD.7. N/A (See EE4.MD.5.)		
Fourth Grade Mathematics Standards: Geometry			
Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
<i>Draw and identify lines and angles and classify shapes by properties of their lines and angles</i>			
4.G.1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.			
	EE4.G.1. Distinguish between parallel and intersecting lines.	Level IV AA Students will: EE4.G.1. Create a representation of parallel and intersecting lines.	
		Level III AA Students will: EE4.G.1. Distinguish between parallel and intersecting lines.	
		Level II AA Students will: EE4.G.1. Identify an intersecting line.	
		Level I AA Students will: EE4.G.1. Identify a line.	L3/A17
4.G.2. Classify two- dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.			
	EE4.G.2. Distinguish between different attributes of shapes (lines, curves, angles).	Level IV AA Students will: EE4.G.2. Classify shapes according to attributes.	
		Level III AA Students will: EE4.G.2. Distinguish between different attributes of shapes (lines, curves, angles).	L2/R1, L2/R7 L3/A17
		Level II AA Students will: EE4.G.2. Identify attributes of geometric shapes.	
		Level I AA Students will: EE4.G.2. Identify curves.	

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
4.G.3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.			
	EE4.G.3. Recognize a line of symmetry in a simple shape.	Level IV AA Students will: EE4.G.3. Locate the line of symmetry in a geometric shape.	
		Level III AA Students will: EE4.G.3. Recognize a line of symmetry in a simple shape.	
		Level II AA Students will: EE4.G.3. Recognize polygons.	L1/A3, L2/E3
		Level I AA Students will: EE4.G.3. Recognize simple shapes (square, triangle, and rectangle). Ex. Identify the shapes of environmental signs.	

Fourth Grade Mathematics Standards: Number and Operations--Fractions

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
Extend understanding of fraction equivalence and ordering			
4.NF.1. Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ 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.			
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.			
	EE4.NF.1-2. Understand $2/4 = 1/2$.	Level IV AA Students will: EE4.NF.1-2. Understand two fractions having unlike denominators are equivalent if they represent the same size portion of a whole.	
		Level III AA Students will: EE4.NF.1-2. Understand $2/4 = 1/2$.	
		Level II AA Students will: EE4.NF.1-2. Understand $4/4$ or $2/2 = 1$.	L2/F8

Relationship Between the Common Core Essential Elements and STAR Lessons and Routines

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
		Level I AA Students will: EE4.NF.1-2. Understand that two halves is equivalent to one whole.	
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers			
4.NF.3. Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$. <ul style="list-style-type: none"> • Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. • 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: $3/8 = 1/8 + 1/8 + 1/8$; $3/8 = 1/8 + 2/8$; $2\ 1/8 = 1 + 1 + 1/8$ • 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. • 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. 			
	EE4.NF.3. Differentiate between whole, half, and fourth.	Level IV AA Students will: EE4.NF.3. Differentiate fractional parts less than $1/4$.	
		Level III AA Students will: EE4.NF.3. Differentiate between whole, half, and fourth.	
		Level II AA Students will: EE4.NF.3. Differentiate between whole and half.	L3/F7, L3/F16
		Level I AA Students will: EE4.NF.3. Recognize that fractions are part of a whole.	

Common Core State Standards Grade Level Standards	Common Core Essential Elements	Instructional Achievement Level Descriptors	Relevant STAR Lessons
<p>4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <ul style="list-style-type: none"> • 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 $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$. • 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 $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In • 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? 	<p>EE4.NF.4. N/A (See EE. 4.OA.1-2.)</p>		
Understand decimal notation for fractions, and compare decimal fractions			
<p>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 100.15 For example, express $3/10$ as $30/100$, and add $3/10 + 4/100 = 34/100$.</p>	<p>EE4.NF.5. N/A (Decimals begin at grade 7).</p>		
<p>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.</p>			
<p>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.</p>			

References

ELA:

National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). Common Core State Standards for English language arts and literacy in history/social studies, science, and technical subjects. Washington, DC: Authors.

Math:

National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). Common Core State Standards for Mathematics. Washington, DC: Authors.