Operations & Algebraic Thinking

Standard	Basic: Conceptual "Understand"	Standard: Procedural "Doing"	Expanded: Application
1.OA.A.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.	In the dog park there were 7 large dogs and 4 small dogs. How many dogs were there all together? 17 children were swimming in the pool. * children got out to eat a snack. How many children were still swimming?	There are a total of 16 bananas and apples in the bowl. If 7 are banana then how many are apples?	There were some turtles on a log. After 7 of them fell back in the water there were still 5 turtles. How many turtles were on the log to begin with? Solve the problem by: a) represent the problem with an addition or subtraction equation using a symbol to represent the unknown number b) use objects or drawings to model the problem and find the solution c) answer the question in a sentence
1.OA.A.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.	Alex had 2 red crayons, 8 blue and 5 yellow. How many crayons did Alex have?	Sam bought three pizzas for the birthday party. There were 4 slices of cheese pizza left, 6 slices of pepperoni and 3 slices of sausage left. How many slices were left all together?	Complete to make the equation true. ____ + _____ + _____ = 14 Find three numbers using 0-9 that equal a sum of 12. How many different ways can you make a sum of 12?

It may be appropriate to read some of the longer problems out loud especially with lower readers

Kids at the Core

Grade 1 Math Question Stem Bank: Common Core State Standards
Standards for Mathematical Practice

1.OA.B.3 Apply properties of operations as strategies to add and subtract.2 *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.)*	Solve. 5 + ___ = 6 + 5 ___ + 3 = 3 + 4	Solve. 8 + 3 + 2 = 10 + ___ Jody has 4 dogs, 6 turtles and 2 cats. How many pets does she have in all? Write an equation that could help you to solve this problem.	At the pet store. There are 9 dogs, 1 cat and 3 fish. How many pets are in the store? What number sentence could you write to match this story problem? Where is 10 in this number sentence? What new number sentence could we write to match what we did?
1.OA.B.4 Understand subtraction as an unknown-addend problem. *For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.* 1.OA.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.	Complete the number bond and write an addition and subtraction equation. _____ + _____ = _____ _____ - _____ = _____	____ + 7 = 12 12 - ____ = 5 How can the above equations help you solve this problem? 12 - ___ = 7	Write an addition and subtraction equation to solve. Ally ate 19 animal crackers. If she ate 8 for lunch how many did she eat for snack?
1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2)	Complete. 1 more than 15 is _____ 1 less than 21 is ____ 5 more than 10 is ____	Cam starting counting "8, 9, 10, 11, 12, 13, 14, 15, 16." What problem could Cam have been solving?	Jake began counting backwards from 19 and counted to 7. Show using a number line the numbers Jake would have counted from 19 to 7.
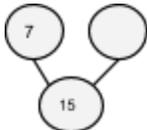
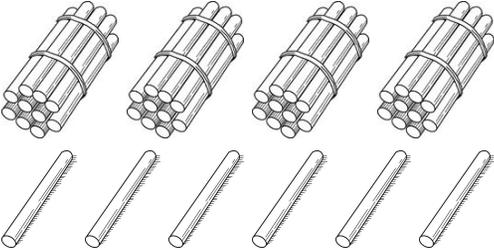** It may be appropriate to read some of the longer problems out loud especially with lower readers*

Kids at the Core

Grade 1 Math Question Stem Bank: Common Core State Standards
Standards for Mathematical Practice

1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten, decomposing a number leading to a ten, using the relationship between addition and subtraction	Provide students with problems to add or subtract within 20. (fluency and use of strategies to solve)	Solve problems and state which strategy you used. (doubles, sums of 10…)	Write an addition problem where doubles strategy is used. Write an addition problem where making 10 strategy can be used.
1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.	3 + 2 = 4 + 1 True False 7 - 4 = 2 + 1 True False 12 = 14 - 1 True False (You could also give students equations and have them circle all that are true.)	Make the number sentence true. 6 + ___ = 7 + 2	Use the following numbers to make two **true** equations. 8 7

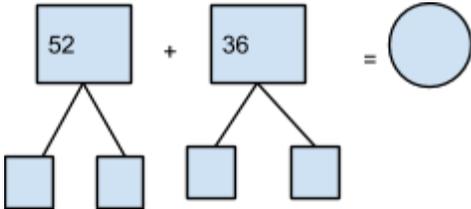**Color boxes indicate question complexity focus range for CCSS**

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Kids at the **Core**

Numbers and Operations in Base Ten

Standard	Basic: Conceptual "Understand"	Standard: Procedural "Doing"	Expanded: Application
1.NBT.A.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.	Write the numbers that come next. 52,___, ____, ____, ____ 92, ___, ____,____, ____ ____, _____, 88, 89, ____	Count backwards. (Continue for at least 10 numbers) Start at 78, 77, 76…. Start at 101,...	Complete the table.
1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:2.A 10 can be thought of as a bundle of ten ones — called a "ten.".2.B The	How many tens and ones? 57= _____tens _____ ones 43= _____ tens _____ ones _____ = 7 tens 4 ones 62= _____ tens 2 ones	 How many all together?_____ Sal bought 40 pieces of gum. If he bought 10 more which number would change to show how many pieces he had now?	Max made a two-digit number with a 4 in the ones place. What possible numbers could Max make?

The table in the Expanded column for 1.NBT.A.1:

			94			98		
		103		105			109	
	112			116				120

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Kids at the Core

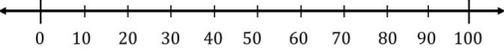|			
numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones..2.C The numbers 10, 20, 30, 40, 50, 60, 70,80, 90 refer to 1 ten, 2 tens….			
1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	Compare the numbers using <,>, =. 67 ◯ 52 23 ◯ 42 54 ◯ 45	Jill had 24 suckers and 26 students in her class. Circle the correct comparisons for this problem. 24 > 26 26 < 24 26 > 24 24 < 26 Does Jill have enough suckers for all the students in her class?	Write three numbers that are greater than 28 and less than 50.
1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit	Break apart the two numbers and add. 52 + 36 = ◯	Colby swam 54 laps on Monday and 32 laps on Tuesday. How many laps did Colby swim all together?	Add. Use pictures, numbers or words to show how you added. 76 + 23 =

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Kids at the **Core**

number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties and realize it is sometimes necessary to compose a ten.			
1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.	Solve. 36 + 10 = 42 - 10 =	Solve using what you know about a hundred chart. 15 ☐ 17 ☐ 26 ☐ ☐ ☐ 37 45 ☐ ☐	Add 10 more or 10 less to complete. _____55 _____ _____ _____ 35____ ____ _____ _____ ____ _____ _____50____

| 1.NBT.C.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. | 70 - 40 =

50 - 30 =

Use base ten blocks to represent the problem and solve.

60 - 20 = | Sam had 80 ants. 60 ants escaped out of the ant farm. How many are left?

 | Show two ways to solve. (number line, base ten blocks, place value)

70 - 20 = |

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Kids at the **Core**

Measurement & Data

Standard	Basic: Conceptual "Understand"	Standard: Procedural "Doing"	Expanded: Application
1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.	Circle the shortest object.	Using the pencil, paper clip and eraser (basic ?) and complete the statements. The _____ is shorter than the_____. The eraser is longer than the_____. The pencil is shorter than the _____.	Draw three different objects or shapes. Then put the in order of their length. Label the objects 1, 2, 3 from shortest to longest.
1.MD.A.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*	Measure the crayon using centimeter cubes.	Provide students with 3 different objects to measure using non-standard units of measurement. Have students measure and compare the lengths shortest to longest.	Ben measured his mom's desk with paper clips and it measured 32 paper clips. Alex measured the same table but it measured 42 paperclips. How could this happen?

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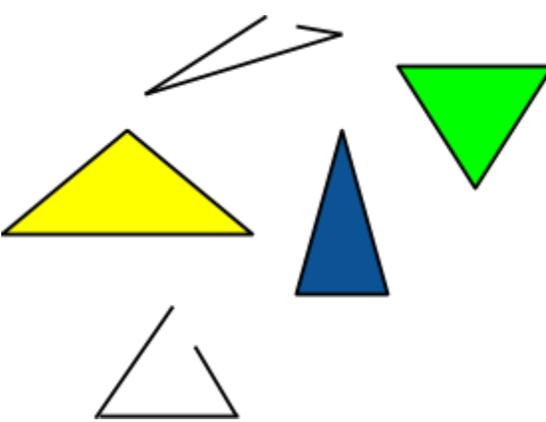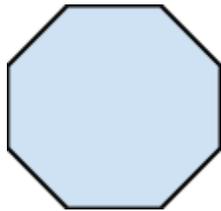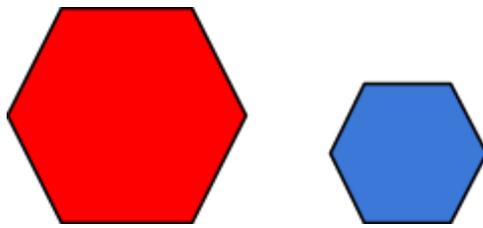
Kids at the **Core**

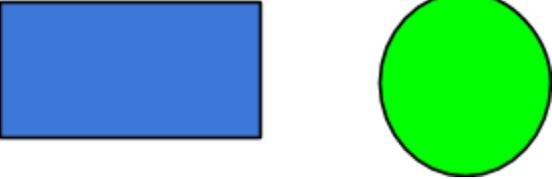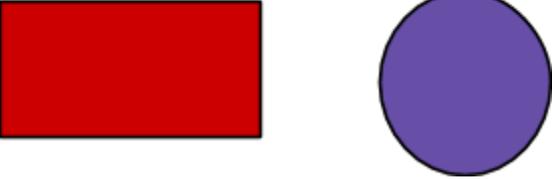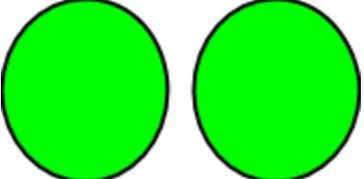|			
measured is spanned by a whole number of length units with no gaps or overlaps.			
1.MD.B.3 Tell and write time in hours and half-hours using analog and digital clocks.	_____	Show 3:30, 12:30 and 6:30 on an analog clock. Circle the clock that shows 12:30. How do you know?	If Max get home between 5:00 and 7:00, what are some possible times he gets home to the nearest hour or half hour?
1.MD.C.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.	How many children's favorite pet was a hamster?_____	Example using graph from basic question. How many more students chose cat as their favorite pet than hamster?_____ How many total students voted?_____ 3 more students chose cat than _____.	Avery bought three flavors of Gatorade for his ball game. He has 15 bottles all together. Create a graph to show his flavors and possible amounts for each flavor.
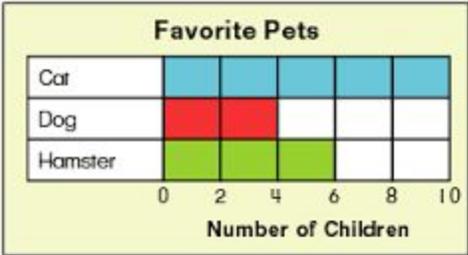
Geometry

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Kids at the Core

Grade 1 Math Question Stem Bank: Common Core State Standards
Standards for Mathematical Practice

Standard	Basic: Conceptual "Understand"	Standard: Procedural "Doing"	Expanded: Application
1.G.A.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.	Circle the triangles below.	Look at the shape. How many sides?_____ How many angles?_____	Callie said all triangles have to be the same size and face the same direction to be a triangle. Do you agree? Give examples to prove your answer. Compare the two shapes. How are they similar and how are they different?
1.G.A.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	Make a shape that has two rectangles and a triangle. You could show students 2D and 3D shapes for them to name.	What new shape can be made putting together 2 trapezoids?	Using tangram pieces make a triangle using 5 of the smallest triangles. Record your shape. Use all your tangram pieces to make a triangle. Record your shape. Use pattern blocks to create a new shape and record. Tell me about your new shape.

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Kids at the Core

cylinders) to create a composite shape, and compose new shapes from the composite shape.			
1.G.A.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.	Partition the shapes into 2 equal parts. Partition the shapes into 4 equal parts.	Show two ways to partition the shape into 2 equal parts. Show two ways to partition the shape into 4 equal parts.	Create a fraction picture or object. Then explain your picture using terms such as fraction, half, whole, fourths, equal pieces or halves. Such as: I made a _____. I used _____. (You could give students colored sticker dots to cut into equal parts and build their picture or object.)

Grade 1 Math Common Core State Standards

Operations & Algebraic Thinking

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Kids at the **Core**

Represent and solve problems involving addition and subtraction.

CCSS.MATH.CONTENT.1.OA.A.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.

CCSS.MATH.CONTENT.1.OA.A.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.

Understand and apply properties of operations and the relationship between addition and subtraction.

CCSS.MATH.CONTENT.1.OA.B.3 Apply properties of operations as strategies to add and subtract.2 *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.)*

CCSS.MATH.CONTENT.1.OA.B.4 Understand subtraction as an unknown-addend problem. *For example, subtract 10 - 8 by finding the number that makes 10 when added to 8.*

Add and subtract within 20.

CCSS.MATH.CONTENT.1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

CCSS.MATH.CONTENT.1.OA.C.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).

Work with addition and subtraction equations.

CCSS.MATH.CONTENT.1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.

CCSS.MATH.CONTENT.1.OA.D.8 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 = _.*

Number & Operations in Base Ten

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Kids at the **Core**

Extend the counting sequence.

CCSS.MATH.CONTENT.1.NBT.A.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.

Understand place value.

CCSS.MATH.CONTENT.1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

CCSS.MATH.CONTENT.1.NBT.B.2.A 10 can be thought of as a bundle of ten ones — called a "ten."

CCSS.MATH.CONTENT.1.NBT.B.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.

CCSS.MATH.CONTENT.1.NBT.B.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).

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

Use place value understanding and properties of operations to add and subtract.

CCSS.MATH.CONTENT.1.NBT.C.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.

CCSS.MATH.CONTENT.1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

CCSS.MATH.CONTENT.1.NBT.C.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.

Measurement & Data

Measure lengths indirectly and by iterating length units.

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Kids at the Core

Standards for Mathematical Practice

CCSS.MATH.CONTENT.1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object.
CCSS.MATH.CONTENT.1.MD.A.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.*

Tell and write time.

CCSS.MATH.CONTENT.1.MD.B.3 Tell and write time in hours and half-hours using analog and digital clocks.

Represent and interpret data.

CCSS.MATH.CONTENT.1.MD.C.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.

Geometry

Reason with shapes and their attributes.

CCSS.MATH.CONTENT.1.G.A.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.
CCSS.MATH.CONTENT.1.G.A.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.
CCSS.MATH.CONTENT.1.G.A.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.

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