KNOX COUNTY SCHOOLS
CURRICULUM & INSTRUCTION DEPARTMENT
CURRICULUM FRAMEWORK

Mathematics – Kindergarten

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Mathematical Practices:
MP.1. Make sense of problems and persevere in solving them.
MP.2. Reason abstractly and quantitatively.
MP.3. Construct viable arguments and critique the reasoning of others.
MP.4. Model with mathematics.
MP.5. Use appropriate tools strategically.
MP.6 Attend to precision.
MP.7. Look for and make use of structure.
MP.8. Look for and express regularity in repeated reasoning.

Literacy Skills for Mathematical Proficiency:
1. Use multiple reading strategies.
2. Understand and use correct mathematical vocabulary.
3. Discuss and articulate mathematical ideas.
4. Write mathematical arguments.

***Major Content standards are indicated with shading.**

Resources that can be used throughout the year:

KCS Math Department Website	http://knoxschools.org/site/Default.aspx?PageID=2932
TN Department of Education Math Standards	https://www.tn.gov/education/article/mathematics-standards
Achieve the Core Coherence Map	http://achievethecore.org/page/1118/coherence-map
Mathematics Common Core Bookmarks	http://commoncore.tcoe.org/search/1/Resources/ac841232-cced-4c8e-8ab2-667dfee99c9a
Engage New York and Eureka Math	https://www.engageny.org/ and https://greatminds.org/store/products/eureka-basic-curriculum
Georgia Department Math Units	https://www.georgiastandards.org/Georgia-Standards/Pages/Math-K-5.aspx
Howard County Open Canvas Course (Go to *Year-at-a-Glance*)	https://hcpss.instructure.com/courses/124
Illustrative Math	https://www.illustrativemathematics.org/
North Carolina Public Schools Tasks	http://commoncoretasks.ncdpi.wikispaces.net/
Grade Levels, Resources, Routines for K-5	http://www.dusd.net/cgi/
Number Talk Powerpoints	https://elementarynumbertalks.wordpress.com/
EduToolbox Task Arcs Click on "Tennessee Tools" at the bottom. Go to Mathematics > Instructional Resources and select the task arc for your grade level.	edutoolbox.org Some of the task arcs are locked and you will need to sign in to access them. In order to get a login, when prompted, select "Create New Account". You will need to use the TNCore login credentials to verify your permission: Username- tneducation Password- fastestimproving You will then receive an email with a link to set up your profile.

Module 1: Counting and Cardinality, Numbers 0-5	Suggested Time: Approx. 6 weeks

TEACHER CONTENT KNOWLEDGE

Module Overview: In this module students will be taught the foundational skills of counting and cardinality. Students will gain in depth knowledge of numbers 0-5. Students will grow their knowledge through different skills. These skills will include; one to one correspondence, counting objects and telling how many, writing the numerals 0-5, comparing groups of objects, and decomposing numbers.

The following videos are a great place to start before teaching this module. These will give you background knowledge and visual examples of how the standards should be taught in your grade level.

Graham Fletcher Early Number and Counting Video

https://gfletchy.com/progression-videos/

See *Number Sense Trajectory*: https://gfletchy.files.wordpress.com/2016/08/number-trajectory.pdf

Pre-Requisite Skills and Knowledge: None

Vocabulary: number, counting, numeral, one to one correspondence, greater than, less than, compare, equal to, order, decompose, number words (zero, one, two, three, four, and five)

Fluency Practice Daily

Review Pre-Kindergarten standards:

- PK.CC.1 Listen to and say the names of numbers in many contexts.
- PK.CC.2 Verbally count forward in sequence from 1-30.
- PK.CC.3 Understand the relationships between numerals, names of numbers and quantities up to 10 (includes subitizing- the ability to look at a quantity and say the quantity (1-4) quickly just by looking).

Optional Resource:

- Choral Counting (See *Illustrative Math K.CC Choral Counting*)
- Number Talks with dot cards counters, 5 frames, and/or Rekenreks/Number Racks (see table on Pg. 2)

Standards	Question Stems and Prompts	Teacher Friendly Notes	Activities/ Resources
Counting and Cardinality **Know number names and the counting sequence.** **K.CC.A.1** Count to 100 by ones, fives, and tens. Count backward from 10. **K.CC.A.2** Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	Where can we find numbers in the real world? **K.CC.A.1 & 2** Count forward beginning at___. What number comes next? How do you know?	**K.CC.A.1 & 2** Counting should be reinforced throughout the day, not in isolation. For example, count the number of chairs of the students who are absent. Count the number of stairs, backpacks, etc.	*The following resources are a menu of ideas you may choose from to meet the needs of your students.* **Ready Math from Curriculum Associates** Unit 1

K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20. **Count to tell the number of objects.** **K.CC.B.4** Understand the relationship between numbers and quantities; connect counting to cardinality. **K.CC.B.4a** When counting objects, say the number names in the standard order, using one-to-one correspondence. **K.CC.B.4b** Recognize 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. **K.CC.B.4c** Recognize that each successive number name refers to a quantity that is one greater. **K.CC.B.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.	**K.CC.A.3** Count objects and write the number. Match the written number to the correct number of objects. **K.CC.B.4** How many objects are there? How many objects would you have if I gave you one more? How do you know? **K.CC.B.5** Count objects in a random/ scattered configuration, in a line, an array, a ten frame, and dot patterns. Show a number 0-5. Have the student count that many objects and tell how many. State a number 0-5. Have student show the number. How do you know?	**K.CC.A.3** Students write the numerals 0-5 and use the written numerals 0-5 to represent the amount within a set. Students can record the quantity of a set by selecting a number card/tile (numeral recognition) or writing the numeral. **K.CC.B.4** Learning to count is a complex mental and physical activity that requires relating **objects** distributed in space (or in time) to words said over time. Kindergarten students should be able to count a set of objects and see sets and numerals in relationship to one another, rather than as isolated concepts. * Emphasis on zero as a quantity will be necessary. **K.CC.B.5** In order to answer "how many?" students need to keep track of objects when counting. Keeping track is a method of counting that is used to count each item once and only once when determining how many.	**Engage NY**: Modules- 1: Topics B-D/G/H 3: Topic E/G 4: Topic A **Georgia Math Units** (see table on Pg. 2) Unit 1 Unit 2 Unit 3 **Howard County** (see table on Pg. 2) Year-at-a-Glance **Illustrative Mathematics Counting Routines** (illustrativemathematics.org) Choral Counting Counting Circles **There are many math tasks available on Illustrative Mathematics for this module.** Activity: The teacher will need a 100 chart or large number line and a pointer. As a whole group, have students chant the counting sequence starting with zero to five, using the pointer to follow the number sequence. Number Talks (see table on Pg. 2)

Compare Numbers **K.CC.C.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. **K.CC.C.7** Compare two given numbers up to 10, when written as numerals, using the terms greater than, less than, or equal to. **<u>Operations and Algebraic Thinking</u>** **Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.** **K.OA.A.3** Decompose numbers less than or equal to 10 into addend pairs in more than one way,(e.g., 5 = 2 + 3 and 5 = 4 + 1), by using objects or drawings. Record each decomposition using a drawing or writing an equation.	**K.CC.C.6 & 7** Which number (or group) is greater or less? How do you know? Make a group of objects less than (or more than or equal to) a given group. (Numbers or groups need to be less than 5) **K.OA.A.3** How can we decompose these numbers? Using drawing. Using two different colored crayons (i.e. green and yellow), draw 5 circles. How many green circles did you make? How many yellow? Record that. Now can you make two different groups? Using objects. There are four blocks. Using these blocks make two groups. How many is in the first group? How many is in the second group? Record that. Now can you make two different groups?	**K.CC.C.6** Students need a strong sense of the relationship between quantities and numerals to accurately compare groups and answer related questions. **K.OA.A.3** In this module, instruction should focus on how students are decomposing numbers into parts. Objects and drawings are most appropriate at this point in the year.	Counting Cubes, various objects for counting Rekenreks Dot Images/ Subitizing Cards/ Number Cards Five Frames Number Bonds Stories and Songs

KNOX COUNTY SCHOOLS
CURRICULUM & INSTRUCTION DEPARTMENT
CURRICULUM FRAMEWORK
Mathematics – Grade 1

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MP.8. Look for and express regularity in repeated reasoning

Literacy Skills for Mathematical Proficiency:
1. Use multiple reading strategies.
2. Understand and use correct mathematical vocabulary.
3. Discuss and articulate mathematical ideas.
4. Write mathematical arguments.

***Major Content standards are indicated with shading.**

Resources that can be used throughout the year:

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Achieve the Core Coherence Map	http://achievethecore.org/page/1118/coherence-map
Mathematics Common Core Bookmarks	http://commoncore.tcoe.org/search/1/Resources/ac841232-cced-4c8e-8ab2-667dfee99c9a
Engage New York and Eureka Math	https://www.engageny.org/ and https://greatminds.org/store/products/eureka-basic-curriculum
Georgia Department Math Units	https://www.georgiastandards.org/Georgia-Standards/Pages/Math-K-5.aspx
Howard County Open Canvas Course (Go to *Year-at-a-Glance*)	https://hcpss.instructure.com/courses/9414
Illustrative Math	https://www.illustrativemathematics.org/
North Carolina Public Schools Tasks	http://commoncoretasks.ncdpi.wikispaces.net/
Grade Levels, Resources, Routines for K-5	http://www.dusd.net/cgi/
Number Talk Powerpoints	https://elementarynumbertalks.wordpress.com/
EduToolbox Task Arcs Click on "Tennessee Tools" at the bottom. Go to Mathematics > Instructional Resources and select the task arc for your grade level.	edutoolbox.org Some of the task arcs are locked and you will need to sign in to access them. In order to get a login, when prompted, select "Create New Account". You will need to use the TNCore login credentials to verify your permission: Username- tneducation Password- fastestimproving You will then receive an email with a link to set up your profile.

Module 1: Operations and Algebraic Thinking- Count, Add and Subtract	Suggested Time: Approx. 5 weeks

TEACHER CONTENT KNOWLEDGE

Module Overview: Students develop strategies for adding and subtracting whole numbers based on their prior work with small numbers. They use a variety of models, including **physical objects** (e.g. counters, beans, rekenrek, cubes etc.) and **length-based models** (e.g., cubes connected to form lengths) to develop meaning for the operations of addition and subtraction, and to develop strategies to solve arithmetic problems with these operations.

- add- to
- take-from
- put-together
- take-apart
- compare situations

Students understand connections between counting and addition and subtraction (e.g., adding two is the same as counting on two). They use properties of addition to add whole numbers and to create and use increasingly sophisticated strategies based on these properties (e.g., "making tens") to solve addition and subtraction problems within 20. By comparing a variety of solution strategies, children build their understanding of the relationship between addition and subtraction.

- Associative $(3 + 5) + 2 = 3 + (5 + 2)$
- Commutative $3 + 5 = 5 + 3$
- Distributive $15 + 3 = (10 + 5) + 3$

Pre-Requisite Skills and Knowledge:

Count up to 10 objects, interpret a number sentence, understand addition as putting things together, add and subtract within 5, represent addition and subtraction using physical models and number sentences, count on to add, count on to subtract, add and subtract within 10, model addition and subtraction problems with number sentences, add and subtract within word problems, and find the missing addend.

Vocabulary: compare, fewer, more, subtract, addend, total, number bond, count on, count back, subtract, subtraction sentence, count on, add, addition sentence, commutative property of addition, number path, tape diagram/bar model, total, difference, related facts, decompose numbers, put together, take apart, missing number, equation, number sentence, unknown addend, make 10, associative property, symbol, sum, equal, greater than, less than, plus sign, minus sign, equal sign, comparing (+, -, =, <, >)

Fluency Practice Daily

Module 1: Review Kindergarten fluency of the following standards.

- K.CC.A.1 Count to 100 **by ones, fives, and tens.** Count backward from 10.
- K.CC.A.2 Count forward **beginning from a given number** within the known sequence **(instead of having to begin at 1)**.
- K.CC.A.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20.
- K.CC.C.7 Compare two given numbers up to 10, when written as numerals, using the terms greater than, less than, or equal to
- K.OA.A.5 Fluently add and subtract **within 10** using mental strategies.
- K.MD.B.3 Identify the penny, nickel, dime, and quarter and recognize the value of each. ***(you can connect counting by 1s, 5s, & 10s throughout the year by referring to pennies, nickels, and dimes.)

Optional Resource:

- Choral Counting (See Illustrative Math 1.NBT Choral Counting)
- Number Talks (see table on Pg. 2)

Standards	Question Stems and Prompts	Teacher Friendly Notes	Activities/ Resources
1.OA.C.5 Add and subtract within 20 using strategies such as **counting on**, counting back, making 10, using fact families and related known facts, and composing/decomposing numbers with an emphasis on making ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9 or adding 6 + 7 by creating the known equivalent 6 + 4 + 3 = 10 + 3 = 13).	**1.OA.C.5** How can you make a ten to solve? Are there any numbers you could add to make it easier to solve? Are there any related facts that will help solve this problem? Can you solve this problem in more than 1 way? How did you solve this problem? Count on to find the sum. Count back to find the difference. How could you solve this number sentence?	The following videos are a great place to start before teaching this module. These will give you background knowledge and visual examples of how the standards should be taught in your grade level. Watch these with your team and make notes about big understandings and strategies you should expose your students to. Graham Fletcher Progression of Addition and Subtraction Video https://gfletchy.com/progression-videos/ **Essential strategies to teach during this module:** ● Use manipulatives to ○ add-to problems ○ take from ○ put together/take apart ○ compare using contextual problems (see tables below)	*The following resources are a menu of ideas you can choose from to meet the needs of your students.* **Ready Math from Curriculum Associates** Unit 1 **Georgia Math Unit 3** (see table on Pg. 2) **Howard County Resources-** (see table on Pg. 2) https://hcpss.instructure.com/courses/9414/pages/grade-1-year-at-a-glance *scroll down the page and click on the standard you are teaching to pull up lessons, centers, and assessments*

1.OA.A.1
Add and subtract within 20 to solve contextual problems, with unknowns in all positions, involving situations of add to, take from, put together/take apart, and
compare. Use objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.B.4
Understand subtraction as an unknown-addend problem. For example, to solve 10 – 8 = ___, a student can use 8 + ___ = 10.

1.OA.A.1
Draw a picture to solve this problem?
Explain how you got your answer.
Use a number line to solve this problem.
Use manipulatives to solve this problem.
Write a number sentence for this word problem.

1.OA.B.4
What addition equation could help you solve this problem?
How did you find the answer?
Can you add on (count on) to solve this equation?

Add to Problems

Result Unknown	Change Unknown	Start Unknown
Chris has 11 toy cars. José gave him 5 more. How many does Chris have now? *General Case:* $A + B = \square$.	Bill had 5 toy robots. His mom gave him some more. Now he has 9 robots. How many toy robots did his mom give him? *General Case:* $A + \square = C$.	Some children were playing on the playground, and 5 more children joined them. Then there were 12 children. How many children were playing before? *General Case:* $\square + B = C$.

Take From

Result Unknown	Change Unknown	Start Unknown
There were 20 oranges in the bowl. The family ate 5 oranges from the bowl. How many oranges are left in the bowl? *General Case:* $C - B = \square$.	Andrea had 8 stickers. She gave some stickers away. Now she has 2 stickers. How many stickers did she give away? *General Case:* $C - \square = A$.	Some children were lining up for lunch. Four (4) children left, and then there were 6 children still waiting in line. How many children were there before? *General Case:* $\square - B = A$.

Put Together/Take Apart

Total Unknown	Addend Unknown	Both Addends Unknown
There are 6 blue blocks and 7 red blocks in the box. How many blocks are there? *General Case:* $A + B = \square$.	Roger puts 10 apples in a fruit basket. Four (4) are red and the rest are green. How many are green? *General Cases:* $A + \square = C$. $C - A = \square$.	Grandma has 9 flowers. How many can she put in her green vase and how many in her purple vase? *General Case:* $C = \square + \square$.

Compare

Difference Unknown	Bigger Unknown	Smaller Addends Unknown
Pat has 9 peaches. Lynda has peaches. How many more peaches does Lynda have than Pat? *General Cases:* $A + \square = C$. $C - A = \square$.	Theo has 7 action figures. Rosa has 2 more action figures than Theo. How many action figures does Rosa have? *General Case:* $A + B = \square$.	Bill has 8 stamps. Lisa has 2 fewer stamps than Bill. How many stamps does Lisa have? *General Case:* $C - B = \square$. $\square + B = C$.

- Use models
  - Number lines to count on and count back
  - Number bonds
  - Tape diagram/bar diagram
  - Ten frames

Discuss how to use these different strategies to solve a problem.

Engage NY:
https://www.engageny.org
Module 1 (Topics B, C, D, G, & H)
Module 4 (Topic E)
Module 6 (Topics A & F)

Illustrative Mathematics Counting Routines
(illustrativemathematics.org)
Choral Counting
Counting Circles

There are many math tasks available on Illustrative Mathematics for this module.

KNOX COUNTY SCHOOLS
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CURRICULUM FRAMEWORK

Mathematics – Grade 2

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Mathematical Practices:
MP.1. Make sense of problems and persevere in solving them.
MP.2. Reason abstractly and quantitatively.
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MP.5. Use appropriate tools strategically.
MP.6 Attend to precision.
MP.7. Look for and make use of structure.
MP.8. Look for and express regularity in repeated reasoning

Literacy Skills for Mathematical Proficiency:
1. Use multiple reading strategies.
2. Understand and use correct mathematical vocabulary.
3. Discuss and articulate mathematical ideas.
4. Write mathematical arguments.

***Major Content standards are indicated with shading.**

Resources that can be used throughout the year:

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Mathematics Common Core Bookmarks	http://commoncore.tcoe.org/search/1/Resources/ac841232-cced-4c8e-8ab2-667dfee99c9a
Engage New York and Eureka Math	https://www.engageny.org/ and https://greatminds.org/store/products/eureka-basic-curriculum
Georgia Department Math Units	https://www.georgiastandards.org/Georgia-Standards/Pages/Math-K-5.aspx
Howard County Open Canvas Course (Go to *Year-at-a-Glance*)	https://hcpss.instructure.com/courses/106
Illustrative Math	https://www.illustrativemathematics.org/
North Carolina Public Schools Tasks	http://commoncoretasks.ncdpi.wikispaces.net/
Grade Levels, Resources, Routines for K-5	http://www.dusd.net/cgi/
Number Talk Powerpoints	https://elementarynumbertalks.wordpress.com/
EduToolbox Task Arcs Click on "Tennessee Tools" at the bottom. Go to Mathematics > Instructional Resources and select the task arc for your grade level.	edutoolbox.org Some of the task arcs are locked and you will need to sign in to access them. In order to get a login, when prompted, select "Create New Account". You will need to use the TNCore login credentials to verify your permission: Username- tneducation Password- fastestimproving You will then receive an email with a link to set up your profile.

Module 1: Operations and Algebraic Thinking	Suggested Time: Approx. 8 weeks

TEACHER CONTENT KNOWLEDGE

Module Overview: Although students have learned the two types of equations addition and subtraction, they will be moving from abstract thinking into concrete thinking. Students will become fluent adding and subtracting within 30. Students will begin skip counting by 5s, 10s, and 100s up to 1000. Students will use this knowledge to assist them in the next module where they will be adding and subtracting two and three- digit numbers up to 1000.

Pre-Requisite Skills and Knowledge:

- understand addition as putting together and adding to, and understand subtraction as taking apart and taking from
- fluently add and subtract within 20
- represent and solve problems involving addition and subtraction

First grade mental strategies:

- Counting on: *I started at 9 and then counted 5 more. I landed on 14.*
- Making ten or decomposing a number leading to a ten: *I know that 9 and 1 is 10, so I broke 5 into 1 and 4. 9 plus 1 is 10. Then I have to add 4 more, which is 14.*
- Using the relationship between addition and subtraction: *I know that 9 plus 4 equals 13. So 13 minus 9 is 4.*
- Creating an easier problem: *Instead of 13 minus 9, I added 1 to each of the numbers to make the problem 14 minus 10. I know the answer is 4. So 13 minus 9 is also 4.* Or *I know 6 plus 7 because 6 plus 6 is twelve. Since 7 is one more than 6, 6 plus 7 is one more than 12. The answer is 13.*

Vocabulary: part, whole, in all, missing part, compare, plus, addition sentence, subtraction sentence, minus, separate, more, fewer, related, join, sum, difference, fact family, add, addend, subtract, equation, equal sign, even numbers, odd numbers, array, row, column, doubles, near doubles, number sentence, mental math, skip counting

Fluency Practice Daily

- 1.OA.C.6 Fluently add and subtract within 20 using mental strategies. By the end of 1st grade, know from memory all sums up to 10.
- 1.NBT.A.1 Count to 120, starting at any number. Read and write numerals to 120 and represent a number of objects with a written numeral. Count backward from 20.
- 1.NBT.C.5 Mentally find 10 more or 10 less than a given two-digit number without having to count by ones and explain the reasoning used.

Optional Resource:

- Choral Counting (See *Illustrative Math 2.NBT Choral Counting*)
- Number Talks with dot cards counters, 5 frames, and/or Rekenreks/Number Racks (see table on Pg. 2)

Standards	Question Stems and Prompts	Teacher Friendly Notes	Activities/ Resources
<u>Operations and Algebraic Thinking</u> **Represent and solve problems involving addition and subtraction.** **2.OA.A.1** Add and subtract within 100 to solve one- and two-step contextual problems, with unknowns in all positions, involving situations of add to, take from, put together/take apart, and compare. Use objects, drawings, and equations with a symbol for the unknown number to represent the problem. **Add and subtract within 20.** **2.OA.B.2** Fluently add and subtract within 30 using mental strategies. By the end of 2nd grade, know from memory all sums of two one-digit numbers and related subtraction facts. [1]See Glossary, Table 1. [2]Strategies include: Counting on, making ten, using fact families, creating easier or known sums (example; making doubles)	Summarize the story problem and tell it to your partner in your own words. Draw an illustration for the word problem. What do the parts of your drawing mean? How do you know? Are we trying to find the total, a part, or are we comparing? Does your answer make sense? What does your answer tell us about the story/word? **2.OA.B.2** Add using two different strategies. Explain your thinking. Subtract and explain your strategy. What was your total? How do you know? If you had _____ and subtracted _____ from it what would you have left over? What is the total (sum) when you add _____ and _____?	The following videos are a great place to start before teaching this module. These will give you background knowledge and visual examples of how the standards should be taught in your grade level. Graham Fletcher Progression of Addition and Subtraction Video https://gfletchy.com/progression-videos/ **Essential strategies to teach during this module:** Add to Problems Result Unknown: Chris has 11 toy cars. José gave him 5 more. How many does Chris have now? *General Case:* $A + B = \square$. Change Unknown: Bill had 5 toy robots. His mom gave him some more. Now he has 9 robots. How many toy robots did his mom give him? *General Case:* $A + \square = C$. Start Unknown: Some children were playing on the playground, and 5 more children joined them. Then there were 12 children. How many children were playing before? *General Case:* $\square + B = C$. Take From Result Unknown: There were 20 oranges in the bowl. The family ate 5 oranges from the bowl. How many oranges are left in the bowl? *General Case:* $C - B = \square$. Change Unknown: Andrea had 8 stickers. She gave some stickers away. Now she has 2 stickers. How many stickers did she give away? *General Case:* $C - \square = A$. Start Unknown: Some children were lining up for lunch. Four (4) children left, and then there were 6 children still waiting in line. How many children were there before? *General Case:* $\square - B = A$. Compare Difference Unknown: Pat has 9 peaches. Lynda has peaches. How many more peaches does Lynda have than Pat? *General Cases:* $A + \square = C$. $C - A = \square$. Bigger Unknown: Theo has 7 action figures. Rosa has 2 more action figures than Theo. How many action figures does Rosa have? *General Case:* $A + B = \square$. Smaller Addends Unknown: Bill has 8 stamps. Lisa has 2 fewer stamps than Bill. How many stamps does Lisa have? *General Case:* $C - B = \square$. $\square + B = C$.	*The following resources are a menu of ideas you may choose from to meet the needs of your students.* **Ready Math from Curriculum Associates** Unit 1- Lessons 1-6 **EngageNY** Module 1: Topics A-B Module 4: Topic F **Georgia Math Units** (see table on pg. 2) Unit 2 **Howard County** (see table on Pg. 2) *scroll down the page and click on the standard you are teaching to pull up lessons, centers, and assessments*

Number and Operations in Base Ten **Understand place value.** **2.NBT.A.2** Count within 1000. Skip-count within 1000 by 5s, 10s, and 100s, starting from any number in its skip counting sequence.	**2.NBT.A.2** Count forward starting at _____. Skip count forward by 2s starting at 0. (Teacher can change the number students are counting by as well as the number where students start counting) Point to a number on the hundred chart. Skip count by 10s starting at that number. Skip count by 2s for 2 minutes on paper. A student is skip counting by 5s. What will the pattern look	**2.OA.A.1** In grade two students add and subtract numbers within 100 in the context of one- and two-step word problems. By second grade students have had prior experiences working with various problem situations (add to, take from, put together, take apart, and compare) with unknowns in all positions (result unknown, change unknown, and start unknown). It is important for students to represent the problem situations with drawings and equations. **2.OA.B.2** In grade two students extend their fluency with addition and subtraction from within 30. Second graders internalize facts and develop fluency by using strategies often that make sense to them. When students are able to demonstrate fluency, they are accurate, efficient, and flexible. **2.NBT.A.2** Skip counting can reinforce students' place value understanding and lays a foundation for multiplication. Second graders must learn to count in multiple ways without visual support.	**EngageNY** Module 3 **Georgia Math Units** (see table on pg. 2) Unit 1 **Illustrative Mathematics Counting Routines** (illustrativemathematics.org) Choral Counting Counting Circles Pick a Number Counting Red and Blue Tiles Buttons Odd and Even Counting Dots in Arrays

Operations and Algebraic Thinking **Work with equal groups of objects to gain foundations for multiplication.** **2.OA.C.3** Determine whether a group of objects (up to 20) has an odd or even number of members by pairing objects or counting them by 2s. Write an equation to express an even number as a sum of two equal addends. **2.OA.C.4** Use repeated 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.	like if this person continues to skip count? **2.OA.C.3** Is this number even or odd? How do you know? Is this group of objects even or odd? How do you know? What will happen if one or more objects are added to this group? Would the groups of objects be odd or even? When you add these two numbers together is your sum/total even or odd? **2.OA.C.4** Draw _ rows with _ dots in each row. How many dots do you have? Draw an addition equation to show how you got your answer? Create an array to match 2 +2+2+2. How many rows does this array have? How many columns does this array have?	**2.OA.C.3** Second graders apply the concept of doubles to the concept of odd and even numbers. Students should have ample experiences exploring the concept that if a numbers can be decompsosed into two equal addends or doubles addition facts, then that number is an even number. Students should explore with concrete objects and pictorial representations such as circles or arrays. **2.OA.C.4** Second grade students use rectangular arrays to work with repeated addition, a building block for multiplication in grade three, using concrete objects as well as pictorial representations or arrays.	**EngageNY** Module 6:Topics A-B, D **Howard County** (see table on Pg. 2) *scroll down the page and click on the standard you are teaching to pull up lessons, centers, and assessments* https://hcpss.instructure.com/courses/106/pages/2-dot-nbt-dot-a-2-assessment-tasks • Anchor Charts found in math resources. • T-Chart to compare even and odd numbers • CUBES Strategy found in math resources. **Georgia Math Units** (see table on pg. 2) Unit 6https://www.engageny.org/resource/grade-2-mathematics-module-3-topic-b-lesson-3