

**COMMON  
CORE**

**Eureka Math: A Story of Units**

**Major Work of the Grade Band**  
K-2: Addition and Subtraction

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**Session Objectives**

Examine how addition and subtraction are introduced and developed in A Story of Units.

Study the computation methods used in the primary years to solve addition and subtraction problems.

- Level 1: Counting All
- Level 2: Counting On
- Level 3: Convert to an Easier Problem

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### Curriculum Map for A Story of Units

Grade	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10
K	Counting On and Subtracting Within 5	Counting On and Subtracting Within 10	Counting On and Subtracting Within 20	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100
1	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100
2	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100	Counting On and Subtracting Within 100

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### AGENDA

Kindergarten: Addition and Subtraction, Counting All

Grade 1: Addition and Subtraction, Counting On and Converting to an Easier Problem

Grade 2: Addition and Subtraction, Converting to an Easier Problem

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### The Beginning of A Story of Units in Kindergarten

By the end of Kindergarten, students will:

- Fluently add and subtract within 5 (K.OA.5)
- Represent and Solve Addition and Subtraction Word Problems with Totals to 10 (K.OA.1 and 2)
- Decompose numbers less than or equal to 10 (K.OA.3)
- For any number 1-9 find the number that makes 10 (K.OA.4)
- Compose and decompose numbers from 11-19 as 10 ones and some ones (K.NBT.1)

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### Kindergarten – Foundations to Addition and Subtraction

#### Level One - Counting All

Students need to know:

- Number words in sequence
- Number recognition
- 1:1 correspondence
- Cardinality



Concrete-pictorial-abstract

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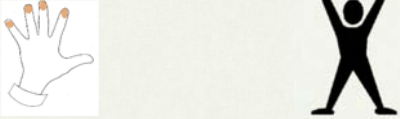
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### Kindergarten – Fluency

#### Counting All



linear array circular scattered




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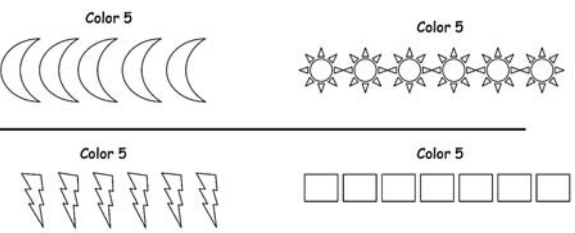
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### Kindergarten – Foundations for Counting On



Color 5

Color 5

Color 5

Color 5

Kindergarten – Module 1 Lesson 19

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### Kindergarten – Foundations for Counting On

1. Counting on the Say Ten Way
2. Counting on the Regular Way

<http://www.engageny.org/resource/common-core-video-series-kindergarten-mathematics-double-10-frames>



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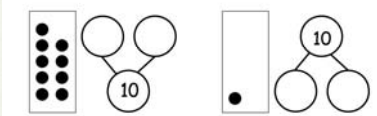
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### Kindergarten – Make Ten

Draw dots to make 10. Fill in the number bond.



Draw enough  to make 10.



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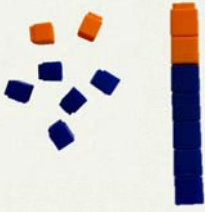
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### Kindergarten – Models Number Towers

- Concrete representation
- Often called sticks (e.g., 5-stick) or trains (horizontal)



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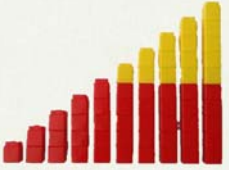
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### Kindergarten – Models Number Towers

- Number stairs show pattern of 1 more and 1 less (K.CC.4)
- Color change at 5 (K.OA.5)



The image shows a series of ten number towers. Each tower is composed of two colors: red and yellow. The first five towers are entirely red and increase in height by one unit each, representing the sequence 1, 2, 3, 4, 5. The last five towers are entirely yellow and decrease in height by one unit each, representing the sequence 4, 3, 2, 1, 0. This visualizes the concept of '1 more and 1 less' and the transition from red to yellow at the number 5.

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### Kindergarten – Models Number Towers

- Decompositions of numbers within 10 (K.OA.3)



The image shows five horizontal number towers, each representing the number 5. Each tower is composed of five blocks. The blocks are colored orange and yellow to illustrate different decompositions of the number 5. The decompositions are as follows:

	$5 = 5 + 0$
	$5 = 4 + 1$
	$5 = 3 + 2$
	$5 = 2 + 3$
	$5 = 1 + 4$

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### Kindergarten – Video Number Towers

<http://www.engageny.org/resource/numbers-through-10-number-towers-number-path-number-bond>



The image shows a simple line drawing of a video camera mounted on a tripod. The camera is positioned in the bottom right corner of the slide, indicating that there is a video resource available for this topic.

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**Kindergarten**  
**Problem Type Number Bonds**

$5 = \underline{\quad} + \underline{\quad}$        $3 + 2 = \underline{\quad}$        $5 - 3 = \underline{\quad}$

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**Kindergarten – Story Problems**

and  make

Kindergarten – Module 4 – Lesson 1

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**Kindergarten – Story Problems**

Cross out the bears to match the number sentence.

**6 - 1 = 5**

Kindergarten – Module 4 – Lesson 20

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### Kindergarten – Assessment

Student Name: \_\_\_\_\_

	Date 1	Date 2	Date 3
Topic E			
Topic F			
Topic G			
Topic H			

Topic E: Working with Numbers 6–8 in Different Configurations

Rubric Score: \_\_\_\_\_ Time Elapsed: \_\_\_\_\_

Materials: (5) 10 linking cubes (or other familiar classroom object)

T: Please count 6 linking cubes and put them in a row. (Pause.) Write the numeral 6.  
 T: (Arrange 7 cubes in a circular configuration.) Please count the cubes. (Pause.) Write the numeral 7. Show me the 5-group that's hiding in this group of cubes.  
 T: (Arrange 8 cubes into an array of 4 and 4.) How many cubes are there now? (Pause.) How did you know there were that many?

What did the student do?	What did the student say?
1.	
2.	

Kindergarten – Module 1 – Topic E

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### A Continuation of A Story of Units in Grade 1

By the end of Grade 1, students will:

- Fluently add and subtract within 10 (1.OA.6)
- Add and subtract within 20 (1.OA.6)
- Use addition and subtraction within 20 to solve word problems (1.OA.1)
- Add within 100 (1.NBT.4)
- Subtract multiples of 10 in the range of 10 through 90 (1.NBT.6)

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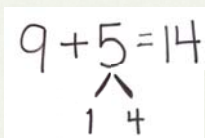
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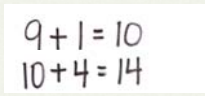
### Foundational Skills for Grade 1

- Partners to ten (K.OA.4)
- Decompositions for all numbers within 10 (K.OA.3)
- Representations of teen numbers as  $10 + n$  (K.NBT.1 and 1.NBT.2b)



$$9 + 5 = 14$$

$$\begin{array}{c} \wedge \\ 1 \quad 4 \end{array}$$



$$9 + 1 = 10$$

$$10 + 4 = 14$$

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### Grade 1 – Level 2: Counting On

- Use embedded numbers.
- Find decompositions of 6, 7, 8, 9, and 10.
- Solve addend unknown/change unknown problems.
- Understand the meaning of subtraction as it relates to addition.



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### Grade 1 – Embedded Numbers and Decomposition Bridge to Counting On



Grade 1 – Module 1 – Lesson 6

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### Grade 1 – Fluency: Decompositions

Target Practice

Directions: Choose a target number between 6 and 10 and write it in the middle of the circle on the top of the page. Roll a die. Write the number rolled in the circle at the end of one of the arrows. Then make a bullseye by writing the number needed to make your target in the other circle.

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### Grade 1 – Counting On: Add to with Change Unknown

- Counting on to solve add to with change unknown math stories.

Once upon a time, 3 little bears went to play tag in the forest. Then some more bears came over. In the end, there were 5 little bears playing tag in the woods altogether. How many bears came to play?



Grade 1 – Module 1 – Lesson 11

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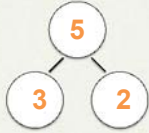
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### Grade 1 – Counting On: Relate Subtraction to Addition

- Understanding the meaning of subtraction as it relates to addition



$3 + \underline{\quad} = 5$   
 $5 - 3 = \underline{\quad}$



Grade 1 – Module 1 – Lesson 25

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### Grade 1 – Models Number Path



- $7 + \underline{\quad} = 8$      $8 - 7 = \underline{\quad}$
- $2 + \underline{\quad} = 9$      $9 - 2 = \underline{\quad}$
- $8 + \underline{\quad} = 9$      $9 - 8 = \underline{\quad}$



Grade 1 – Module 1 – Lessons 26 and 27

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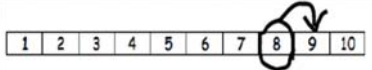
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### Grade 1 – Models Number Path

When solving  $9 - 8 = \underline{\quad}$  on the number path, which strategy is more efficient? Counting on or counting back?

$8 + \underline{\quad} = 9$



$9 - 8 = \underline{\quad}$



Grade 1 – Module 1 – Lessons 26 and 27

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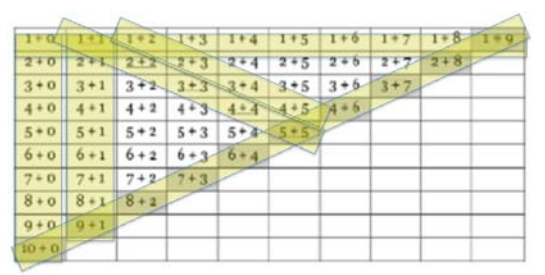
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### Grade 1 – Addition Chart




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### Grade 1 – Addition and Subtract within 10


A

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Number correct: 

\*Write the missing number from each subtraction sentence. Pay attention to the + and - signs.

1	$9 + 1 = \square$	16	$10 - 7 = \square$
2	$1 + 9 = \square$	17	$10 = 7 + \square$
3	$10 - 1 = \square$	18	$10 = 3 + \square$
4	$10 - 9 = \square$	19	$10 = 6 + \square$
5	$10 + 0 = \square$	20	$10 = 4 + \square$
6	$0 + 10 = \square$	21	$10 = 5 + \square$
7	$10 - 0 = \square$	22	$10 - \square = 5$
8	$10 - 10 = \square$	23	$5 = 10 - \square$
9	$8 + 2 = \square$	24	$6 = 10 - \square$
10	$2 + 8 = \square$	25	$7 = 10 - \square$




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### Grade 1 – Level 3: Convert to an Easier Problem

Level 1: Count all




$9 + 6 = 15$

Level 2: Count on



$9 + 6 = 15$

Level 3: Decompose an addend to compose ten



$9 + 6 = 15$

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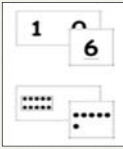

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### Grade 1 – Fluency Focus on $10 + n$

<http://www.engageny.org/resource/nti-november-2012-rigor-breakdown-counting-exercises-for-k-1>

- Happy Counting: the Say Ten Way
- Tens and Ones
- Hide Zero Number Sentences

Rekenrek
Hide Zero Cards

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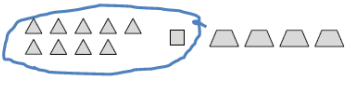
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### Grade 1 – Convert to an Easier Problem Make Ten





$9 + 1 + 4 = 14$



$1 + 4 + 9 = \underline{\quad}$

Grade 1 – Module 2 – Lessons 1 and 2

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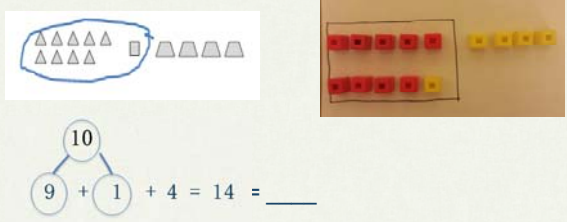
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Grade 1 – Convert to an Easier Problem  
Make Ten



$9 + 1 + 4 = 14 = \underline{\quad}$

Grade 1 – Module 2 – Lessons 3-10

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Grade 1 – Convert to an Easier Problem  
Make Ten

Now You Try!

$9 + 3 = \underline{\quad}$        $5 + 9 = \underline{\quad}$

$8 + 3 = \underline{\quad}$        $7 + 8 = \underline{\quad}$



Grade 1 – Module 2 – Lessons 3-10

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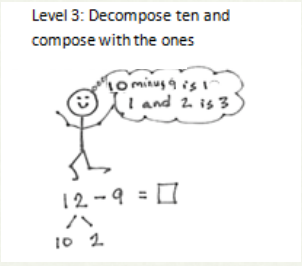
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Grade 1 – Convert to an Easier Problem  
Take from Ten

Level 3: Decompose ten and compose with the ones



$12 - 9 = \square$

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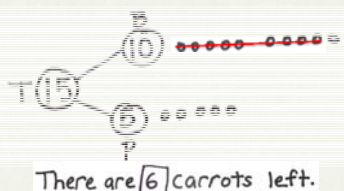
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**Grade 1 – Convert to an Easier Problem  
Take from Ten**

Bailey Bunny has 15 carrots. 10 are in the basket and 5 are on the plate. She ate 9 carrots from the basket. How many carrots were left?



There are 6 carrots left.

Grade 1 – Module 2 – Lesson 12

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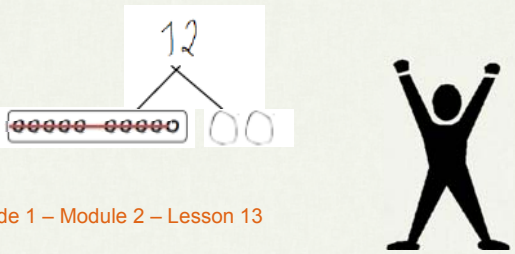
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**Grade 1 – Convert to an Easier Problem  
Take from Ten**

$12 - 9 = \underline{\quad}$



Grade 1 – Module 2 – Lesson 13

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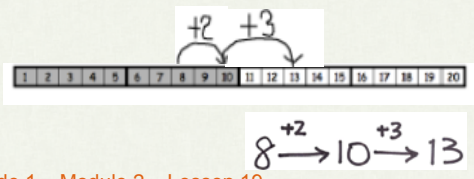
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**Grade 1 – Convert to an Easier Problem:  
Make Ten to Subtract**

$13 - 8 = \underline{\quad}$   
 $8 + \underline{\quad} = 13$



Grade 1 – Module 2 – Lesson 19

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**Grade 1 – Convert to an Easier Problem  
Take from Ten**

$14 - 8 = \underline{\quad}$

- Number path
- 5-group row drawing
- Number bond

How do these models relate to one another?




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**Grade 1 – Convert to an Easier Problem  
Take from Ten**

Now you try!

$13 - 9 = \underline{\quad}$      $15 - 9 = \underline{\quad}$

$15 - 8 = \underline{\quad}$      $13 - 7 = \underline{\quad}$




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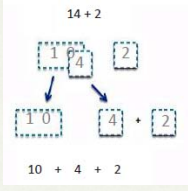
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**Grade 1 – Models  
Hide Zero Cards and Magic Counting Sticks**



Hide Zero Cards



Magic Counting Sticks

Grade 1 – Module 2 – Lesson 27

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**Grade 1 – Models**  
**5-Groups**

Evolution of 5-group formations:

The diagram illustrates the evolution of 5-group formations in three stages:
 

- K G1-M1, M2:** A flat array of 10 dots arranged in two rows of five.
- G1-M2:** Two vertical columns of five dots each, with an arrow pointing from the flat array to this stage.
- G1-M4:** A single vertical line representing the 5-group, with an arrow pointing from the two columns to this stage.

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**Grade 1 – Models**  
**Quick Ten Drawing and Place Value Chart**

Adding ones to ones, tens to tens

The diagrams show two methods of adding one to 15:
 

- Place Value Chart:** A chart with 'Tens' and 'Ones' columns. The first chart shows 1 ten and 5 ones (15). An arrow with '+1' points to the second chart, which shows 1 ten and 6 ones (16). A note says 'Students add 1 more circle.' in the ones column.
- Quick Ten Drawing:** A drawing of a ten frame with 15 circles. An arrow with '+1' points to a second ten frame with 16 circles. A note says 'Students add 1 more quick ten.' in the tens column.

Grade 1 – Module 4 – Lesson 5

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**Grade 1 – Models**  
**Dimes and Pennies**

Adding ones to ones, tens to tens

The diagram shows coin models and a place value chart:
 

- Place Value Chart:** A chart with 'dimes' and 'pennies' columns. Below it, it says '= 3 tens 5 ones'.
- Coin Models:** Three dimes and five pennies are shown above the chart.
- Number Lines:** Two number lines are shown below. The first is labeled '1 less than 24 is \_\_\_\_' and the second is labeled '10 less than 24 is \_\_\_\_'.

Grade 1 – Module 4 – Lesson 6

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### Grade 1 – Addition and Subtraction of Tens

$2 + 1 = 3$   
 $20 + 10 = 30$

Chart 1

$3 - 1 = 2$   
 $30 - 10 = 20$

Chart 2

Grade 1 – Module 4 – Lesson 11

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### Grade 1 – Adding Ones to Ones, Tens to Tens

Do we add to the ones or to the tens?

$16 + 2 = \underline{\quad}$      $16 + 20 = \underline{\quad}$

$16 + 2 = 18$

$16 + 20 = 36$

Grade 1 – Module 4 – Lesson 16

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### Grade 1 – Convert to an Easier Problem Making the Next Ten

$28 + 6 = \underline{\quad}$

$28 + 6 = 34$

Grade 1 – Module 4 – Lesson 14

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### Grade 1 – Tape Diagrams

Rose has a vase with 13 flowers. She puts 7 more flowers in the vase. How many flowers are in the vase?

$13 + 7 = 20$

There are  $20$  flowers in the vase.

Grade 1 – Module 4 – Lessons 19-22

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### Grade 1 – Tape Diagrams

Nine dogs were playing at the park. Some more dogs came to the park. Then there were 11 dogs. How many more dogs came to the park?

$9 + 2 = 11$

$2$  more dogs came to the park.

Grade 1 – Module 4 – Lessons 19-22

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### Grade 1 – Tape Diagrams

Ben solved 6 math problems. Robin solved 4 more problems than Ben. How many problems did Robin solve?

$6 + 4 = 10$

Robin solved  $10$  problems.

Grade 1 – Module 6 – Lesson 2

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### Grade 1 – End-of-Module Assessment

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

**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.

**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.

**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 relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

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### Grade 1 – End-of-Module Assessment

Solve for each unknown number. Use the space provided to draw quick tens, a number bond, or the arrow way to show your work. You may use your kit of ten-sticks if needed.

d. $100 - \underline{\quad} = 40$	e. $78 + 6 = \underline{\quad}$	f. $47 + 40 = \underline{\quad}$
g. $65 + 34 = \underline{\quad}$	h. $75 + 25 = \underline{\quad}$	i. $47 + 36 = \underline{\quad}$

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### A Continuation of A Story of Units in Grade 2

By the end of Grade 2, students will:

- Fluently add and subtract within 20 (2.OA.2)
- Fluently add and subtract within 100 (2.NBT.5)
- Add and subtract within 1,000

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### Grade 2 – Considerations

Meeting students where they are:

- Counting All
- Counting On
- Convert to an Easier Problem

The significance of understanding how addition and subtraction are introduced and developed across the primary grade span.

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### Grade 2 – Considerations

Meeting students where they are:

- Use of coherent models and strategies across grade levels
- Emphasis on the ten-structure
  - Identify a unit of ten
  - Make a unit of ten
  - Take from a unit of ten

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### Grade 2 – Considerations

Meeting students where they are:

- Filling gaps
  - Concrete representations
  - Multiple representations
  - Simple to complex

$5 + 6 = 11$
$15 + 6 = 21$
$25 + 6 = 31$
$35 + 6 = 41$
$55 + 6 = 61$
$85 + 6 = 91$

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### The Importance of Part-Whole Thinking

- Building number sense/seeing relationships
- Composition and decomposition require 2 key understandings
  - Seeing embedded numbers
    - A unit can always be decomposed into smaller units
  - Properties of operations
    - Commutative property ( $3 + 9$  is the same as  $9 + 3$ )
    - Associative property ( $85 + 6 = 85 + 5 + 1$ )

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### Grade 2 – Foundations

Sums and Differences to 20

**2.OA.2** Fluently add and subtract within 20 using mental strategies. By the end of Grade 2, know from memory all sums of two one-digit numbers.

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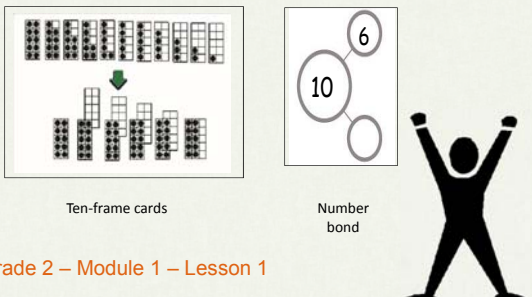
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### Grade 2 – Convert to an Easier Problem

#### Make a Ten



Ten-frame cards

Number bond

Grade 2 – Module 1 – Lesson 1

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### Grade 2 – Fluency

- Get the One Out
- Get the Two Out
- Partners to 10




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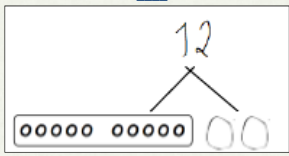
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
### Grade 2 – Convert to an Easier Problem Take from Ten

Decompose to subtract from a ten when subtracting within 100.

$12 - 9 = \underline{\quad}$



G1



G2

$21 - 7 = 14$

/ \


11 10

$10 - 7 = 3$

$11 + 3 = 14$

$21 - 7 = 14$

Grade 2 – Module 1 – Lesson 8




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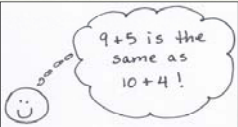
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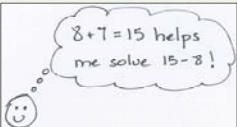
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### Grade 2 – Fluency

- Think 10 to Add 9
- Related Facts Within 20








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### Grade 2 – Measurement

#### Addition and Subtraction of Length Units

- Metric units lead into place value units in Module 3 (10 tens inside 100 cm, 10 tens inside 1 hundred).
- The unit is central to the addition and subtraction algorithms of Modules 4 and 5.
- Rich context for word problems.




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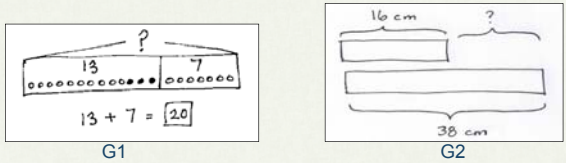
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### Grade 2 – Models

#### Tape Diagram

Relate Addition and Subtraction to Length.

- Create tape diagrams to represent and compare lengths.
- Apply conceptual understanding of measurement by solving two-step word problems.




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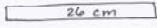
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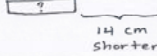
### Grade 2 – Models

#### Tape Diagram

Maura's ribbon is 26 cm long. Colleen's ribbon is 14 cm shorter than Maura's ribbon. What is the total length of both ribbons?

Step 1: Find the length of Colleen's ribbon.

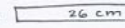
M 

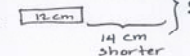
C 

$26 - 14 = 12$

Colleen's ribbon is 12 cm long.

Step 2: Find the length of both ribbons.

M 

C 

$26 + 12 = 38$

The total length of both ribbons is 38 cm.

Grade 2 – Module 2 – Lesson 10 Homework

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### Grade 2 – Models Tape Diagram

The red colored pencil is 17 centimeters long. The green colored pencil is 9 centimeters shorter than the red colored pencil. What is the total length of both pencils?

Grade 2 – Module 2 – Lesson 10

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### Grade 2 – Place Value Understanding

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### Grade 2 – Models Place Value Manipulatives

Bundles

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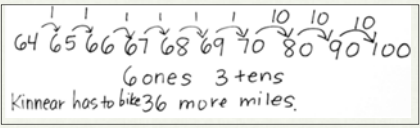
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### Grade 2 – Level 2: Counting On Benchmark Numbers

Kinnear decided that he would bike 100 miles this year. If he has biked 64 miles so far, how much farther does he have to bike?



Grade 2 – Module 3 – Lesson 3




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### Grade 2 – Models Place Value Chart

- The Place Value Chart
 

Hundreds	Tens	Ones
- Hide Zero Cards
 

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### Terminology

- Standard Form ... 576
- Expanded Form ...  $500 + 70 + 6$
- Unit Form ...
  - 5 hundreds 7 tens 6 ones
  - 57 tens 6 ones
  - 5 hundreds 76 ones
  - 576 ones
- Word Form ... five hundred seventy-six




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### Grade 2 – Models Money

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### Grade 2 – Models Place Value Disks

hundreds	tens	ones
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### Building Towards the Algorithm: Base-Ten Structure

Conceptual understanding leading up to Modules 4 and 5

K  
G1-M1, M2      G1-M2      G1-M4      G1-M4      G2-M3

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### Grade 2 – Simplifying Strategies: Compensation

$8 - 5 = 9 - 6$

$34 - 19 = 35 - 20$

$514$   
 $290$   
 $524 - 300$

You try!  $440 - 280$

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### Grade 2 – Models Place Value Disks and Drawings

Addition: Strategies for Composing Tens and Hundreds

$26 + 35$

$26$   
 $+ 35$   
 $\hline 61$

$126$   
 $+ 35$   
 $\hline 161$

Progression of understanding towards the addition algorithm

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### Grade 2 – Addition Strategies

Totals Below

$127 \rightarrow 100 + 20 + 7$   
 $+ 59 \rightarrow 50 + 9$   
 $186 = 100 + 70 + 16$

Horizontal Notation

$127$   
 $+ 59$   
 $\hline 100$   
 $70$   
 $16$   
 $186$

Left to Right

$127$   
 $+ 59$   
 $\hline 16$   
 $70$   
 $100$   
 $186$

Right to Left

You try!  $125 + 75$

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### Grade 2 – Models

#### Place Value Disks and Drawings

Subtraction: Strategies for Decomposing Tens and Hundreds

46 – 18

Progression of understanding towards the subtraction algorithm

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### Grade 2 – Simplifying Strategies

#### Subtraction: Subtract from Multiples of 100

300 – 159

Compensation

Arrow Notation

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### Grade 2 – Models

#### Place Value Disks and Drawings

Subtraction: Subtract from Multiples of 100

300 – 159

2 Step

1 Step

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## Grade 2 – Assessment


End-of-Module Assessment Task Standard Addressed Topics A-D

**Use Place Value Understanding and Properties of Operations to Add and Subtract**

**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; relates the strategy to a written method. Understand that in adding and 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.

**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.

**2.NBT.9** Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)



Grade 2 – Module 5 – End-of-Module Assessment

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## Grade 2 – Assessment

1. Solve each problem with a written strategy such as a tape diagram, a number bond, the arrow way, the vertical method, or chips on a place value chart.

a. $460 + 200 = \underline{\quad}$	b. $\underline{\quad} = 865 - 300$	c. $\underline{\quad} + 400 = 598$
d. $240 - 190 = \underline{\quad}$	e. $\underline{\quad} = 760 - 280$	f. $330 - 170 = \underline{\quad}$



Grade 2 – Module 5 – End-of-Module Assessment

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## The Story Continues

**Grade 3**

$$\begin{array}{r} 158\text{ g} \\ + 266\text{ g} \\ \hline 424\text{ g} \end{array}$$

$$\begin{array}{r} 11 \\ 113 \\ 220\text{ g} \\ - 194\text{ g} \\ \hline 029\text{ g} \end{array}$$

**Grade 4**

$$2\text{ kg } 250\text{ g} \xrightarrow{+750\text{ g}} 3\text{ kg} \xrightarrow{+7\text{ kg}} 10\text{ kg}$$

$$750\text{ g} + 7\text{ kg} = 7\text{ kg } 750\text{ g}$$

$$\begin{array}{r} 3\text{ } 11\text{ } 9 \\ 420,068 \\ - 56,328 \\ \hline 363,733 \end{array}$$

**Grade 5**

$$\frac{2}{5} + \frac{3}{7} = \left(\frac{2}{5} \times \frac{7}{7}\right) + \left(\frac{3}{7} \times \frac{5}{5}\right)$$

$$\frac{14}{35} + \frac{15}{35} = \frac{29}{35}$$

$$20 - 9\frac{3}{4} - 3\frac{3}{8}$$

$$= 19\frac{8}{8} - 9\frac{6}{8} - 3\frac{3}{8}$$

$$= 10\frac{2}{8} - 3\frac{3}{8}$$

$$= 9\frac{20}{20} - 3\frac{3}{20}$$

$$= 6\frac{17}{20}$$

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### Reflection

- What simple ideas have you learned about addition and subtraction?
- Can you now manipulate units better than before?
- What new strategies did you learn that use the structure of 10 to add and subtract?
- Can you now help students see embedded numbers?



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### Key Points for Addition and Subtraction

- Addition and subtraction are about the manipulation of units.
- Addition and subtraction are about seeing part/whole relationships.
- Addition is putting together -- the composing of units to make a larger unit.
- Subtraction is taking apart -- the decomposing of larger units into smaller units.
- Subtraction is also the comparison of units.
- Knowledge of bonds within 10, bonds that make 10, and teen numbers as 10 and some ones are key understandings necessary for the manipulation of units.
- Conceptual understanding is developed and supported by learning, sharing, and reasoning about strategies based on place value, properties of operations, and the relationship between addition and subtraction.
- Specifically chosen models and fluency activities support learning.

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