Kenmore-Town of Tonawanda UFSD

We educate, prepare, and inspire all students to achieve their highest potential

Grade 1 Module 1
Parent Handbook

Eureka Math™ Tips for Parents

Sums and Differences to 10

In this first module of Grade 1, students make significant progress toward fluency with addition and subtraction of numbers to 10. They are presented with opportunities designed to advance them from counting all to counting on. This leads many students to decomposing and composing total amounts. This module is an important foundational piece for our first grade mathematicians.

1 + 2	1 + 3
2 + 2	
3 + 2	3 + 3

Students will learn to solve related addition problems
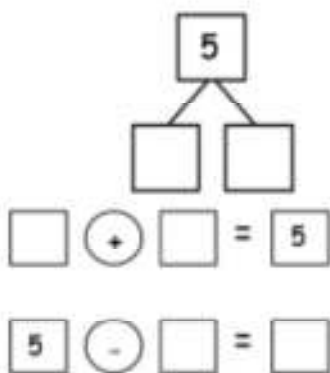
Number bonds are used to relate addition and subtraction

What Comes After this Module:
In Module 2, students begin to problem-solve with teen numbers. Students will go beyond the beginning strategies of counting on and counting back and learn to use more sophisticated strategies that involve working with groups of 10 as a basic unit, either taking away ten or making ten to solve problems.

Terms, Phrases, and Strategies in this Module:

Count on: Students count up from one addend to the total, e.g. for 5 + 4 they would start with 5, then count 6...7...8...9 to get the total of 9

Expression: e.g., 2 + 1 or 5 + 5 (expressions do not have an equals sign, thus are not equations)

Addend: One of the numbers being added in an addition problem

Doubles: e.g., 3 + 3 or 4 + 4

Doubles plus 1: e.g., 3 + 4 or 4 + 5

Part: e.g., "What is the unknown part? 3 + ___ = 8"

Equation and number sentence: these words are used interchangeably throughout the module

Number Bond: a graphic showing part/part/whole (see reverse side for more information)

Key Common Core Standards:

+ How you can help at home:

- Practice "counting on" as a strategy for addition, e.g. if you have 7 LEGO pieces, and then you get 3 more, encourage your student to start with the number 7 and count "8...9...10" to find the total.

- Discuss various ways to take apart a given number, e.g. 6 is made of 1 and 5, 2 and 4, 3 and 3, etc.

- *Represent and solve problems involving addition and subtraction*
  - Use addition and subtraction within 10 to solve word problems
- *Understand and apply properties of operations and the relationship between addition and subtraction*
  - Apply properties of operations as strategies to add and subtract
  - Understand subtraction as an unknown-addend problem
- *Add and subtract within 10 (eventually within 20)*
  - Relate counting to addition and subtraction
- *Work with addition and subtraction equations*
  - Understand the meaning of the equal sign
  - Determine the unknown whole number in an addition or subtraction equation relating three whole numbers

Eureka Math, *A Story of Units*

Welcome to *A Story of Units*!

Each module's parent tip sheet will highlight a new strategy or math model your student will be working on.

In Module 1, first grade students will use Number Bonds to understand the part-part-whole relationships inherent to addition and subtraction. The Number Bond is a powerful mathematical model that students will return to throughout *A Story of Units*.
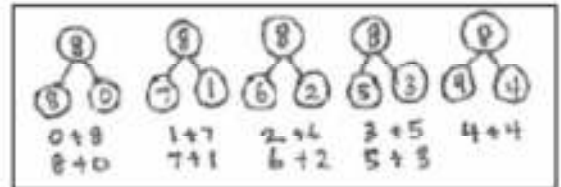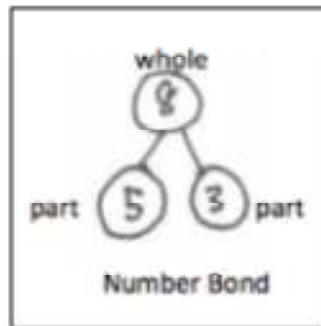
Number Bond

Number Bonds showing ways to make 8

Read on to learn a little bit about *Eureka Math*, the creators of *A Story of Units*:

Eureka Math is a complete, PreK-12 curriculum and professional development platform. It follows the focus and coherence of the Common Core State Standards (CCSS) and carefully sequences the progression of mathematical ideas into expertly crafted instructional modules.

This curriculum is distinguished not only by its adherence to the CCSS; it is also based on a theory of teaching math that is proven to work. That theory posits that mathematical knowledge is conveyed most effectively when it is taught in a sequence that follows the "story" of mathematics itself. This is why we call the elementary portion of *Eureka Math* "*A Story of Units*." The sequencing has been joined with methods of instruction that have been proven to work, in this nation and abroad. These methods drive student understanding beyond process, to deep mastery of mathematical concepts.

The goal of *Eureka Math* is to produce students who are not merely literate, but fluent, in mathematics. Your student has an exciting year of discovering the story of mathematics ahead!

Sample Problem from Module 1:
(Example taken from Module 1, Lesson 2)

How many animals do you see?

Write at least 2 different number bonds to show different ways to break apart the total.

From the non-profit Great Minds
For more information visit greatminds.net

EUREKA MATH
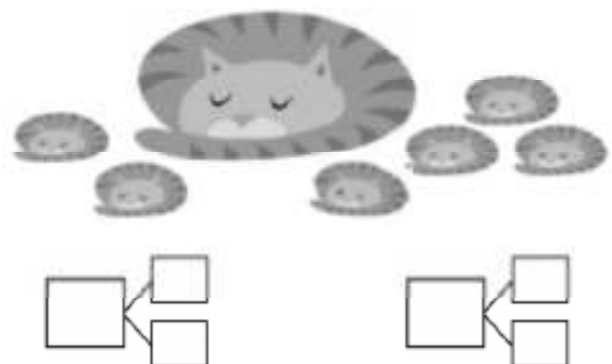
Sums and Differences to 10

OVERVIEW

In this first module of Grade 1, students make significant progress towards fluency with addition and subtraction of numbers to 10 (**1.OA.6**) as they are presented with opportunities intended to advance them from counting all to counting on, which leads many students then to decomposing and composing addends and total amounts. In Kindergarten, students achieved fluency with addition and subtraction facts to 5. This means they can decompose 5 into 4 and 1, 3 and 2, and 5 and 0. They can do this without counting all. They perceive the 3 and 2 embedded within the 5.

Topic A continues the work of developing this ability with all the numbers within 10 in *put together* situations (**1.OA.1**), with a special focus on the numbers 6, 7, 8, and 9, since recognizing how much a number needs to make 10 is part of the Kindergarten standards (**K.OA.4**) and easier for most children. Students decompose numbers into two sets, or conceptually subitize, in Lessons 1 and 2, and record their decompositions as number bonds.

T: How many dots do you see?
S: 8.
T: What two parts do you see?
S: I see 5 and 3.
T: Did you need to count all the dots?
S: No! I could see the top row was a full five, so I just said 6, 7, 8.

In Lesson 3, students see and describe *1 more* as + 1. They use the structure of the first addend rather than its cardinality, just as the student speaking in the above vignette used the five. The number is a unit to which they can add one, or count on by one, without recounting. All three lessons in Topic A prepare students to solve addition problems by counting on rather than counting all (**1.OA.5**).

Topic B continues the process of having the students compose and decompose. They describe *put together* situations (pictured below) with number bonds and count on from the first part to totals of 6, 7, 8, 9, and 10 (**1.OA.1**, **1.OA.5**). As they represent all the partners of a number,

they reflect and see the decompositions, "Look at all these ways to make 8. I can see connections between them."
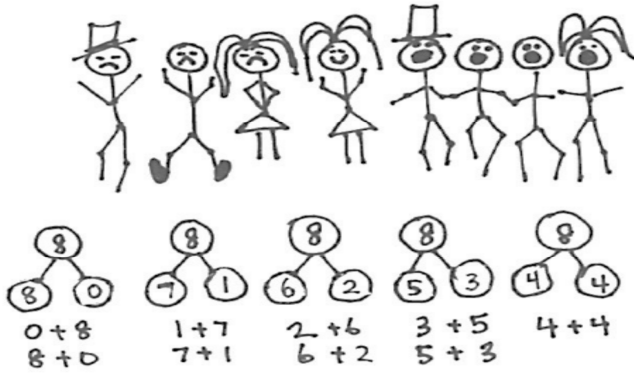
Through dialogue, they engage in seeing both the composition invited by the *put together* situation and the decomposition invited by the number bonds. Expressions are another way to model both the stories and the bonds, the compositions and the decompositions (**1.OA.1**).

In Topic C, students interpret the meaning of addition from *adding to with result unknown* or *putting together with result unknown* story problems by drawing their own pictures and generating solution equations. Advancing beyond the Kindergarten word problem types, students next solve *add to with change unknown* problems such as, "Ben has 5 pencils. He got some more from his mother. Now, he has 9 pencils. How many pencils did Ben get from his mother?" These problems set the foundation early in the module for relating addition to subtraction in Topic G (**1.OA.4**).

In Topic D, students work outside the context of stories for three days to further their understanding of and skill with counting on using 5-group cards. The first addend is represented with a numeral card, symbolizing the structure to count on from. The number to be added is represented using the dot side of the 5-group card. Students count on from the first addend. They learn to replace counting the dots by tracking the count on their fingers to find the solution (**1.OA.5**). In Lesson 16, they solve problems such as 4 + ____ = 7 by tracking the number of counts as they say, "5, 6, 7" (**1.OA.8**).

In Topic E, in the context of addition to 10, students expand their knowledge of two basic ideas of mathematics: equality and the commutativity of addition (**1.OA.3** and **1.OA.7**). The lesson on the equal sign precedes the lessons on commutativity in order to allow students to later construct true number sentences such as 4 + 3 = 3 + 4 without misunderstanding the equal sign to mean that the numbers are the same. Students apply their new generalization about the position of the addends to count on from the larger number. For example, "I can count on 2 from 7 when I solve 2 + 7."

Like Topic E, Topic F leads students to make more generalizations that support their deepening understanding of addition within 10. They learn to recognize doubles and doubles plus 1. They analyze the addition chart for repeated reasoning and structures (such as 5-groups, plus ones, doubles, sums equal to 10, etc.) that can help them to better understand relationships and connections between different addition facts.

Topic G relates addition to subtraction. Since Module 4 in Kindergarten, students have been very familiar with subtraction as "take away." During Fluency Practice in the lessons in Topics A through F, students have had opportunities to remember their Kindergarten work with subtraction. Therefore, Topic G starts immediately with the concept of subtraction as a missing addend, just as Grade 3 students learn division as a missing factor in a multiplication problem.

Having already worked with *add to with change unknown* problems earlier in the module, students revisit this familiar problem type, reinterpreting it as subtraction (**1.OA.1**, **1.OA.4**). The topic then uses the strategies of counting with both 5-group cards and the number path to solve subtraction problems (**1.OA.5**, **1.OA.6**).
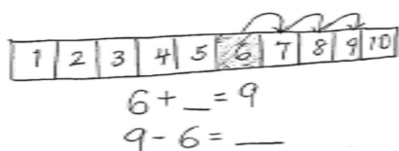
"Ben had 5 crackers. He got some more. Now he has 7. How many crackers did Ben get?"
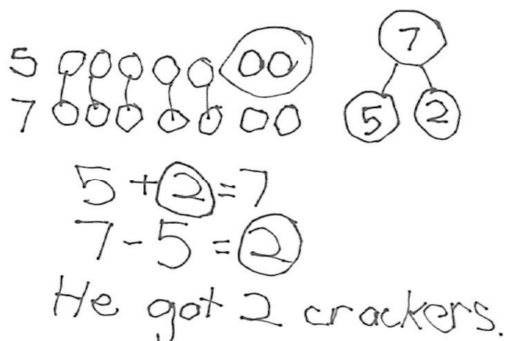
Topic H is analogous to Topic C. Students interpret the meaning of subtraction as they solve different problem types involving subtraction (**1.OA.1**). Throughout Module 1, rather than using formal drawings or tape diagrams, students are encouraged to make math drawings that flow from their understanding of the stories. They engage in dialogue to relate their drawings to number sentences and explain the meaning of the subtraction symbol.

Topic I follows a week of intensive work with story problems to work on a more abstract level by visiting methods for subtraction involving special cases, subtracting 0 and 1, subtracting the whole number, and subtracting one less than the whole number. These two lessons are followed by three lessons in which students use familiar decompositions (5-groups and partners of 10) to conceptualize subtraction as finding a missing part (**1.OA.6**).

Finally, in Topic J, students analyze the addition chart for repeated reasoning and structures that support their journey towards fluency with subtraction within 10. The module closes with a lesson wherein students create sets of related addition and subtraction facts and use dialogue to explain their found connections (e.g., 7 = 4 + 3, 7 − 4 = 3, 4 + 3 = 3 + 4, 4 = 7 − 3, etc.). They began the module with very basic counting on and end the module both with the skill to count on and significant movement towards the goal of fluency, achieved as the second addend does not need to be counted or can be counted very quickly.

# Terminology

New or Recently Introduced Terms

- Count on (count up from one addend to the total)
- Track (use different objects to track the count on from one addend to the total)
- Expression (e.g., 2 + 1 or 5 – 3)
- Addend (one of the numbers being added)
- Doubles (e.g., 3 + 3 or 4 + 4)
- Doubles plus 1 (e.g., 3 + 4 or 4 + 5)

Familiar Terms and Symbols

- Part (e.g., "What is the unknown part? 3 + ___ = 8")
- Total and whole (use interchangeably instead of sum; e.g., "What is the total when we add 3 and 5?")
- Label (using letters or words on a math drawing to indicate the referents from the story's context)
- Addition, equal, and subtraction signs
- Equation and number sentence (used interchangeably throughout the module)
- Number bond (graphic showing part–part–whole)
- Equal sign (=)
- 5-groups (as pictured in the dot cards below), 2 rows of 5
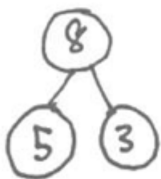
Number Bond
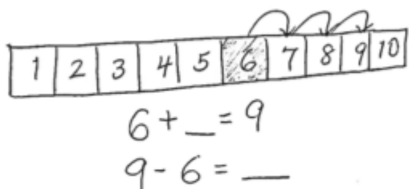
Number Path

Suggested Tools and Representations

- Addition chart
- Rekenrek
- Counters
- Number path
- 5-Group cards
- Hide Zero cards
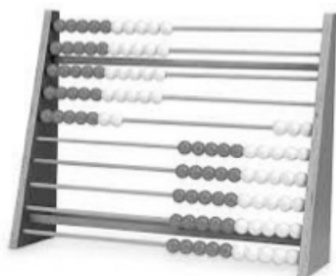
Rekenrek

Hide Zero Cards

Embedded Numbers and Decompositions

Focus Standards:

1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

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

Instructional Days Recommended: 3

In this first module of Grade 1, students make significant progress towards fluency with addition and subtraction of numbers to 10 (**1.OA.6**). They are presented with opportunities intended to advance them from counting all to counting on, which leads to decomposing and composing addends and total amounts. In Kindergarten, students achieved fluency with addition and subtraction facts to 5. This means they can decompose 5 into 4 and 1, 3 and 2, and 5 and 0. They can do this without counting all. They perceive the 3 and 2 embedded within the 5.

Topic A continues the work of developing this ability with all the numbers within 10 in *put together* situations, with a special focus on the numbers 6, 7, 8, and 9 in 5-group configurations, since recognizing how much a number needs to make 10 is part of the Kindergarten standards (**K.OA.4**) and is easier for most children. Students decompose numbers into two visual sets, or conceptually subitize, and record their decompositions as number bonds. In Lesson 1, students use the 5-group configuration, as this organization allows students to quickly see, or

perceptually subitize, the subset of 5. Once they have identified that first subset of 5, they can perceptually subitize the other part:
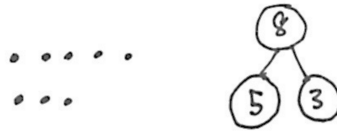
T: How many dots do you see?
S: 8.
T: What two parts do you see?
S: I see 5 and 3.
T: Did you need to count all the dots?
S: No! I could see the top row was a full five, so I just saw the other part, which was 3.

The teacher then guides students to *count on* from the five to determine the total. This process of conceptual subitizing, or breaking apart the total into two easily identifiable subsets, continues into Lesson 2, as students are presented with dots in varied configurations. As students discuss the different parts they each see within the total and the different ways they are able to break the total apart, they begin to understand that a given quantity can be decomposed in a variety of ways. In Lesson 3, students see and describe *1 more* as + 1. They use the structure of the first addend rather than its cardinality: The number is a unit to which they can add one, or *count on* by one, without recounting. Students now stand on this first embedded number, which lays the foundation for the Level 2 strategy of counting on. Students engage in math discussions throughout the lessons as they share their ways of seeing the embedded numbers and thinking of *1 more* (**1.OA.5**).

Lesson 1

Objective: Analyze and describe embedded numbers (to 10) using 5-groups and number bonds

Homework Key

1.	Group of 5 circled	9.	5, 3, 8
	9, 4	10.	1, 5, 6
2.	Group of 5 circled	11.	5, 2, 7
	7, 2	12.	5, 5, 10
3.	Group of 5 circled	13.	Group of 5 circled
	10, 5		8, 5, 3
4.	Group of 5 circled	14.	Group of 5 circled
	5, 5, 0		6, 5, 1
5.	5, 3, 8	15.	Group of 5 circled
6.	5, 1, 6		9, 5, 4
7.	5, 2, 7	16.	Group of 5 circled
8.	5, 5, 10		7, 5, 2

Work Samples

Make a number bond that shows 5 as one part.

5.
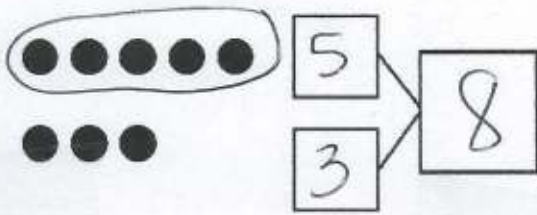
Circle 5 and count. Then, make a number bond.

13.
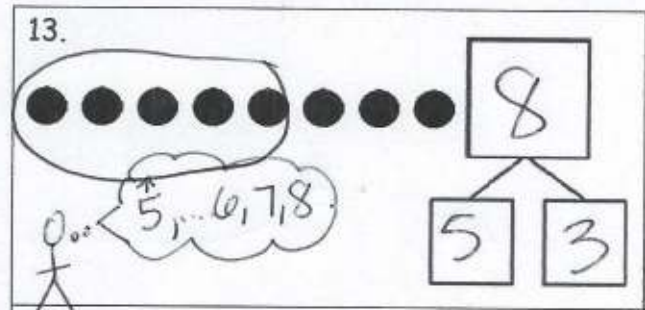
Lesson 2

Objective: Reason abut embedded numbers in varied configurations using number bonds.

Homework Key

1. 6, parts will vary.
2. 7, parts will vary.
3. 9, parts will vary.
4. 8, parts will vary.
5. 7, parts will vary.

6. 6, parts will vary.
7. 8, parts will vary.
8. 8, parts will vary.
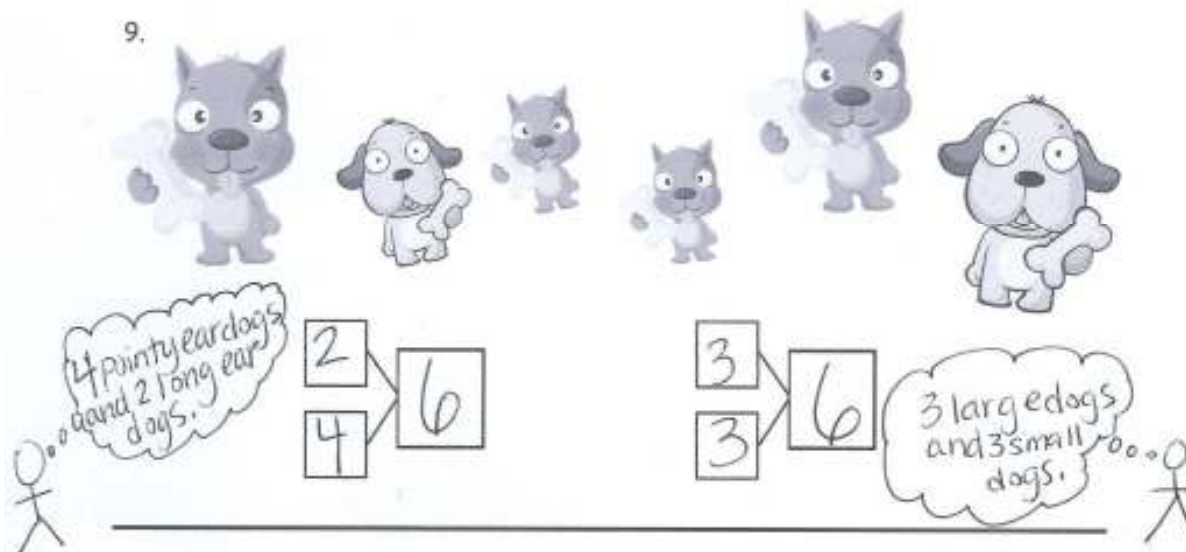9. 6, parts will vary; 6, parts will vary.
10. 7, parts will vary; 7, parts will vary.

Work Samples

Circle 2 parts you see. Make a number bond to match.
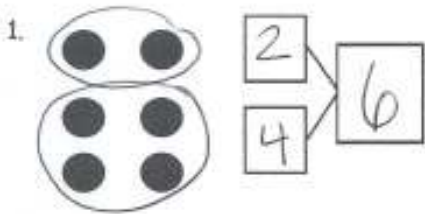
1.

How many animals do you see? Write at least 2 different number bonds to show different ways to break apart the total.

9.

Lesson 3

Objective: See and describe numbers of objects using *1 more* within 5-groups configurations.

Homework Key

1. 1 more drawn; 10; 10;
   10, 9, 1
2. 1 more drawn; 8; 8;
   8, 7, 1
3. 1 more drawn; 6; 6;
   6, 5, 1

4. 1 more drawn; 9; 8, 9;
   9, 8, 1
5. 6; 6; 6, 5, 1
6. 9; 8, 9; 8, 1, 9

Work Samples

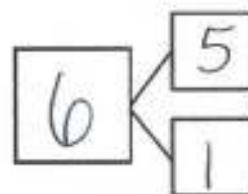How many objects do you see? Draw one more. How many objects are there now?

1.
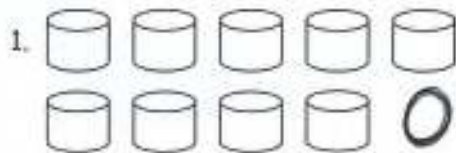
1 more than 9 is 10.

$9 + 1 = 10$

10 — 9 / 1
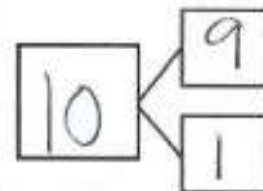
5. Imagine adding 1 more pencil to the picture.
   Then, write the numbers to match how many pencils there will be.

1 more than 5 is 6.

$5 + 1 = 6$

6 — 5 / 1

Grade 1 Module 1 Topic B

Counting On From Embedded Numbers

Focus Standards:

1.OA.1   Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

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

1.OA.6   Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Instructional Days Recommended: 5

As students move into Topic B, they gain momentum with putting together, composing and decomposing, and counting on to determine the total. Students use both concrete and pictorial situations to describe all of the decompositions of 6, 7, 8, 9, and 10 (**1.OA.5**). Lesson 4 begins with six children posed at the front of the class. They will be put together in different ways to show the various combinations of 6, such as 2 boys and 4 girls and 3 wearing long sleeves and 3 wearing short sleeves. During this process, the *put together* situation will be highlighted, engaging students in counting on from one addend, or part, to find the total (**1.OA.1**, **1.OA.5**). As students progress through the lesson, they come to see that 6 is constructed of several different decompositions, by using two-color counters and recording the decomposition in number bonds and as expressions (**1.OA.1**). They record each decomposition of 6 and reflect upon all of these

number partners, "Look at all these ways to make 6! I can see connections between them!"
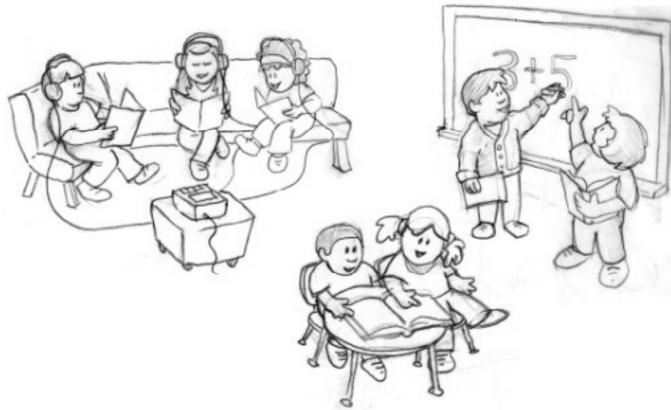
Lessons 5, 6, 7, and 8 continue this same process of putting together, composing, and decomposing. In Lesson 5, students use an engaging drawing (pictured above) to find and show ways to make 7 with 2 groups. "I see 5 kids sitting and 2 kids standing. There are 7 kids altogether." They use their 5-group cards to represent the partners of 7, and they record the decompositions in number bonds and expressions.

Lesson 6 has students exploring and discussing the decompositions of 8 using their 5-group cards, beginning with the numeral side first as a way to encourage counting on. In Lesson 7, students explore the partners of 9 using cubes to help them count on from the first addend. Finally, the topic ends with Lesson 8, where students make Rekenrek bracelets with 10 beads. These bracelets become tools for students to show all ways to make 10 (pictured below).

Rekenrek bracelet with 5 white beads and 5 red beads.

Each lesson in Topic B ends with students creating a shared chart representing all of the decompositions of each number: 6, 7, 8, 9, and 10. These charts provide a foundation for supporting understanding of addition and subtraction facts. Teachers keep the charts hanging in their classrooms and have students start portfolios. Both of these serve as references throughout the school year as students master these numerical combinations (**1.OA.6**).

*The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.

Lesson 4-5

Objective: Represent *put together* situations with number bonds. Count on from one embedded number or part to totals of 6 and 7, and generate all addition expressions for each total.
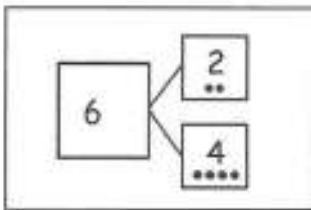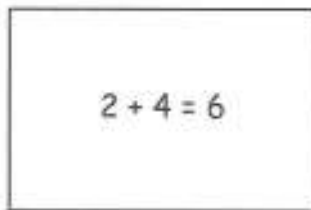
Homework Key (Lesson 4)

Answers will vary.

Work Samples

Today, we learned the different combinations that make 6. For homework, cut out the flashcards below, and write the number sentences that you learned today on the back. Keep these flashcards in the place where you do your homework to practice ways to make 6 until you know them really well! As we continue to learn different ways to make 7, 8, 9, and 10 in the upcoming days, continue to make new flashcards.

*Note to families: Be sure students make each of the combinations that make 6. The flashcards can look something like this:

Front of Card

2 + 4 = 6

Back of Card

Example Front

6 | 0
6

Back: 0 + 6 = 6

Example Front

6 | 3
3
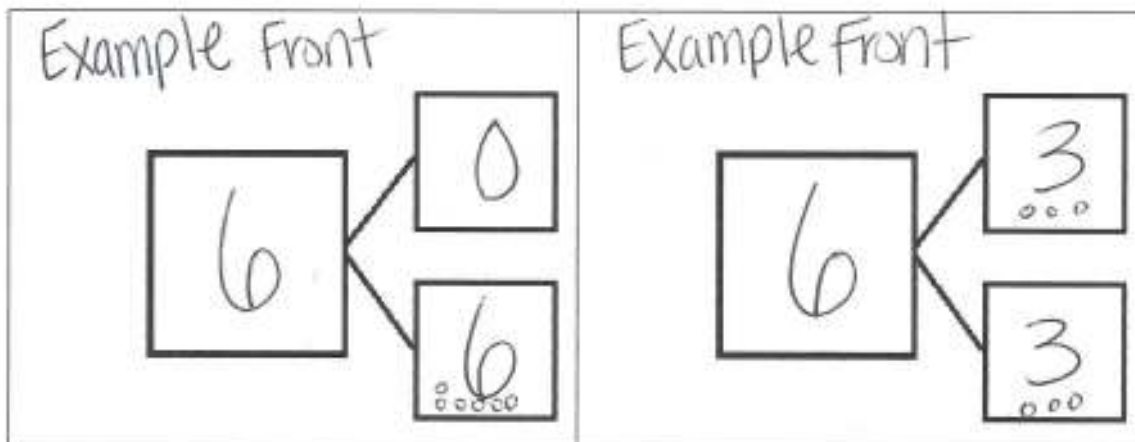
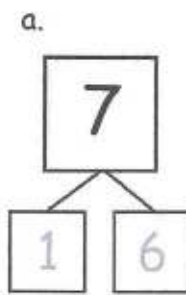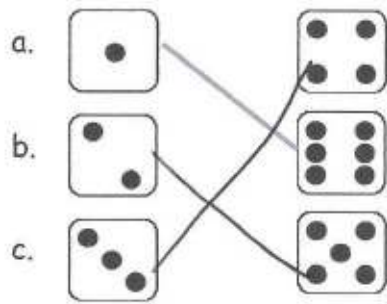Back: 6 = 3 + 3

Lesson 5

Homework Key

1. a. Answer provided

    b. 2 matched to 5;

       2, 5, 7

    c. 3 matched to 4;

       7, 4, 3

2. Answers will vary.

3. 7; 7, 0; 0, 7

4. First, third, fifth, and sixth dominoes colored

5. 7, 7; 7, 1;

    7, 3; 7, 2

Work Samples

1. Match the dice to show different ways to make 7. Then, draw a number bond for each pair of dice.
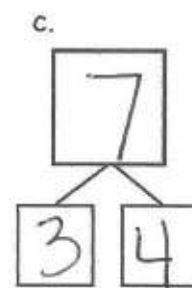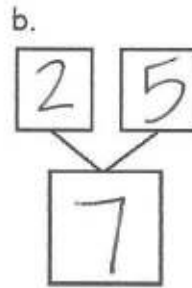
Lesson 5 (continued)

Lesson 6-7

Objective: Represent put together situations with number bonds. Count on from one embedded number or part to totals of 8 and 9, and generate all expressions for each total.

Homework Key (Lesson 6)

1. a. Answer provided
   b. 2 matched to 6;
      2, 6, 8
   c. 1 matched to 7;
      8, 1, 7

2. 5; answers will vary.

3. 0; 0, 8, 8; 8, 8, 0

4. a. Answer provided
   b. 7
   c. 2
   d. 5
   e. 4, 4

5. 8, 2, 6; group of 2 and group of 6 objects drawn

6. 8, 0, 8; group of 8 objects drawn

Work Samples

1. Match the dots to show different ways to make 8. Then, draw a number bond for each pair.

a.
b.
c.

a.

8

3   5

b.

2   6

8

c.

8

1   7

2. Show 2 ways to make 8. Use the number bonds above for help.

3 (+) ☐

☐ (+) ☐

3. Fill in the missing number in the number bond. Write 2 addition sentences for the number bond you made. Notice where the equal sign is to make your sentence true.
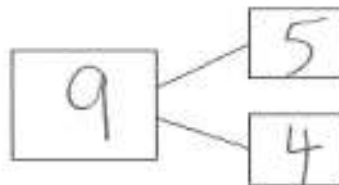
☐

8
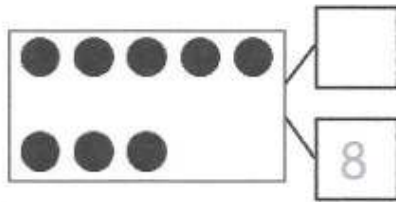
Lesson 7

Homework Key

Answers will vary.

Work Samples

Ways to Make 9

Use the <u>bookshelf picture</u> to help you write the expressions and number bonds to show all of the different ways to make 9.

See Template of Bookshelf

$5 + 4$

$4 + 5$

9 → 5, 4

5 on the top 4 on the bottom

Lesson 8

Objective: Represent all the number pairs of 10 as number bonds from a given scenario, and generate all expressions equal to 10.

Homework Key

1. a. 5

    b. 4

    c. 3

    d. 2

    e. 1

2. 3, 7, 10; 7, 3, 10; 10, 3, 7; 10, 7, 3

Work Samples

1. Rex found 10 bones on his walk. He can't decide which part he wants to bring to his doghouse and which part he should bury. Help show Rex his choices by filling in the missing parts of the number bonds.
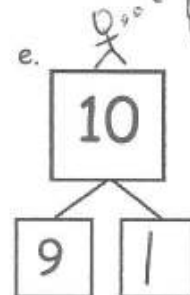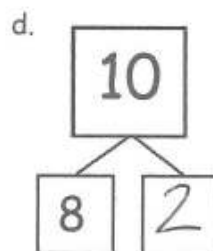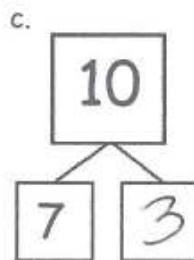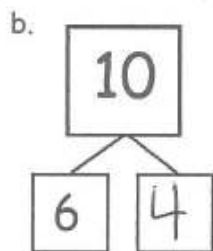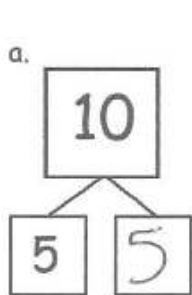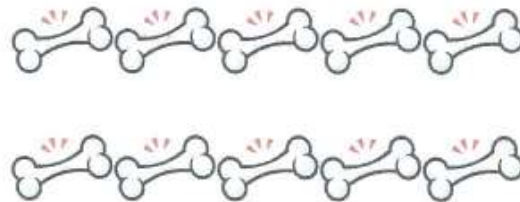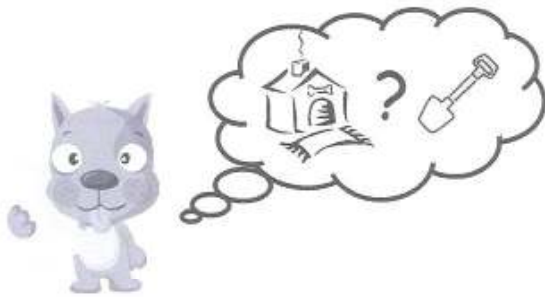
Find the partners to make 10.

a. 10 / 5 5

b. 10 / 6 4

c. 10 / 7 3

d. 10 / 8 2

e. 10 / 9 1

Grade 1 Module 1 Topic C

Addition Word Problems

Focus Standards:

1.OA.1   Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.OA.6   Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Instructional Days Recommended: 5

In Topic C, students develop a more robust understanding of addition word problems, moving beyond the Kindergarten problem types (**K.OA.2**) by reviewing *put together with result unknown* and *add to with result unknown* problems, and then moving to the more complex *change unknown* version of the earlier problem types.

In Lesson 9, students solve both *add to with result unknown* and *put together with result unknown* problems with their classmates. The lesson begins with a cadre of students engaged in a dance party, and then a number of students join them— how fun! Students then record this action-based problem as an equation, and move on to the *put together with result unknown* problem type, where they are faced with a set of students whose characteristics invite decomposition, much like in Topic B. Students end with a Student Debrief in which they explore the connections between these two problem types, ultimately understanding that they used the operation of addition to solve both problem types.

Lesson 10 has students using 5-group cards to solve *put together with result unknown* problems that are represented by stories stemming from pictures. The 5-group cards again make the expectation clear that students will be practicing counting on (Level 2 strategy), but may use the strategy of counting all (Level 1 strategy) if necessary.

The introduction of the *add to with change unknown* problem type (**1.OA.6**) occurs in Lesson 11. This lesson allows students explorations with problems where the *action*, which represents the *change*, is unknown. For example, "Ben has 5 pencils. He got some more from his mother. Now, he has 9 pencils. How many pencils did Ben get from his mother?" Students physically add more to the starting quantity, counting on until they reach the total; for the first time in Module 1, students simply must use the valuable Level 2 strategy of counting on in order to determine the unknown part.

Lesson 12 continues with solving *add to with change unknown* problems, as students use their 5-group cards to count on to find the unknown change in quantity. Throughout these two lessons, students explore the symbol for the unknown (**1.OA.1**) as both a question mark and an open box. The topic ends with students creating their own *put together with result unknown, add to with result unknown*, and *add to with change unknown* problems from equations, and then having their peers solve them through drawings and discussions. These problems set the foundation early in the module for relating addition to subtraction in Topic G (**1.OA.4**).
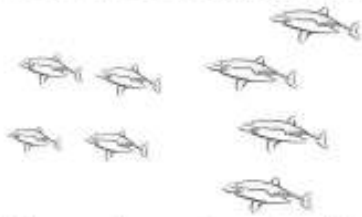
Lesson 9

Objective: *Solve add to with result unknown* and *put together with result unknown* math stories by drawing, writing equations, and making statements of the solution.

Homework Key

1. Answers will vary; 8
2. Answers will vary; 7
3. Group of 4 and group of 3 objects drawn; 4, 3, 7; 7
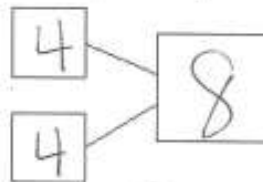4. Group of 3 and group of 6 objects drawn; 9, 3, 6; 9

Work Samples

1. Use the picture to tell a math story.

Write a number bond to match your story.

Write a number sentence to tell the story.

$$\boxed{4} + \boxed{4} = \boxed{8}$$

There are __8__ sharks.

Draw a picture to match the story.

3. Jim has 4 big dogs and 3 small dogs. How many dogs does Jim have?
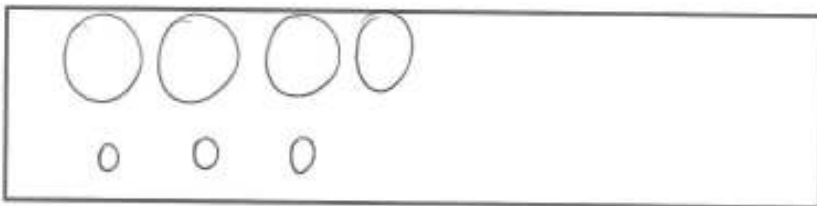
$$\boxed{4} + \boxed{3} = \boxed{7}$$

Jim has __7__ dogs.

Lesson 10

Objective: Solve *put together with result unknown* math storeis by drawing and using 5-group cards.

Homework Key

1. 3, 5, 8; 3 dots drawn
2. 8, 4, 4; 4 dots drawn
3. Group of 4 and group of 5 objects drawn; 9; 4, 5, 9; 5, 4, 9
4. Group of 3 and group of 5 objects drawn; 8; 3, 5, 8; 3, 5, 8

Work Samples

1. Use your 5-group cards to solve.

$5 + 3 = 8$

Draw the other 5-group card to show what you did.

5   3

Start with 5, then count on 6, 7, 8. 3 more.

3. There are 4 tall boys and 5 short boys. Draw to show how many boys there are in all.

There are ___9___ boys in all.

Write a number sentence to show what you did.

$4 + 5 = 9$

Write a number bond to match the story.

4
5
9

Lesson 11

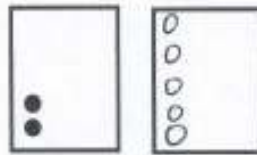## Objective: Solve *add to with change unknown* math stories using 5-group cards.

Homework Key

1. a. 5; 5 dots drawn on second card
    b. 3; 3 dots drawn on second card
    c. 2; 2 dots drawn on second card
    d. 0; no dots drawn on first card
2. a. 5; matched to $3 + ? = 8$
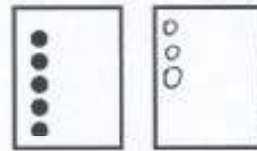   b. 3; matched to $6 + ? = 9$

Work Samples

1. Use the 5-group cards to count on to find the missing number in the number sentences.
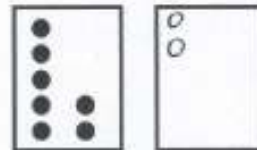
a. $2 + 5 = 7$

b. $8 = 5 + 3$

c. $9 = 7 + 2$

d. $9 = 0 + 9$

2. Match the number sentence to the math story. Draw a picture or use your 5-group cards to solve.

a. Scott has 3 cookies. His mom gives him some more. Now, he has 8 cookies. How many cookies did his mom give him?

$3 + \boxed{} = 8$

Scott's mom gave him ____5____ cookies.

$\boxed{6} \; + \; \boxed{?} \; = \; \boxed{9}$

$\boxed{3} \; + \; \boxed{?} \; = \; \boxed{8}$

Lesson 12

Objective: Solve *add to with change unknown* math storeis using 5-group cards.

Homework Key

1. 2; 2 dots card shown
2. 6; 6 dots card shown
3. 3; 3 dots card shown
4. Numeral 4 and 3 dots cards shown; 4, 3, 7; 3
5. Numeral 1 and 6 dots cards shown; 1, 6, 7; 6
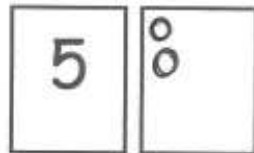6. Numeral 6 and 3 dots cards shown; 6, 3, 9; 3

Work Samples

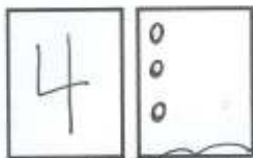Use your 5-group cards to count on to find the missing number in the number sentences.

1.

$$5 + ? = 7$$

The mystery number is 2

Use your 5-group cards to count on and solve the math stories. Use the boxes to show your 5-group cards.

4. Jack reads 4 books on Monday. He reads some more on Tuesday. He reads 7 books total. How many books does Jack read on Tuesday?

$$4 + 3 = 7$$

Start with the number, then draw dots to make total.

Jack reads _3_ books on Tuesday.

Lesson 13

Objective: Tell *put together with result unknown, add to with result unknown,* **and** *add to with change unknown* **storeis from equations.**
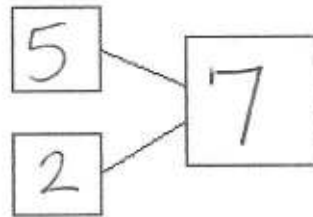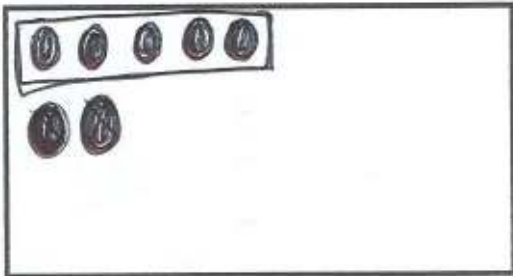
Homework Key

1. Answers will vary; 5, 2, 7

2. Answers will vary; 9, 6, 3

3. 2; Answers will vary; 7, 2, 9

Work Samples

Use the number sentences to draw a picture, and fill in the number bond to tell a math story.

1.   5 + 2 = 7

Grade 1 Module 1 Topic D

Strategies for Counting On

Focus Standards:

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

1.OA.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 = □.*

Instructional Days Recommended: 3

Topic D affords students the opportunity to solve problems within the simplicity of equations, moving on from the context of story problems. Continuing on the momentum gained with counting on as it relates to addition in Topic C, students begin Topic D with tracking the number of counts on from a given number by using their fingers and 5-group cards (**1.OA.5**).

In Lessons 14 and 15, students begin with an embedded quantity represented by both a picture and a numeral, and then tap pictures, tap the dots on their 5-group cards, draw more, and, finally, replace these pictorial strategies to extending their fingers as an effective strategy for keeping track of the change. They apply these strategies to track changes of 0, 1, 2, and 3, thus limiting their use of tracking to quantities that will maintain efficiency. Students use these same strategies in Lesson 16, in both *result unknown* and the more complex *change unknown* equations, solving problems such as 4 + ___ = 7 as they say, "5, 6, 7" (**1.OA.8**).

Lesson 14-15

Objective: Count on up to 3 more using numeral and 5-group cards and fingers to track the change.

Homework Key (Lesson 14)

a. 6

b. 7; 5, 6, 7

c. 9; 7, 8, 9

d. 9; 6, 7, 8, 9

e. Answers will vary.

Work Samples

Count on to add.

5, 6

a.

$5 + 1 = 6$

Write what you say when you count on.

b.

5, 6, 7

$5 + 2 = 7$

c.

7, 8, 9

$7 + 2 = 9$

d.
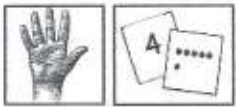
6, 7, 8, 9

$9 = 6 + 3$

e.

7, 8, 9, 10

$10 = 7 + 3$

Lesson 15

Homework Key

1. 8
2. 8; answers will vary.
3. 10

4. 10
5. 9
6. 9; answers will vary.

Work Samples

Use your 5-group cards or your fingers to count on to solve.

Shortcuts include counting on with fingers or using 5 group cards or just knowing these facts.

Show the shortcut you used to add.

1. $5 \ (+) \ 3 = 8$

   5, 6, 7, 8

2. $6 \ (+) \ 2 = 8$

   start with 6 then count on using fingers, 7, 8.

3. $7 \ (+) \ 3 = 10$

Lesson 16

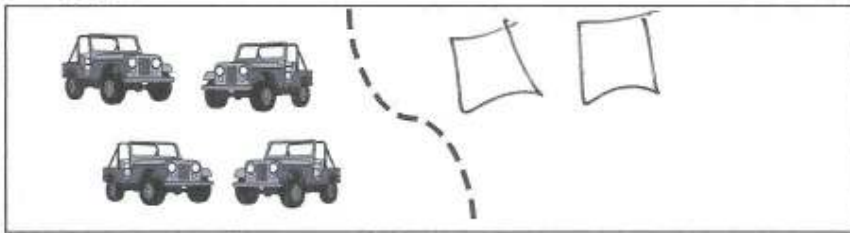## Objective: Count on to find the unknown part in missing addend equations such ad 6 + __ = 9. Answer, "How many more to make 6, 7, 8, 9, and 10?"

Homework Key

1. Group of 2 objects drawn; 2
2. Group of 2 objects drawn; 2
3. 8, 9, 10; 3

Work Samples

1. Use simple math drawings. Draw more to solve 4 + ? = 6.

$$4 \quad + \quad \boxed{2} \quad = \quad \boxed{6}$$

The Commutative Property of Addition and the Equal Sign

Focus Standards:

1.OA.3   Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

1.OA.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.*

Instructional Days Recommended: 4

Topic E leads students to a very intentional understanding and application of the equal sign and the commutative property of addition (**1.OA.3** and **1.OA.7**). Lessons 17 and 18 ask students to use pictorial representations (pictures and 5-groups) to write expressions and to demonstrate that they are equivalent by using the equal sign.

This work with the equal sign precedes the lessons on commutativity in order to allow students to construct true number sentences such as 4 + 3 = 3 + 4 without misunderstanding the equal sign to mean that the numbers are the same. Students understand that when added together, two numbers make the same total, regardless of whether one of the numbers appears first or second in equations and expressions.

The topic ends with Lesson 20, where students directly apply their understanding of commutativity by starting with the larger quantity and counting on (a Level 2 strategy) as a matter of efficiency, "I can count on 2 from 7 when I solve 2 + 7!"

*The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.
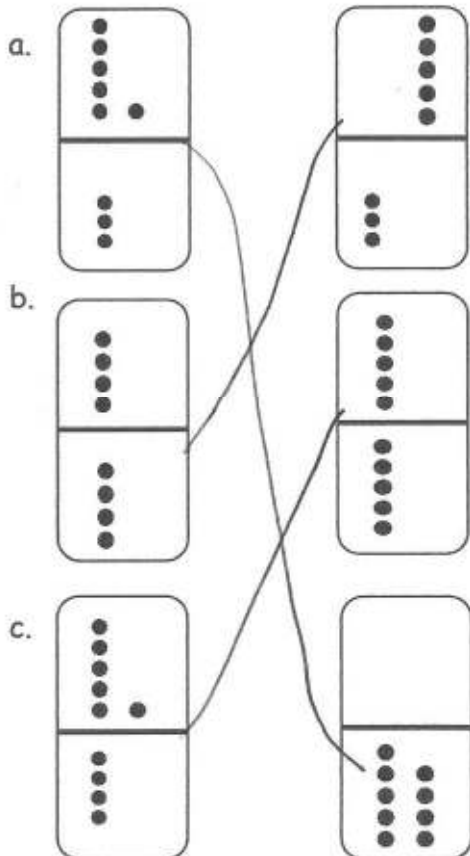
Lesson 17-18

Objective: Understand the meaning of the equal sign by pairing equivalent expressions and constructing true number sentences.

Homework Key (Lesson 17)

1.   a.   Matched to 0 and 9; $6 + 3 = 0 + 9$

        b.   Matched to 5 and 3; $4 + 4 = 5 + 3$

        c.   Matched to 5 and 5; $6 + 4 = 5 + 5$

2.   a. $5 + 2 = 4 + 3$

        b. $8 + 2 = 7 + 3$

Work Samples

1. Match the equal dominoes. Then, write true number sentences. $4+4=5+3$

a. $6+3 = 0+9$

b. $4+4 = 5+3$

c. $6+4 = 5+5$

Lesson 18

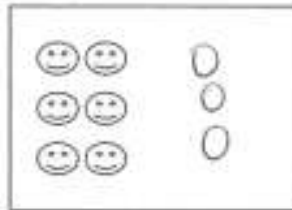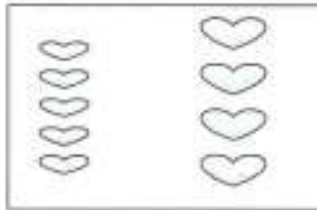**Homework Key**

1. Group of 3 objects drawn in the second box;

   $5 + 4 = 6 + 3$

2. a. Circled

   b. Answers will vary.

   c. Circled

   d. Circled

   e. Answers will vary.

   f. Circled

   g. Answers will vary.

   h. Circled

   i. Circled

3. a. 4

   b. 0

   c. 3

   d. 1

   e. 1

   f. 6

Work Samples

1. The pictures below are not equal. Make the pictures equal, and write a true number sentence.

<u>5 + 4</u> = <u>6 + 3</u>

Both pictures now equal 9.

2. Circle the true number sentences, and rewrite the false sentences to make them true.

a. 4 = 4

b. 5 + 1 = 6 + 1

5 + 1 = 6 + 0

c. 3 + 2 = 5 + 0

3. Find the missing part to make the number sentences true.

a. 8 + 0 = <u>4</u> + 4

b. 7 + 2 = 9 + ___

c. 5 + 2 = 4 + ___

d. 5 + ___ = 6 + 0

e. 6 + ___ = 4 + 3

f. 5 + 4 = ___ + 3

Use your 5 group cards to help, or draw dots to count on.

Lesson 19

Objective: Represent the same story scenario with addends repositioned (the commutatie property).

Homework Key

1. 7, 5, 2; 5, 2, 7; 2, 5, 7
2. a. 5, 3, 8; 3, 5, 8
   b. 8, 6, 2; 8, 2, 6
   c. 10; 8, 2, 10; 2, 8, 10
   d. 2; 2, 5, 7; 5, 2, 7
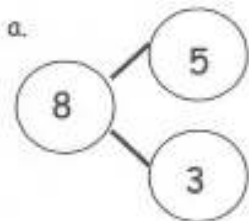   e. 7; 10, 7, 3; 10, 3, 7
   f. 6; 6, 3, 9; 3, 6, 9

Work Samples

1. Use the picture to write a number bond. Then, write the matching number sentences.

$$5 + 2 = 7$$
$$2 + 5 = 7$$

2. Write the number sentences to match the number bonds.

a.

___ + ___ = ___

___ + ___ = ___

Watch where the
$+$ and $=$ signs are.

Lesson 20

Objective: Apply the commutative property to count on from a larger addend.

Homework Key

1. Group of 3 pencils colored; 5, 3; 3, 2, 5
2. 7, 2, 9; bag of 7 food items colored; 9, 2
3. 6 colored; 7; 6, 1, 7
4. 4 colored; 6; 4, 2, 6
5. 5 colored; 8; 5, 3, 8
6. 4 colored; 8; 4, 4, 8
7. 5 colored; 9; 5, 4, 9

Work Samples

Color the larger part, and complete the number bond.
Write the number sentence, starting with the larger part.
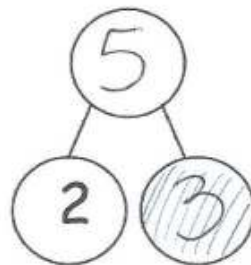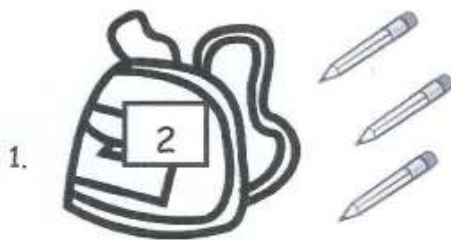
$3 + 2 = 5$

This helps with counting on from the bigger number.

$4 + 4 = 8$

Grade 1 Module 1 Topic F

Development of Addition Fluency Within 10

Focus Standards:

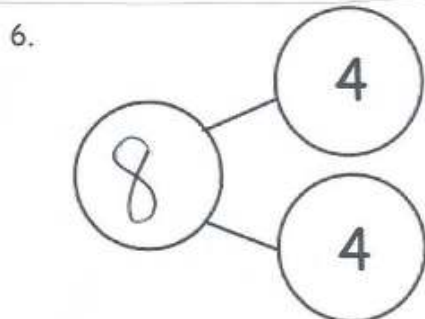1.OA.3   Apply properties of operations as strategies to add and subtract. *Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)*

1.OA.6   Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

Instructional Days Recommended: 4

Topic F continues with the theme of more efficient strategies coupled with deep understanding to solve addition problems within 10. In Lesson 21, students begin to internalize doubles and doubles plus 1 as they work with visual representations of these problems (**1.OA.6**).

As students almost take a mental picture of these doubles and doubles plus 1 dot configurations, they can call on these images to quickly assist them when faced with these problems in the future. Students explore patterns on the addition chart within the context of familiar facts in Lessons 22 and 23 (MP.7, MP.8).

1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9
2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	
3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7		
4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6			
5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5				
6 + 0	6 + 1	6 + 2	6 + 3	6 + 4					
7 + 0	7 + 1	7 + 2	7 + 3						
8 + 0	8 + 1	8 + 2							
9 + 0	9 + 1								
10 + 0									

Lesson 22 focuses on having students look for common addends and discuss how those addends affect the total in systematic ways. For example, "I see 3 + 2 = 5, 4 + 2 = 6, 5 + 2 = 7, and 6 + 2 = 8. Even though we're adding 2 each time and that stays the same, the totals are increasing by 1, because we're adding a number that's 1 more each time!" Building upon this, Lesson 23 has students using the facts they know, such as those from Topic B's decomposition posters, to explore patterns in problems where the totals are the same. The topic closes with Lesson 24's addition fact practice, where students actually get to practice their facts in an engaging, supportive environment with their peers (**1.OA.6**).

Lesson 21

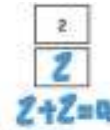## Objective: Visualize and solve doubles and doubles plus 1 with 5-group cards.

Homework Key

1. a. $4; 4+4=8$
   b. $3; 3+3=6$
   c. $5; 5+5=10$

2. a. $1+1=2$
   b. $2, 2+2=4$
   c. $3, 3, 3+3=6$
   d. $4; 4+4=8$
   e. $5, 5; 5+5=10$

3. a. 6
   b. 5
   c. 1
   d. 2
   e. 4

4. a. 1 matched to 2
   b. 4 matched to 5
   c. 3 matched to 4
   d. 2 matched to 3

5. a. $5; 2+2=4$
   b. $4; 3+3=6$
   c. $5; 4+4=8$

Lesson 21 (continued)

Work Samples

2

2

2+2=4

1. Draw the 5-group card to show a double. Write the number sentence to match the cards.

a.

4

4

4+4=8

b.

3

3

3+3=6

c.

5

5

5+5=10

4. Match the top cards to the bottom cards to show doubles plus 1.

Doubles plus 1
Example: 1+2=
1+(1+1)

a.

1

5

b.

4

2

c.

3

3

d.

2

4

5. Solve the number sentences. Write the double fact that helped you solve the double plus 1.

a.

2 + 3 = 5
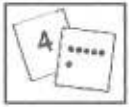
2+2=4

b.

3 + ___ = 7

c.

4 + ___ = 9

Lesson 22

Objective: Look for and make use of repeated reasoning on the addition chart by solving and analyzing problems with common addends.

Homework Key

1.
a.	8; blue		m.	3; yellow
b.	1; blue		n.	1; blue
c.	4; blue		o.	5; green
d.	8; yellow		p.	6; blue
e.	2; green		q.	4; green
f.	3; yellow		r.	2; green
g.	9; yellow		s.	5; blue
h.	2; green		t.	9; green
i.	3; blue		u.	1; blue
j.	1; blue		v.	10; blue
k.	3; blue		w.	10; yellow
l.	8; green		x.	2; blue

Lesson 22 (continued)

Work Samples

Solve the problems without counting all. Color the boxes using the key.

Step 1: Color the problems with "+ 1" or "1 +" blue.

Step 2: Color the remaining problems with "+ 2" or "2 +" green.

Step 3: Color the remaining problems with "+ 3" or "3 +" yellow.

a. Blue 7 + 1 = 8	b. Blue 8 + 1 = 9	c. Blue 3 + 1 = 4	d. Yellow 5 + 3 = 8
e. Green 5 + 2 = 7	f. Yellow 4 + 3 = 7	g. Yellow 6 + 3 = 9	h. Green 8 + 2 = 10
i. Blue 2 + 1 = 3	j. Blue 1 + 1 = 2	k. Blue 1 + 3 = 4	l. Green 6 + 2 = 8
m. Yellow 3 + 3 = 6	n. Blue 6 + 1 = 7	o. Green 3 + 2 = 5	p. Blue 5 + 1 = 6
q. Green 2 + 2 = 4	r. Green 4 + 2 = 6	s. Blue 4 + 1 = 5	t. Green 7 + 2 = 9
u. Blue 2 + 1 = 3	v. Blue 9 + 1 = 10	w. Yellow 7 + 3 = 10	x. Blue 1 + 2 = 3

Lesson 23

Objective: Look for and make use of structure on the addition chart by looking for and coloring problems with the same total.

Homework Key

1. 3; 4; 5; 4; 2 + 3, 5; 6
2. 7; 8; 8 + 1, 9; 10; 8; 7 + 2, 9; 10
3. 8; 9; 10; 9; 5 + 5, 10; 4 + 6, 10
4. 6; 3 + 4, 7; 2 + 5, 7; 8; 8; 3 + 6, 9

Work Samples

Fill in the missing box, and find the totals for all of the expressions. Use your completed addition chart to help you.

1.

1 + 2	1 + 3
3	4
2 + 2	2 + 3
4	5
3 + 2	3 + 3
5	6

Lesson 24

Objective: Practice to build fluency with facts to 10.

Homework Key

1. 6; placed in +1 column
2. 6; placed in doubles column
3. 8; placed in doubles column
4. 9; placed in doubles +1 column and mentally Visualized 5-groups column
5. 8; placed in +2 column
6. 8; placed in +1 column

7. 10; placed in +2 column
8. 9; placed in 1+ column
9. 5; placed in doubles +1 column and +2 column
10. 4; placed in doubles column and +2 column
11. 7; placed in doubles +1 column
12. 7; placed in mentally visualized 5-groups column and +2 column

Answers will vary.

1	2	3	4	5	6	7	8	9	10
2	3	4	5	6	7	8	9	10	
3	4	5	6	7	8	9	10		
4	5	6	7	8	9	10			
5	6	7	8	9	10				
6	7	8	9	10					
7	8	9	10						
8	9	10							
9	10								
10									

Work Samples

Solve and sort the number sentences. One number sentence can go in more than one place when you sort.

5 + 1 = 6	6 + 2 = 8	2 + 3 = 5
3 + 3 = 6	7 + 1 = 8	2 + 2 = 4
8 = 4 + 4	8 + 2 = 10	3 + 4 = 7
9 = 5 + 4	10 = 1 + 9	7 = 5 + 2

Doubles	Doubles +1	+1	+2	Mentally visualized 5-groups
3+3	5+4	5+1	6+2	5+2
4+4	2+3	7+1	8+2	5+1
2+2	3+4	1+9	2+3	5+4
5+5	7+8	4+1	2+2	5+5
			5+2	4+1

Write your own number sentences, and add them to the chart.

5+5	7+8	4+1

Grade 1 Module 1 Topic G

Subtraction as Unknown Addend Problem

Focus Standards:

1.OA.1   Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

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

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

Instructional Days Recommended: 3

Following the Mid-Module Assessment, Topic G focuses on students understanding the meaning of subtraction as it relates to addition. In Lesson 25, students solve *add to with change unknown* problems as they did in Topic C using addition but now relate that work directly to the act of taking away (**1.OA.4**). The work of this lesson starts with students calling upon their knowledge from previous *add to with change unknown* problems and then applying it in the context of subtraction, using the addend to subtract from the total in order to find the missing addend or part (**1.OA.1**).

In this opening lesson, students use objects to represent discrete counts, which serves as a bridge to the number path used in Lessons 26 and 27. Number bonds will continue to serve as a bridge between prior learning and this new learning.

In these concluding lessons, students use the number path, as pictured below, in order to find one part, count on to the total, and determine the number of counts it took to get to that total from the part (**1.OA.5**). The teacher engages students in

deep discussion about these strategies as they relate to the contextualized situations of story problems, ensuring that students build a solid conceptual understanding of why and how one utilizes counting on to solve subtraction.
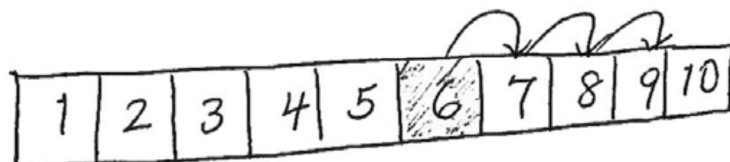
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

$$6 + \_ = 9$$
$$9 - 6 = \_$$

Lesson 25

Objective: Solve *add to with change unknown* math stories with addition, and relate to subtraction. Model with materials, and write corresponding number sentences.

Homework Key

1. Line separating 6 and 2 drawn; 8, 6, 2; 6, 2, 8; 8, 6, 2; 2
2. Line separating 4 and 5 drawn; 9, 4, 5; 4, 5, 9; 9, 4, 5; 5
3. Groups of 2 objects and 4 objects drawn; 6, 2, 4; 2, 4, 6; 6, 2, 4; 4
4. Groups of 3 objects and 6 objects drawn; 9, 3, 6; 3, 6, 9; 9, 3, 6; 6
5. Groups of 2 objects and 8 objects drawn; 10, 2, 8; 2, 8, 10; 10, 2, 8; 8

Work Samples

1. Six flowers bloomed on Monday. Some more bloomed on Tuesday. Now, there are 8 flowers. How many flowers bloomed on Tuesday?
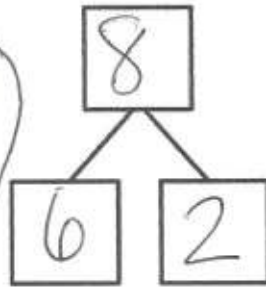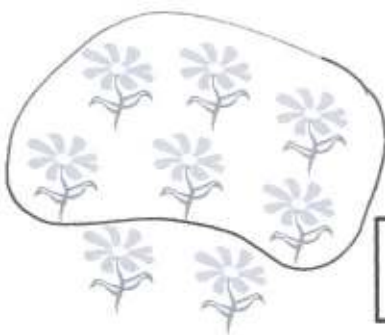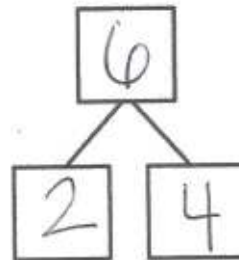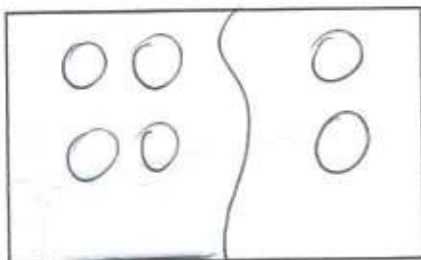

$6 + 2 = 8$

$8 - 6 = 2$

_____2_____ flowers bloomed on Tuesday.

Draw a picture to solve the math story.

3. Missy buys some cupcakes and 2 cookies. Now, she has 6 desserts. How many cupcakes did she buy?

$2 + 4 = 6$

$6 - 2 = 4$

Missy bought ____4____ cupcakes.

Lesson 26-27

Objective: Count on using the number path to find an unknown part.

Homework Key (Lesson 26)

1. 2; 2

2. a. 2; 2
   b. 3; 3
   c. $6; 2 + 6 = 8$
   d. $3; 6 + 3 = 9$

3. a. $2; 6 = 4 + 2$
   b. $4; 4 + 5 = 9$
   c. $4; 6 + 4 = 10$
   d. $3; 10 = 7 + 3$

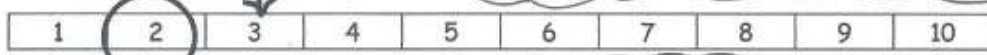4. a. $5; 8 - 3 = 5; 3 + 5 = 8$
   Number sentences may vary.
   b. $6; 9 - 6 = 3; 3 + 6 = 9$
   Number sentences may vary.

Work Samples

Use the number path to solve.

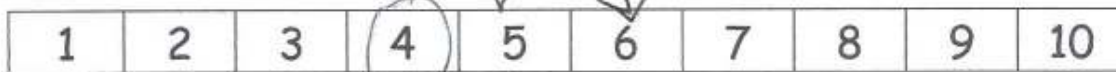*Start with the amount being subtracted and count up to the total or amount started with.*

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

$3 - 2 = \underline{1}$ $2 + \underline{1} = 3$

1.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

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

Use the number path to solve. Match the addition sentence that can help you.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

3.

a. $6 - 4 = \underline{2}$

b. $9 - 5 = \underline{}$

c. $10 - 6 = \underline{}$

d. $10 - 7 = \underline{}$

$6 + 4 = 10$

$10 = 7 + 3$

$4 + 5 = 9$

$6 = 4 + 2$

Lesson 27

Homework Key

1. a. $7; 7 + 3 = 10; 10 - 7 = 3$

    (Number sentences may vary.)

    b. $4; 4 + 6 = 10; 10 - 6 = 4$

    (Number sentences may vary.)

2. a. 2; count on

    b. 6; count back

    c. 2; count on

3. a. 2; count on; curved lines from 5 to 6 and 6 to 7 drawn; on

    b. 8; count back; curved line from 9 to 8 drawn; back

    c. 2; count on; answers will vary.

Work Samples

Use the number path to complete the number bond, and write an addition and a subtraction sentence to match.

1.

a. $3 + 7 = 10$

$10 - 3 = 7$

b. $6 + 4 = 10$

$10 - 6 = 4$
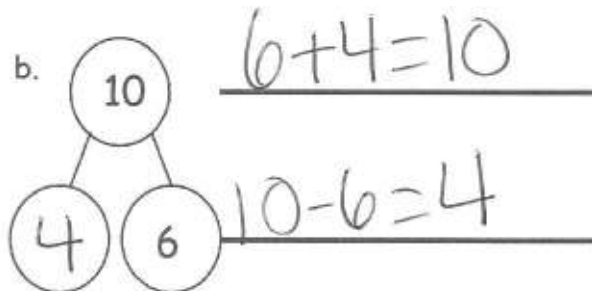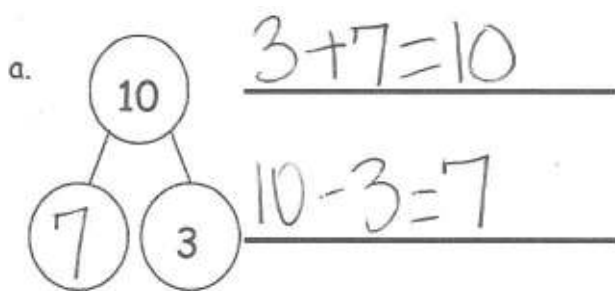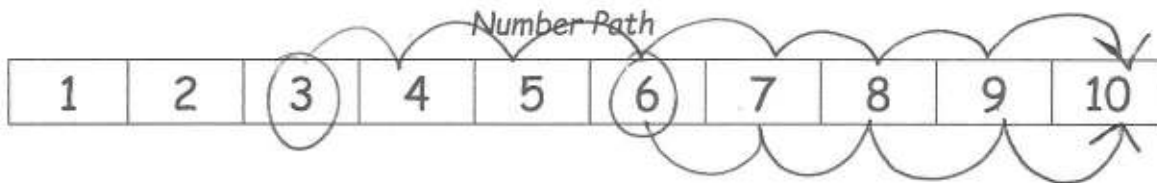
2. Solve the number sentences. Pick the best way to solve. Check the box.

	Count on	Count back

a. 9 – 7 = __2__   ☒   ☐

b. 8 – 2 = __6__   ☐   ☒   *It's less hops to count on from 7 to 9 °°°*

c. 7 – 5 = __2__   ☒   ☐

b. 9 – 1 = __8__   ☐   ☒

1	2	3	4	5	6	7	8	9	10

I counted __back__ because it needed fewer hops.

Grade 1 Module 1 Topic H

Subtraction Word Problems

Focus Standards:

1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

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

Instructional Days Recommended: 5

With a smooth transition from Topic G, Topic H provides students with rich experiences connecting subtraction to their solid foundation of addition (**1.OA.4**), using various word problem types (**1.OA.1**). Lesson 28 begins with students solving action-based *take from with result unknown* problems, as they start with a set of objects, then take some away, and finally end with a smaller set of objects. Students then work with simple math drawings and equations to represent these *take from with result unknown* stories and connect the act of crossing off to the symbol for subtraction.

Then, Lesson 29 allows students to solve the relationship-based *take apart with result unknown* problems, which are both connected to *take from with result unknown* problems and are the counterpart to the familiar *put together with addend unknown* problems from earlier topics. In both Lessons 28 and 29, students make varied statements to explain the remaining amount, e.g., "There were 4 bears left," "Four bears stayed in the forest," "Then, there were 4 bears all together." This permits students to think and speak flexibly about the unknown, rather than associate specific key words with a particular operation. For example, *all together* does not always indicate addition.

Lesson 30 furthers the connection between addition and subtraction as teachers have students discuss ways to solve *add to with change unknown* word problems,

as they use simple math drawings and equations to represent the problem and solution. With the introduction of a whole new problem type in Lesson 31, students use drawings to solve *take from with change unknown* problems such as, "Ben had 7 pencils. He gave away some. Now, he has 5. How many pencils did he give away?" The topic ends with another new relationship problem—*put together/take apart with addend unknown*. Throughout Topic G, students discuss and apply their understanding of addition as it relates to subtraction and vice versa.

Lesson 28

Objective: Solve *take from with result unknown* math stories with math drawings, true number sentences, and statements, using horizontal marks to cross off what is taken away.
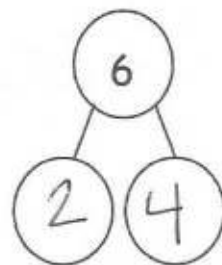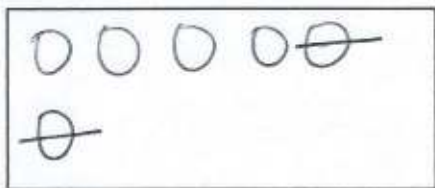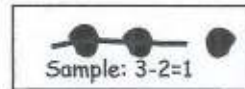
Homework Key

1. 6 objects drawn; group of 2 objects crossed out; 2, 4; 2, 4; 4
2. 8 objects drawn; group of 3 objects crossed out; 8, 3, 5; 8, 3, 5; 5
3. 7 objects drawn; group of 3 objects crossed out; 7, 3, 4; 7, 3, 4; 4
4. 9 objects drawn; group of 6 objects crossed out; 9, 6, 3; 9, 6, 3; 3
5. 10 objects drawn; group of 7 objects crossed out; 10, 7, 3; 10, 7, 3; 3
6. 10 objects drawn; group of 4 objects crossed out; 10, 4, 6; 10, 4, 6; 6

Work Samples

Read the story. Make a math drawing to solve.

Sample: 3-2=1

1. There were 6 hot dogs on the grill. Two finish cooking and are removed. How many hot dogs remain on the grill?

$6 - 2 = 4$

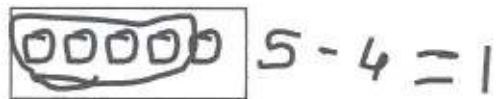There are __4__ hot dogs remaining on the grill.

Lesson 29

Objective: Solve *take apart with addend unknown* math stories with math drawings, equations, and statements, circling the known part to find the unknown.
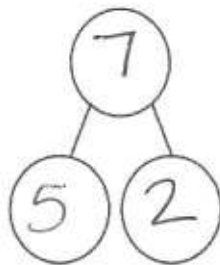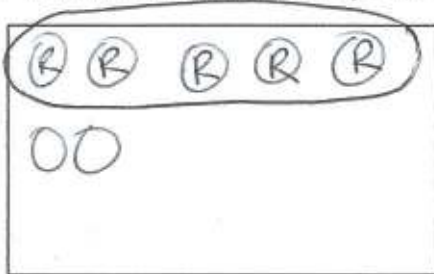
Homework Key

1. 7 objects drawn; group of 5 objects circled; 7, 5, 2; labels will vary; 7, 5, 2; 2
2. 8 objects drawn; group of 2 objects circled; 8, 2, 6; labels will vary; 8, 2, 6; 6
3. 9 objects drawn; group of 4 objects circled; 9, 4, 5; labels will vary; 9, 4, 5; 5
4. 10 objects drawn; group of 6 objects circled; 10, 6, 4; labels will vary; 10, 6, 4; 4
5. 7 objects drawn; group of 2 objects circled; 2, 5, 7; labels will vary; 7, 2, 5; 5
6. 10 objects drawn; group of 2 objects circled; 2, 8, 10; labels will vary; 10, 2, 8; 8 fingers are not hurt.

Work Samples

Read the math stories. Make math drawings to solve.

$$5 - 4 = 1$$

1. Tom has a box of 7 crayons. Five crayons are red. How many crayons are not red?

$$7 - 5 = 2$$

$$\underline{2}\ \text{crayons are not red.}$$

Lesson 30

Objective: Solve *add to with change unknown* math stories with drawings, relating addition and subtraction.
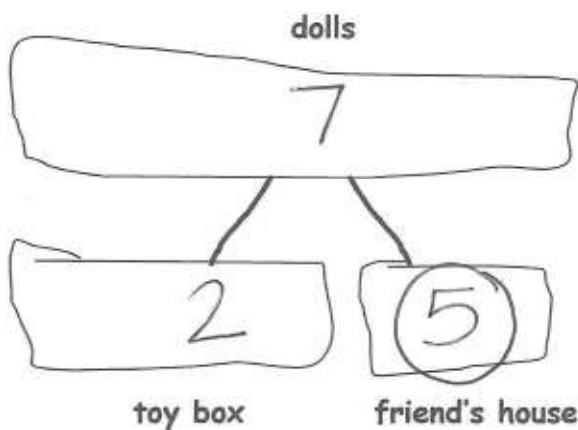
Homework Key

1. 7, 2, and 5 objects drawn; 7, 2, 5; labels will vary; 2, 5; 2, 5; numeral 5 in both number sentences circled; 5

2. 8, 3, and 5 objects drawn; 8, 3, 5; labels will vary; 3, 5; 3, 5; numeral 5 in both number sentences circled; 5

3. 9, 5, and 4 objects drawn; 9, 5, 4; labels will vary; 5, 4; 9, 5, 4; numeral 4 in both number sentences circled; 4

4. 10, 7, and 3 objects drawn; 10, 7, 3; labels will vary; 7, 3, 10; 10, 7, 3; numeral 3 in both number sentences circled; 3

Work Samples

Solve the math stories. Draw and label a picture number bond to solve. Circle the unknown number.

1. Grace has a total of 7 dolls. She puts 2 in the toy box and takes the rest to her friend's house. How many dolls does she take to her friend's house?

Grace takes __5__ dolls to her friend's house.

Lesson 31

Objective: Solve *take from with change unknown* math stories with drawings.

Homework Key

1. 6 objects drawn; group of 4 objects circled, group of 2 objects crossed out;
   4, 2; 4, 2; 2

2. 8 objects drawn; group of 6 objects circled, group of 2 objects crossed out;
   8, 6, 2; 8, 6, 2; 2

3. 7 objects drawn; group of 5 objects circled, group of 2 objects crossed out;
   7, 5, 2; 7, 5, 2; 2

4. 8 objects drawn; group of 5 objects circled, group of 3 objects crossed out;
   8, 5, 3; 8, 5, 3; 3

5. 10 objects drawn; group of 7 objects circled, group of 3 objects crossed out;
   10, 7, 3; 10, 7, 3; 3

6. 10 objects drawn; group of 3 objects circled, group of 7 objects crossed out;
   10, 3, 7; 10, 3, 7; 7

Work Samples

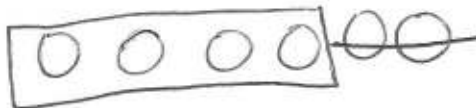Make a math drawing, and circle the part you know.
Cross out the unknown part.
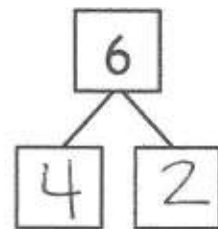Complete the number sentence and number bond.

Sample 3 - 1 = 2

1. Missy gets 6 presents for her birthday. She unwraps some. Four are still wrapped. How many presents did she unwrap?

Missy unwrapped ___2___ presents.

6 − 4 = 2

Lesson 32

Objective: Solve *put together/take apart with addend unknown* math stories.

Homework Key

1. a. 10 objects drawn; group of 6 objects circled; matched to $6 + 4 = 10$; $10 - 6 = 4$

    b. 9 objects drawn; group of 6 objects circled; matched to $6 + 3 = 9$; $9 - 6 = 3$

    c. 10 objects drawn; group of 3 objects circled; matched to $3 + 7 = 10$; $10 - 3 = 7$

2. 3; group of 3 objects and group of 4 objects drawn; $3 + 4 = 7$;

    group of 7 objects drawn with a group of 4 circled or crossed out; $7 - 4 = 3$; drawings and number sentences may vary.

3. 3; group of 3 objects and group of 5 objects drawn; $3 + 5 = 8$;

    group of 8 objects drawn with a group of 5 circled or crossed out; $8 - 5 = 3$; drawings and number sentences may vary.
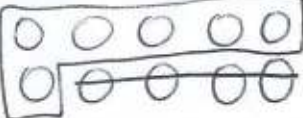
Work Samples

Match the math stories to the number sentences that tell the story. Make a math drawing to solve.

1. a.

There are 10 flowers in a vase.

6 are red.

The rest are yellow.

How many flowers are yellow?

$$6 \; (+) \; 3 = 9$$

$$9 \; (-) \; 6 = 3$$

b.

There are 9 apples in a basket.

6 are red.

The rest are green.

How many apples are green?

$$3 \; (+) \; 7 = 10$$

$$10 \; (-) \; 3 = 7$$

c.

Kate has her fingernails painted.

3 have designs.

The rest are plain.

How many fingernails are plain?

$$6 \; (+) \; 4 = 10$$

$$10 \; (-) \; 6 = 4$$

Use the number bond to tell an addition and subtraction math story with pictures.
Write an addition and subtraction number sentence.

2.

$$3 + 4 = 7$$

$$7 - 4 = 3$$

Decomposition Strategies for Subtraction

Focus Standards:

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

1.OA.6   Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).

Instructional Days Recommended: 5

Similar to Topic E's addition methods, Topic I allows students to learn methods for subtraction that involve subtracting 0 and 1, subtracting the whole number, subtracting one less than the whole number, and using familiar decompositions (5-groups and partners of 10) to conceptualize subtraction as finding a missing part (**1.OA.6**).

In Lesson 33, students use pictures and simple math drawings to show 0 less and 1 less and construct number sentences (**1.OA.5**). The discussion in Lesson 34 around what happens each time students take away 0 or 1 with numbers within 10 leads them to an understanding that this same reality remains true with all numbers. Similarly, students explore what happens in both $n - n$ and $n - (n - 1)$ situations. They notice, "When I take 5 away from 5, I'm left with zero every time." and "$5 - 4$ is 1, just like $6 - 5$ is 1." Students generalize their understanding: "Any number minus a number that's one less will leave us with just 1."
In Lesson 35, students relate their knowledge of both doubles and fives to the context of subtraction, where they extract those known facts from given

expressions. For instance, when faced with 8 – 5, students access the decomposition of 8 ("I know that 5 and 3 makes 8.") and apply that understanding to help them solve subtraction problems ("So, 8 – 5 must be 3.").

Lessons 36 and 37 continue on this explicit decomposition and subtraction connection as students use their knowledge of partners of 10 and partners of 9 to help them solve subtraction stories and equations efficiently. Topic I is full of students using strategies and discussing those strategies and patterns in order to gain fluency and facility with subtraction within 10, and ultimately beyond.

Lesson 33

Objective: Model 0 less and 1 less pictorially and as subtraction number sentences.

Homework Key

1.	8; 5-group drawing: 9 circles with 1 circle crossed off	11.	9, 1, 8
		12.	9, 0, 9
2.	9; 5-group drawing: 9 circles	13.	8, 1, 7
3.	0; 5-group drawing: 6 circles	14. a.	1
4.	1; 5-group drawing: 7 circles with 1 circle crossed off	b.	7
		c.	1
5.	0; vertical 5-group drawing: 9 circles	d.	1
6.	0; vertical 5-group drawing: 8 circles	e.	1
7.	1; vertical 5-group drawing: 10 circles with 1 circle crossed off	f.	1
		g.	0
8.	0; vertical 5-group drawing: 7 circles	h.	1
9.	6, 1, 5		
10.	7, 0, 7		

Work Samples

Show the subtraction. If you want, use a 5-group drawing for each problem.

8-1 = 7

1.
9 – 1 = 8

2.
9 – 0 = 9

3.
6 – ___ = 6

4.
6 = 7 – ____

Show the subtraction. If you want, use a 5-group drawing like the model for each problem.
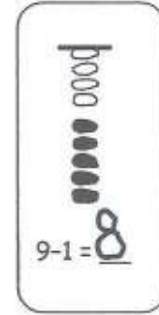
5.

$9 - \underline{0} = 9$

6.

$8 = 8 - \underline{\hphantom{00}}$

$9 - 1 = 8$

Write the subtraction number sentence to match the 5-group drawing.
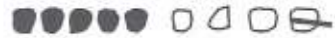
9.

$\underline{6} - \underline{1} = \underline{5}$

10.

$\underline{\hphantom{00}} - \underline{\hphantom{00}} = \underline{\hphantom{00}}$

11.

$\underline{\hphantom{00}} - \underline{\hphantom{00}} = \underline{\hphantom{00}}$

Lesson 34

Objective: Model *n - n* and *n – (n - 1)* pictorially and as subtraction sentences.

Homework Key

1.	10 circles crossed off; 0	11.	9, 9, 0
2.	8 circles crossed off; 1	12.	9, 8, 1
3.	5-group drawing of 8; 7 circles crossed off; 8	13.	8, 8, 0
4.	5-group drawing of 8; 8 circles crossed off; 8	14. a.	7
5.	5-group drawing of 7; 7 circles crossed off; 7	b.	6
6.	5-group drawing of 6; 5 circles crossed off; 5	c.	7
7.	Vertical 5-group drawing of 9; 8 circles crossed off; 8	d.	6
		e.	9
8.	Vertical 5-group drawing of 8; 8 circles crossed off; 8	f.	9
		g.	10
9.	7, 7, 0	h.	8
10.	10, 9, 1		

Work Samples

Cross off to subtract.

1.

   10 – 10 = _0_

2.

   9 – 8 = _1_

7-6 = _1_
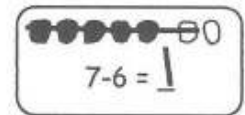
Make a 5-group drawing like those above. Show the subtraction.

3.

   1 = _8_ – 7

4.

   8 – ___ = 0

Lesson 34 (continued)

Write the total amount of dots, then subtract the amount that's crossed off.

Write the subtraction number sentence to match the 5-group drawing.

9.   10.   11.

$7 - 7 = 0$ $10 - 9 = 1$ $9 - 9 = 0$

Lesson 35

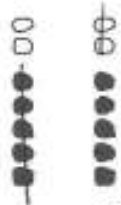## Objective: Relate subtraction facts involving fives and doubles to correspoding decompositions.

Homework Key

1. 5 black circles crossed off; 2
   2 white circles crossed off; 5
2. 5 black circles crossed off; 1
   1 white circle crossed off; 5
3. 5 black circles crossed off; 5
   4 white circles crossed off; 4
4. 5-group drawing of 10; group of 5 circles
   crossed off; 5
   10, 5, 5
5. 5-group drawing of 8; group of 5 circles
   crossed off; 3
   5-group drawing of 8; group of 3
   circles crossed off; 3
   8, 5, 3
6. a. 5
   b. 10
   c. 3
   d. 7
   e. 8
   f. 9

7. 3; 3
8. 10; 10
9. 4; 4
10. a. 5; 5-group
    b. 5; 5-group
    c. 5; doubles or 5-group
    d. 6; doubles
    e. 4; doubles
    f. 4; 5-group

Work Samples

Solve the sets of number sentences. Look for easy groups to cross off.

1. $7 - 5 = 2$
   $7 - 2 = 5$

2. $6 - 5 = \underline{}$
   $6 - 1 = \underline{}$

3. $9 - \underline{} = 4$
   $9 - \underline{} = 5$

   $6 - 1 = S$
   $6 - 5 = 1$
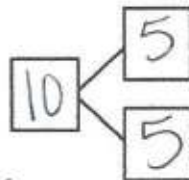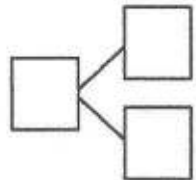
Subtract. Make a math drawing for each problem like the ones above. Write a number bond.

4.

$10 - 5 = \underline{5}$

5.

$8 - 5 = \underline{\hspace{1cm}}$

$8 - \underline{\hspace{1cm}} = 5$

10. Match the number sentence to the strategy that helps you solve.

a. $7 - \underline{5} = 2$

b. $8 - \underline{\hspace{1cm}} = 3$

doubles

5-groups

Lesson 36

Objective: Relate subtraction from 10 to corresponding decompositions.

Homework Key

1. 5-group drawing of 10; 2 circles crossed off; 8
   5-group drawing of 10; 8 circles crossed off; 10, 8, 2

2. 5-group drawing of 10; 1 circle crossed off; 9
   5-group drawing of 10; 9 circles crossed off; 10, 9, 1

3. 5-group drawing of 10; 7 circles crossed off; 3
   5-group drawing of 10; 3 circles crossed off; 10, 3, 7

4. 8; $10 - 8 = 2$; 10, 2, 8

5. 1; $10 - 9 = 1$; 10, 1, 9

6. 4; $10 - 6 = 4$; 10, 4, 6

7. 9, $10 - 1 = 9$; 10, 9, 1

8. 5; 10, 5, 5

9.
   a. 2; matched to $10 - 2 = 8$; $10 - 8 = 2$
   b. 3; matched to $10 - 3 = 7$; $10 - 7 = 3$
   c. 4; matched to $10 - 4 = 6$; $10 - 6 = 4$
   d. 5; matched to $10 - 5 = 5$; $10 - 5 = 5$
   e. 1; matched to $10 - 1 = 9$; $10 - 9 = 1$

Work Samples

Make a math drawing, and solve. Use the first number sentence to help you write a related number sentence that matches your picture.

1.

$10 - 2 =$ _8_

$10 - 8 = 2$

2.

$10 - 1 =$ ____

___ - ___ = ___

3.

$10 - 6 =$ _4_
$10 - 4 =$ _6_

$10 - 7 =$ ____

___ - ___ = ___

9. Complete the number bond. Match the number bond to the related subtraction sentence. Write the other related subtraction number sentence.

a.

```
  10
 /  \
8    2
```

$10 - 5 =$ ____   ___ - ___ = ___

b.

```
  10
 /  \
7   [ ]
```

$10 - 1 =$ ____   ___ - ___ = ___

c.

```
[ ]
  \
10 
  /
6
```
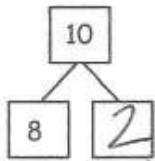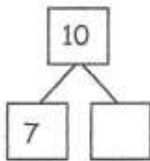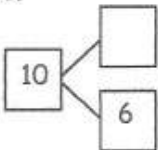
$10 - 2 =$ _8_ $10 - 8 = 2$

Lesson 37

Objective: Relate subtraction from 9 to corresponding decompositions.

Homework Key

1. 5-group drawing of 9; 2 circles crossed off; 7
   5-group drawing of 9; 7 circles crossed off; $9 - 7 = 2$

2. 5-group drawing of 9; 8 circles crossed off; 1
   5-group drawing of 9; 1 circle crossed off; $9 - 1 = 8$

3. 5-group drawing of 9; 4 circles crossed off; 5
   5-group drawing of 9; 5 circles crossed off; $9 - 5 = 4$

4. $2; 9 - 2 = 7;$
   9, 7, 2

5. $0; 9 - 9 = 0;$
   9, 9, 0

6. $3; 9 - 6 = 3;$
   9, 3, 6

7. $8; 9 - 1 = 8; 9, 8, 1$

8. $4; 9 - 4 = 5; 9, 4, 5$

9. a. 1; matched to $9 - 1 = 8; 9 - 8 = 1$
   b. 2; matched to $9 - 2 = 7; 9 - 7 = 2$
   c. 6; matched to $9 - 6 = 3; 9 - 3 = 6$
   d. 4; matched to $9 - 5 = 4; 9 - 4 = 5$
   e. 0; matched to $9 - 9 = 0; 9 - 0 = 9$

Work Samples

Make 5-group drawings and solve. Use the first number sentence to help you write a related number sentence that matches your picture.

1.

$9 - 2 = 7$

$9 - 7 = 2$

2.

$9 - 8 = \_\_\_$

$\_\_ - \_\_ = \_\_$

3.

$9 - 4 = \_\_\_$

$\_\_ - \_\_ = \_\_$

$9-6 = 3$

$9-3 = 6$

9. Use 5-group drawings to help you complete the number bond. Match the number bond to the related subtraction sentence. Write the other related subtraction number sentence.

a.

9

8 | 1

$9 - 5 = \_\_\_$

$\_\_\_ - \_\_\_ = \_\_\_$

b.

9

7 |

$9 - 1 = 8$

$9 - 8 = 1$

Grade 1 Module 1 Topic J

Development of Subtraction Fluency Within 10

Focus Standard:

1.OA.6   Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 − 4 = 13 − 3 − 1 = 10 − 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 − 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13.)

Instructional Days Recommended: 2

Grade 1's Module 1 closes with Topic J, where students spend Lesson 38 exploring the addition chart (similar to Topic F) and looking for patterns within the context of subtraction (**MP.7, MP.8, 1.OA.6**).

When presented with a subtraction equation such as 7 − 3, students then use their knowledge of the decompositions of 7 to help them solve, and discuss to find related addition equations on the addition chart such as 3 + 4 or 4 + 3.

The final lesson, Lesson 39, allows students to further analyze the addition chart to create their own sets of related addition and subtraction facts for them to practice throughout the year as they work toward mastery of these foundational facts.

1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9
2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	
3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7		
4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6			
5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5				
6 + 0	6 + 1	6 + 2	6 + 3	6 + 4					
7 + 0	7 + 1	7 + 2	7 + 3						
8 + 0	8 + 1	8 + 2							
9 + 0	9 + 1								
10 + 0									

The sample homework responses contained in this manual are intended to provide insight into the skills expected of students and instructional strategies used in Eureka Math.

Lesson 38

Objective: Look for and make use of repeated reasoning and structure, using the addition chart to solve subtraction problems.

Homework Key

2 + 2; 3 + 3; 4 + 4; 5 + 5 doubles shaded
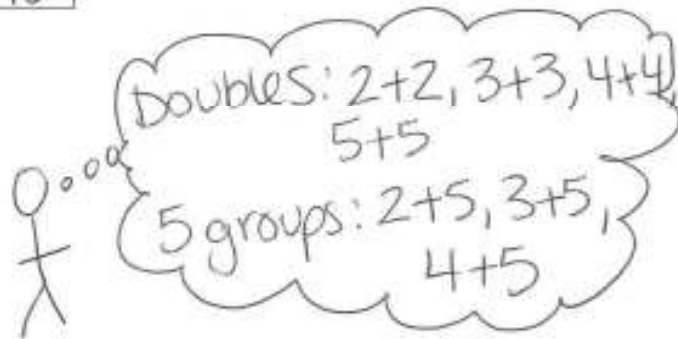
2 + 5; 3 + 5; 4 + 5 5-groups shaded

Work Samples

Find and solve the 7 unshaded addition problems that are doubles and 5-groups.

Make subtraction flashcards for the related subtraction facts. (Remember, doubles will only make 1 related subtraction fact instead of 2 related facts.)

Make a number bond card and use your cards to play Memory.

1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9
2 + 0	2 + 1	2 + 2 **4**	2 + 3	2 + 4	2 + 5 **7**	2 + 6	2 + 7	2 + 8	
3 + 0	3 + 1	3 + 2	3 + 3 **6**	3 + 4	3 + 5 **8**	3 + 6	3 + 7		
4 + 0	4 + 1	4 + 2	4 + 3	4 + 4 **8**	4 + 5 **9**	4 + 6			
5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5 **10**				
6 + 0	6 + 1	6 + 2	6 + 3	6 + 4					
7 + 0	7 + 1	7 + 2	7 + 3						
8 + 0	8 + 1	8 + 2							
9 + 0	9 + 1								
10 + 0									

Doubles: 2+2, 3+3, 4+4 5+5

5 groups: 2+5, 3+5, 4+5

Example:

$4-2=2$	$8-5=3$ $8-3=5$

Lesson 39

Objective: Analyze the addition chart to create sets of related addition and subtraction facts.

Homework Key

1. $2 + 3 = 5$
2. $2 + 4 = 6$
3. $2 + 6 = 8$
4. $2 + 7 = 9$
5. $2 + 8 = 10$
6. $3 + 4 = 7$

7. $3 + 6 = 9$
8. $3 + 7 = 10$
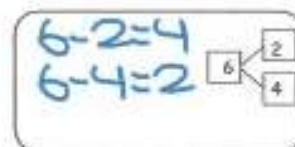9. $4 + 6 = 10$
10. Answers will vary; see homework example.

Work Samples

Solve the unshaded addition problems below.

1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9
2 + 0	2 + 1	2 + 2	2 + 3 *5*	2 + 4 *6*	2 + 5	2 + 6 *8*	2 + 7 *9*	2 + 8 *10*	
3 + 0	3 + 1	3 + 2	3 + 3	3 + 4 *7*	3 + 5	3 + 6 *9*	3 + 7 *10*		
4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6 *10*			
5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5				
6 + 0	6 + 1	6 + 2	6 + 3	6 + 4					
7 + 0	7 + 1	7 + 2	7 + 3						
8 + 0	8 + 1	8 + 2							
9 + 0	9 + 1								
10 + 0									

$4 + 2$

Pick an addition fact from the chart. Use the grid to write the two subtraction facts that would have the same number bond. Repeat in order to make a set of subtraction flash cards. To help you practice your addition and subtraction facts even more, make your own number bond flash cards with the templates on the last page.

$6 - 2 = 4$
$6 - 4 = 2$

Example:

| 5-3=2
5-2=3 | |

Example:

5 → 2 / 3	□ → □ / □	□ → □ / □	□ → □ / □
□ → □ / □	□ → □ / □	□ → □ / □	□ → □ / □
□ → □ / □			