EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

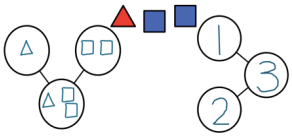
During the next week, students will learn about the **number bond**, a math model they will use through Grade 5. Number bonds show how to **put together** parts to make a whole, or total, amount; for example, 2 and 3 make 5. At the same time, these models show how to take a whole apart: 5 is 3 and 2. Since the beginning of the year, students have been using objects and drawings to break apart and put together numbers. The number bond now gives them a way to record this work on paper.

You can expect to see homework that asks your child to do the following:

- Complete a number bond to match a picture.
- Use different colors to show two different parts of a whole, and use fingers and a number bond to show the **hidden partners**, or **number pairs**.
- Complete a sentence to match the number bond; for example, 3 and 1 make 4.
- Invent a story to complete a number bond and draw a picture to match.

SAMPLE PROBLEM *(From Lesson 3)*

Draw the shapes and write the numbers to complete each number bond.



Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Invite your child to gather five small objects or toys and to tell you **take apart**/put together stories about them. For example, "There are 5 frogs. Two frogs sit on a log, and 3 frogs play in the water."
- Encourage your child to use small objects to show various number bonds for numbers 2 through 5. For example, if the whole is 4 beans, your child might break it apart into 3 beans and 1 bean. Be sure your child includes 0 as a part in some number bonds. For an added challenge, ask your child to increase the total number of beans gradually to 10. Perhaps set a timer to see how many number bonds she can make in a minute.
- Encourage your child to practice counting the **Say Ten** way to 20 (e.g., 8, 9, ten, ten 1, ten 2, ten 3, ... 2 tens). If your child struggles, consider drawing a picture or using a **Rekenrek** as a visual support.

TERMS

Hidden partners or **number pairs/partners:** Pairs of numbers that add up to a given number. For example, the numbers 3 and 5 are partners, or pairs, that make 8.

Put together: To combine parts to make a whole; to add.

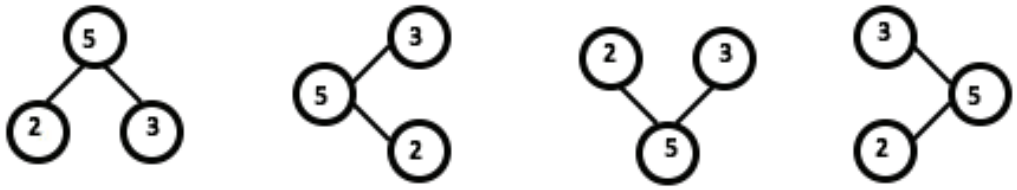
Say Ten counting: An East Asian method of counting that reinforces place value understanding by asking students to break two-digit numbers into tens and ones. In Grade 1, Say Ten counting extends to three-digit numbers up to 120.

eighteen	1 ten 8
forty-eight	4 tens 8
one hundred eighteen	1 hundred 1 ten 8

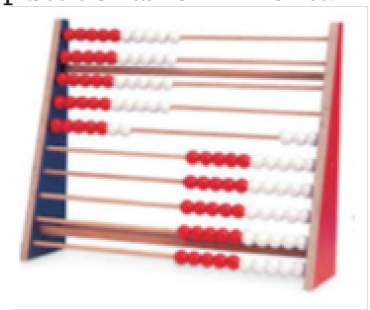
Take apart: To separate a whole number (total) into parts For example, "There are 5 children; 3 are girls, and 2 are boys." NOTE: Take apart problems are different from take away problems in that solving take apart problems does not involve removing any parts. This distinction can be challenging for children in the early years.

MODELS

Number Bond: A model showing the relationship between a number (whole)and its parts. Grade K students work with number bonds in various orientations.



Rekenrek: A Slavonic abacus with rows of 10 beads. Each row has a group of five red and five white beads. The color groupings help students form mental images of numbers.



EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

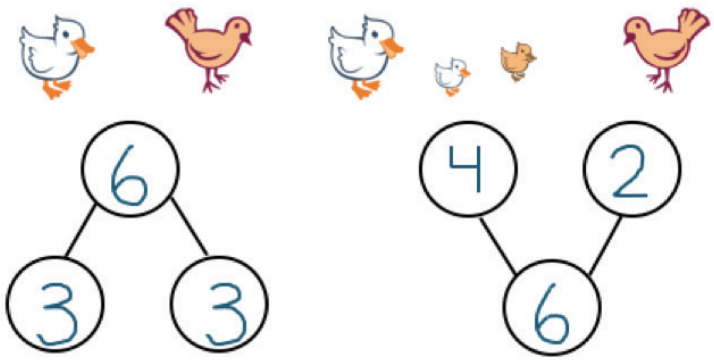
During the next week, our math class will use objects, numbers, and number bonds to break apart numbers 6, 7, and 8 into number pairs. Students will use objects to represent multiple stories with the same whole, or total, each time, finding that they can break apart a whole in many different ways. For example, 6 is 5 and 1, but it is also 4 and 2, 3 and 3, and 6 and 0. Just like the five fingers on one hand, **5-groups** help students see that 5 is a part of 6, 7, and 8. Thinking of numbers 6 through 8 as being 5 *and some more* helps students to remember number pairs.

You can expect to see homework that asks your child to do the following:

- Look at a picture of 6, 7, or 8 objects. Find different number pairs for the whole.
- Write number bonds to match a picture.
- Complete a sentence (e.g., 6 is 4 and 2) to match a picture.
- Look at a number bond. Show the two parts by coloring squares with two different colors.
- Color squares with two different colors; then complete a number bond and sentence to match.

SAMPLE PROBLEM *(From Lesson 7)*

Look at the birds. Make two different number bonds to match. Tell an adult about the numbers in one of your bonds.
NOTE: Answers may vary.



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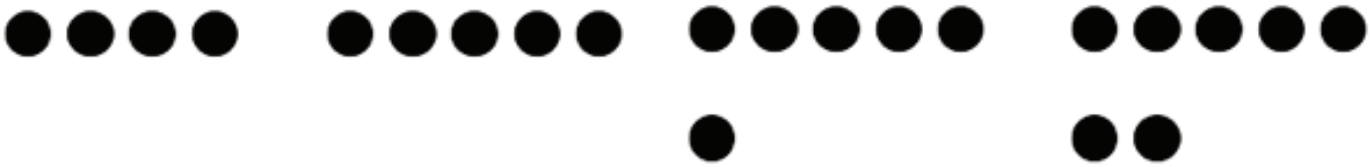
HOW YOU CAN HELP AT HOME

- Encourage your child to use objects in your home to show various number bonds for numbers 6 through 8. Be sure your child includes 0 as a part of some number bonds.
- Invite your child to gather 6, 7, or 8 small objects and tell a take apart/put together story about them.
- Challenge your child to arrange and draw sets of 6, 7, or 8 objects arranged in 5-groups. Draw attention to the idea that the total is 5 and some more. Encourage your child to say a sentence to match each set, for example, "7 is 5 and 2 more" or "8 is 5 and 3 more."

TERMS

5-group: A math drawing with up to two rows of five dots per row. It is used to draw special attention to the 5 in numbers 6 through 10, as illustrated in the examples below.



EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next week, our math class will begin learning about addition with totals of 6, 7, and 8. Students will first receive all of the numbers in a story and write an addition sentence to match the story. Because students do not have to solve for an unknown number, they can focus on what each number stands for in the addition sentence. Then, students solve number stories in which the total is unknown. For example, "There were 4 kittens playing in the yard. Two more kittens came to the yard. How many kittens are now playing in the yard?" Some addition sentences start with a total and ask students to find a number pair that matches the total. For example, "There are 8 toys. Some are on a shelf, and the rest are in a toy box." In this example, 8 = 6 + 2 is one correct answer, but there are several others.

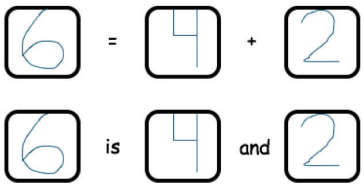
You can expect to see homework that asks your child to do the following:

- Write number bonds and number sentences to match a picture.
- Write addition sentences to match a picture, with the total both on the left (7 = 4 + 3) and on the right (4 + 3 = 7).
- Draw a picture and use addition to solve number stories.
- Choose a way to take apart 6, 7, or 8 and write an addition sentence to match.

SAMPLE PROBLEM *(From Lesson 13)*

Fill in the addition sentences to match the picture.

There are 6 cars on the road; 2 cars are blue, and 4 cars are orange.



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HOW YOU CAN HELP AT HOME

- Invite your child to gather 6, 7, or 8 small objects. Ask her to separate the objects into two groups and to tell a put together story and say or write an addition sentence to match. For example, if she creates groups of 7 and 1, your child might say, "There are 7 puppies playing. One more puppy comes to play. Now there are 8 puppies playing. The sentence is 7 + 1 = 8."
- Place 6, 7, or 8 pennies in a cup. Shake the cup, and then pour the pennies out. Write an addition sentence to match the number of heads and tails. For example, if one penny lands heads up and five pennies land tails up, the matching number sentence is 6 = 1 + 5.
- Provide a situation that totals 6, 7, or 8. For example, you might say, "There are 8 vehicles on the road. Some are trucks and some are cars. Say and write some addition sentences to show how many of each there could be." Repeat with several different situations. Take turns with your child writing and saying the matching addition sentences.

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

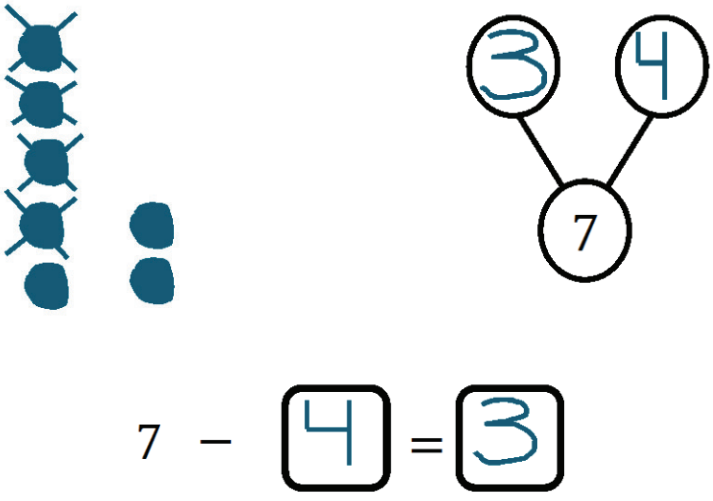
During the next week, our math class will begin learning about subtraction from totals of 6, 7, and 8. We will begin by physically taking away an object or crossing off a picture to help students understand the difference between addition and subtraction. Students will first receive all of the numbers in a subtraction story and write a subtraction sentence to match. This activity allows them to focus solely on knowing what each number stands for in the subtraction sentence. Later, students will solve number stories in which the answer is unknown. Once again, students will use 5-groups to find answers more quickly.

You can expect to see homework that asks your child to do the following:

- Cross out a given number of objects in a group and write how many are left.
- Match a completed subtraction number sentence to a picture.
- Use drawings, including 5-group drawings, to solve subtraction problems.
- Write a number bond to match a subtraction sentence.

SAMPLE PROBLEM *(From Lesson 23)*

Draw 7 dots in a 5-group. Cross out 4 dots. Fill in the number bond and number sentence to match.



Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

- Invite your child to gather 6, 7, or 8 small objects. Together, tell **take away** stories about the objects and write subtraction sentences to match. For example, "There are 7 frogs on a log; 4 frogs jump into the water. Now there are 3 on the log." (7 – 4 = 3)
- Place 6, 7, or 8 pennies in a cup. Shake the cup, and then pour the pennies out. Encourage your child to write a take apart subtraction sentence to match the number of heads and tails that appear. For example, if 6 pennies land heads up and 2 pennies land tails up, your child could write 8 – 6 = 2 or 8 – 2 = 6. Remind your child that a take apart story is different from a take away story because in a take apart story, they don't remove any of the parts.
- Have your child close his eyes while you separate 6, 7, or 8 small objects (e.g., beans or pennies) into 2 parts and hide each part in each of your hands. Tell your child the total. Then show how many objects—or which part—you have in one hand. Ask, "How many are hiding in the other hand? What's the other part?"

TERMS

Take away: To separate a whole, or total, number into parts and remove one part; to subtract one number part from a total. For example, there were 5 children; 3 girls went home, and 2 boys are left.

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

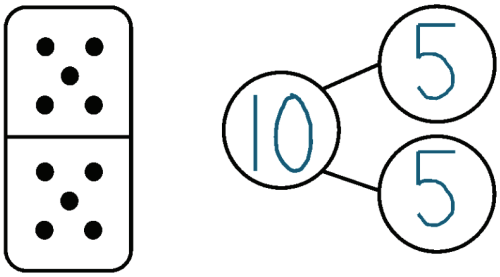
During the next few days, our math class will use objects, drawings, and number bonds to break apart numbers 9 and 10 into number pairs. Students will use objects to act out multiple stories involving the same total number, discovering that the whole can be broken apart in many ways. For example, 9 is 8 and 1, but it is also 7 and 2, 6 and 3, 5 and 4, and 9 and 0. Once again, students will focus on the pattern of *5 and some more* as well as other patterns that make it easier to remember number pairs.

You can expect to see homework that asks your child to do the following:

- Look at a picture of 9 or 10 objects. Color some of the objects one color and the rest another color to separate the objects into two smaller groups. Tell whether there are other ways to break apart the group of 9 or 10 into two smaller groups.
- Look at a linking cube stick with two groups of cubes in different colors, and compare the stick with a completed number bond. Decide whether the parts of the number bond match the cube stick.
- Look at a number bond. Color the beads on a bracelet in two different colors to match the parts of the number bond.
- Fill in a number bond to match a domino. (See Sample Problem.)

SAMPLE PROBLEM *(From Lesson 28)*

Write a number bond to match the domino.



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HOW YOU CAN HELP AT HOME

- Invite your child to gather 9 or 10 small objects and tell a take apart/put together story about them. Remind your child that a take apart story is different from a take away story because in a take apart story, she does not remove any of the parts.
- Encourage your child to show a number the Math Way. Then ask, "How many more do you need to make 10?" For example, you might say, "Show me 8 the Math Way." (Your child shows 8 on his fingers.) "How many more do you need to make 10?" (2)
- Invite your child to roll one die and then tell how many more she needs to make 9. If she struggles, give her 9 small items (e.g., pennies or beans) to use as counters. Play again, this time asking your child to tell how many more she needs to make 10.

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next few days, our math class will begin learning about addition with totals of 9 and 10. At first, students will have all of the numbers in a story and will write an addition sentence to match. Because students do not have to solve for an unknown number, they can focus on what each number stands for in the addition sentence. Next, students will solve number stories in which the answer is unknown. Some addition problems give a number pair and ask students to find the total. Other addition problems start with a total and ask students to find a number pair that matches the total. For example, "There are 9 crayons. Some are in a cup, and the rest are on the desk. Write a number sentence that shows how many crayons could be in a cup and on the desk." In this example, $9 = 2 + 7$ is one correct answer, but there are several others.

You can expect to see homework that asks your child to do the following:

- Write a number bond and an addition sentence to match a picture, with the total shown on both the left ($10 = 3 + 7$) and the right ($3 + 7 = 10$).
- Draw a picture and use addition to solve number stories.
- Choose ways to break apart 9 and 10 and write addition sentences to match.

SAMPLE PROBLEM *(From Lesson 31)*

Ella has 6 chocolate chip cookies and 3 sugar cookies. How many cookies does she have altogether?

$6 + 3 = 9$

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HOW YOU CAN HELP AT HOME

- Invite your child to gather 9 or 10 objects. Together, tell take apart/put together stories about the objects and write addition sentences to match. For example, "There are 9 toy trucks; 5 are green and 4 are red. Write a number sentence to match the story." (9 = 5 + 4)
- Tell your child a story with a total of 9 or 10. For example, "There are 8 bears in a cave. When it starts to rain, 1 more bear enters the cave to get out of the rain. How many bears are now in the cave?" Encourage your child to say and write a number sentence to match the story. (8 + 1 = 9)
- Invite your child to place 9 or 10 pennies in a cup, shake the cup, and then pour out the pennies. Encourage your child to say an addition sentence to match the total number of heads and tails while you write the addition sentence. For example, if 6 pennies land heads up and 3 pennies land tails up, the matching number sentence is 6 + 3 = 9.

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

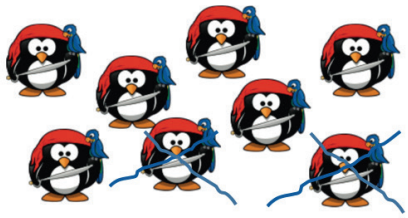
During the next week, our math class will begin learning about subtraction from totals of 9 and 10. Students will begin by physically taking away objects or crossing off parts of a picture to help them understand the difference between addition and subtraction. At first, students will have all of the numbers in a subtraction story and will write a subtraction sentence to match. This activity allows students to focus solely on what each number stands for in the subtraction sentence. Later, students will solve subtraction number stories in which the answer is unknown. Students may also use 5-groups to find answers more quickly.

You can expect to see homework that asks your child to do the following:

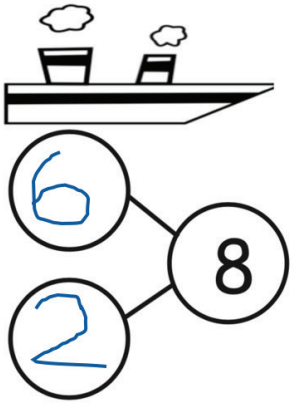
- Cross out a given number of objects in a group and write how many are left.
- Use 5-group drawings to solve subtraction problems.
- Solve a subtraction story by drawing a number bond and writing a number sentence.

SAMPLE PROBLEM *(From Lesson 34)*

There were 8 penguins. Two penguins went back to the ship. Cross out 2 penguins. Fill in the number sentence and the number bond to match.



8 - 2 = 6



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HOW YOU CAN HELP AT HOME

- Invite your child to gather 9 or 10 small toys. Together, tell take away stories about the toys and write subtraction sentences to match.
- Invite your child to roll a die and subtract the number she rolls from 9. For example, if your child rolls a 4, she should say, "9 take away 4 equals 5." Encourage your child to write each subtraction sentence on paper. Play again, this time guiding your child to subtract from 10.
- Invite your child to hold up 10 fingers. Ask him to tuck (put down) some fingers. Then ask, "How many are left?" Encourage your child to say or write a subtraction number sentence to match. For example, if he tucked three fingers, your child should say, "10 take away 3 equals 7" or write $10 - 3 = 7$.

EUREKA MATH™ TIPS FOR PARENTS

KEY CONCEPT OVERVIEW

During the next week, our math class will begin learning about patterns when adding 0 and 1. Students start by using a **number path** to show the inverse relationship of addition and subtraction when adding and then taking away the same number from a set. For example, "There were 9 ladybugs on a leaf. One more ladybug landed on the leaf. Then there were 10 ladybugs on the leaf. One ladybug flew away. Then there were 9 ladybugs on the leaf again." (9 + 1 = 10; 10 – 1 = 9) Next, students explore the fact that adding or subtracting zero doesn't change the original number. Then, students use 5-groups to record how many more are needed to make 10. Finally, students use what they know about a part–part–whole relationship to model and teach others with a stick of linking cubes.

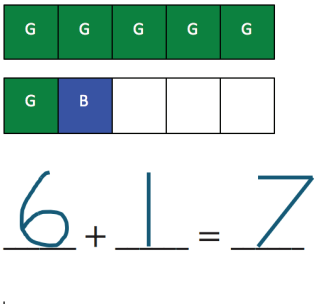
You can expect to see homework that asks your child to do the following:

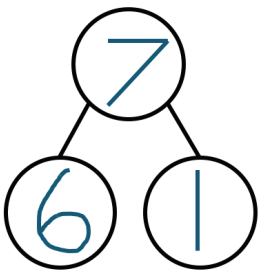
- Solve addition and subtraction story problems by "hopping" with fingers on a number path to show the stories and then completing number sentences to match the stories.
- Use 5-group drawings and number bonds to solve addition problems.

SAMPLE PROBLEM *(From Lesson 38)*

Follow the instructions to color the 5-group. Then fill in the number sentence and number bond to match.

Color 6 squares green and 1 square blue.





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HOW YOU CAN HELP AT HOME

- Invite your child to roll a die and add 1 to the number rolled, saying the number sentence. For example, if your child rolls 4, he says, "4 + 1 = 5."
- Invite your child to gather 10 small objects and arrange them into 5-groups. While your child closes her eyes, hide some of the objects. Encourage your child to say and write an addition sentence to match the result. For example, if you hide 6 objects, the matching addition sentence is either 4 + 6 = 10 or 6 + 4 = 10.
- Encourage your child to use the number path from a homework page or to create a number path on paper. With your child, tell addition and subtraction stories as he uses his fingers to "hop" on the number path. For example, say, "Alika has 7 green pencils and 2 purple pencils. How many pencils does Alika have in all?" Invite your child to hop his finger to the 7 and then hop forward 2 more. Ask, "What number did your finger stop on? Can you think of a number sentence to match the story?"

MODELS

Number Path: A counting tool with a color change after 5, so numbers 6 through 10 are easy to recognize.