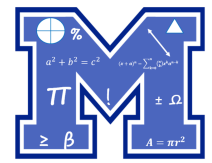


At-Home Math Connection

Grade 2 - Quarter 1



Dear Parents and Caregivers,

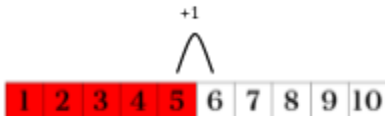
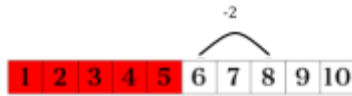
Below you will find a short description of the mathematics your child is working on this quarter. We recommend your child engage with the provided practice at home. Thank you for your continued support. Have fun with your mathematician(s)!



Quarter Focus:

This quarter scholars build on what they learned about addition and subtraction in grade 1 to develop fluency with addition and subtraction facts within 20. They learn how to represent and interpret data on picture graphs and bar graphs, and they use these graphs to solve story problems involving addition and subtraction within 100. Scholars apply their understanding of the relationship between addition and subtraction to solve problems. In addition, skip counting is introduced.

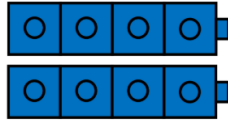
Add and Subtract Within 20: Scholars use what they know about the relationship between addition and subtraction to find the missing values in equations. They use strategies learned in grade 1 such as making a ten, counting on, and counting back to add within 50 and subtract within 20. For example, when adding $8 + 7$, scholars break apart the 7 into $2 + 5$, and make a ten by adding $8 + 2$ and then add 5, so $8 + 2 + 5 = 15$. Scholars later use these strategies to add and subtract within 100.

Below are some strategies that scholars are learning to become fluent. Please understand that each scholar will learn at their own pace.

Plus & Minus 1	Plus & Minus 2
 <p>$5 + 1 = ?$ <i>Starting with 5, count on 1 more to 6.</i> $5 + 1 = 6$</p> <p>Adding 1 to a number is counting 1 more number in the counting sequence. Subtracting 1 from a number is one less in the counting sequence.</p>	 <p>$8 - 2 = ?$ <i>Starting with 8, count back 2 to 6.</i> $8 - 2 = 6$</p> <p>Subtracting 2 is counting back 2 numbers in the counting sequence. Adding 2 is counting on 2 more numbers in the counting sequence.</p>

Plus & Minus 0	Plus 10
 <p>$5 + 0 = 5$</p> <p>Adding 0 to any number results in a sum that is the original number.</p>	 <p>$4 + 10 = 14$</p> <p>Adding 10 to a single-digit number results in a 2-digit sum. Students explore adding 10 in order to build understanding and automaticity that will be needed later when exploring the using-ten strategy.</p>

Doubles

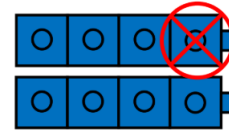


$$4 + 4 = 8$$

Students explore the concept of doubling and what it means to add 2 groups of equal size.
In a double, both addends are the same.

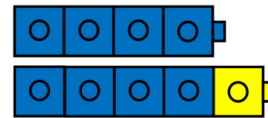
Using Doubles

Doubles minus 1 - using the known doubles fact to find the near doubles unknown minus 1 fact.



$$4 + 3 = 7$$

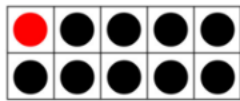
Doubles plus 1 - using the known doubles fact to find the near doubles unknown plus 1 fact.



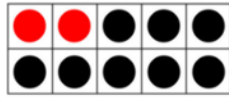
$$4 + 5 = 9$$

Making Ten

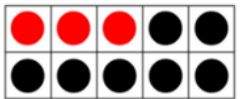
Ways to make 10



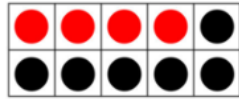
$$1 + 9$$



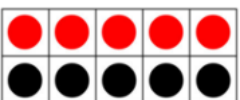
$$2 + 8$$



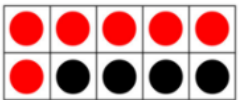
$$3 + 7$$



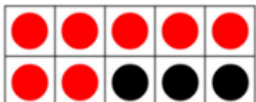
$$4 + 6$$



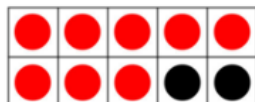
$$5 + 5$$



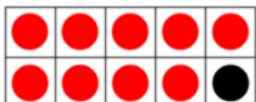
$$6 + 4$$



$$7 + 3$$



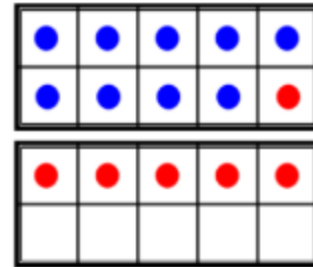
$$8 + 2$$



$$9 + 1$$

Using Ten

$$9 + 6$$



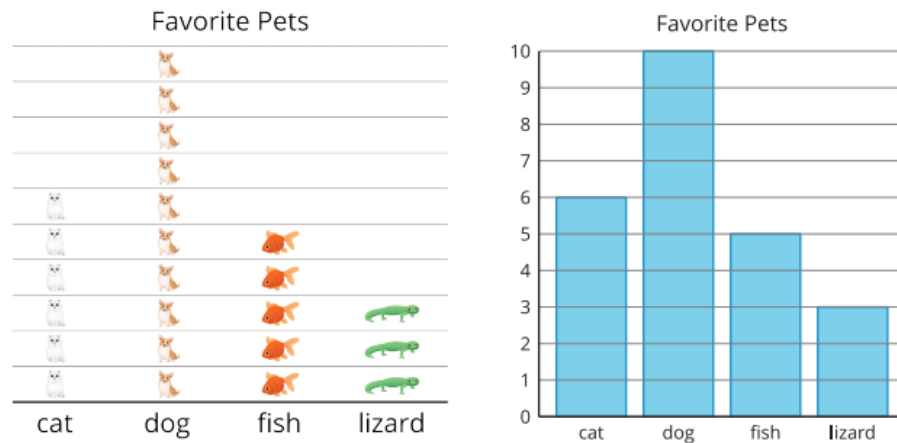
Using knowledge of making ten and understanding flexibility of numbers, students look for ways to break apart addends to create simpler facts by using tens.

Break apart the 6 to 5 + 1

$$(9 + 1) + 5$$

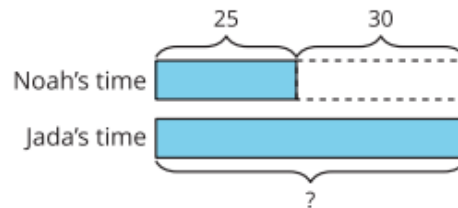
$$10 + 5 = 15$$

Ways to Represent Data: Scholars are asked to make sense of two new data representations: a picture graph and a bar graph. They learn to represent and interpret data on these graphs, and they ask and answer questions based on the data.



Addition and Subtraction Story Problems: Scholars solve story problems involving addition and subtraction within 100. Strategies are used to support students with making sense of story problems and understanding the relationship between addition and subtraction.

*Noah spent 25 minutes swimming.
 Jada spent 30 more minutes swimming than Noah.
 How many minutes did Jada spend swimming?*



Skip Counting: Skip-counting is a fundamental skill that helps scholars develop an understanding of the numeric patterns in mathematics. These patterns help us compute fluently and efficiently. Numerical patterns also help us develop algebraic reasoning. Scholars practice skip counting by 5s, 10s, and 100s.

Curious about the Grade 2 Quarterly Assessment? The assessment consists of 10 multiple choice questions worth 2 points each, 1 constructed response question worth 2 points, and 1 extended response question worth 3 points.

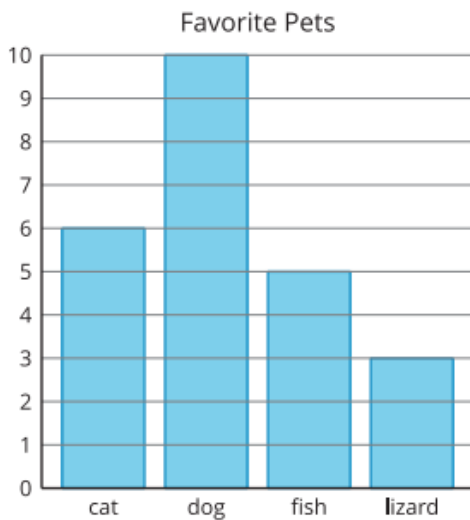
Try it At Home!

Add and Subtract Within 20 Practice:

1. Capture and Count (partner game) - Gather 10 of the same objects (pennies, buttons, beans) and a paper/plastic cup (or you can use your hand). Have one partner count the total number of objects. The other partner then captures (covers) some, but not all, of the objects with the cup (or hand). The players count the number of objects they can still see (not covered by the cup) and work together to figure out how many are under the cup (hand).
*The total number of objects used can vary.
2. If you don't know $9 + 3$, how can knowing $10 + 2$ help you?
3. If you don't know $9 + 8$, is there a doubles fact that can help you?

Data Practice:

Ask your child to write as many statements as they can about the bar graph.



Questions that may be helpful as your child works:

- How does the graph support that statement?
- How does the graph show that piece of information?
- Can you explain to me how you solved the problem?
- What pieces of information were helpful?

1. Write the statements about the bar graph.

Addition and Subtraction Story Problems Practice:

When presenting problems and different situations it is important to use manipulatives (objects) to act out the situations in the story. Encourage your child to explain their thinking and how they solved the problems so they can hear many different ways of approaching the problem. When solving problems, pose the following questions:

- What's going on in the problem/situation?
- What are you noticing?
- What do you wonder?
- Tell me something about this problem?
- What do you predict the solution might look like?

1. There are 13 butterfly stickers and 5 ladybug stickers on the paper. How many stickers are on the paper?	2. 17 marbles are in the jar. 6 are blue and the rest are green. How many marbles are green?
3. Marie has 6 fish in her fish tank. Marie bought 5 more fish. How many fish are in her tank now?	4. Andre read 45 pages of his book last night. Priya read 20 fewer pages of her book than Andre. Who read more pages? How many more pages? Explain or show your reasoning.

Skip Counting Practice:

1. If you count by 5's, and start at 20, what other numbers will be in the pattern?	2. If you count by 5's, and start at 75, what other number will be in the pattern?
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Answer Key

Add and Subtract Within 20 Practice

1. Play Capture and Count	2. 9 is close to 10 and it is easy to add a number to 10.	3. I can think $9 + 9 = 18 - 1 = 17$ OR I can think $8 + 8 = 16 + 1 = 17$.
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Data Practice

1. Statements may include, but are not limited to: <ul style="list-style-type: none">• Dogs are the most favorite pet.• Lizards are the least favorite pet.• More people like fish than lizards.• 24 people participated in this survey.

Addition and Subtraction Story Problems Practice

1. 18 stickers	2. 11 marbles	3. 11 fish	4. Andre read more. 25 more pages.
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Skip Counting Practice

1. 25, 30, 35, 40, 45, etc.	2. 80, 85, 90, 95, 100, etc.
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~Adapted from: Illustrative Math Family Materials, Howard County Public School District, Kansas Department of Education - Flip Book, Number Talks - by: Sherry Parrish, Teaching Student-Centered Mathematics - by: John A. Van de Walle, et al.