

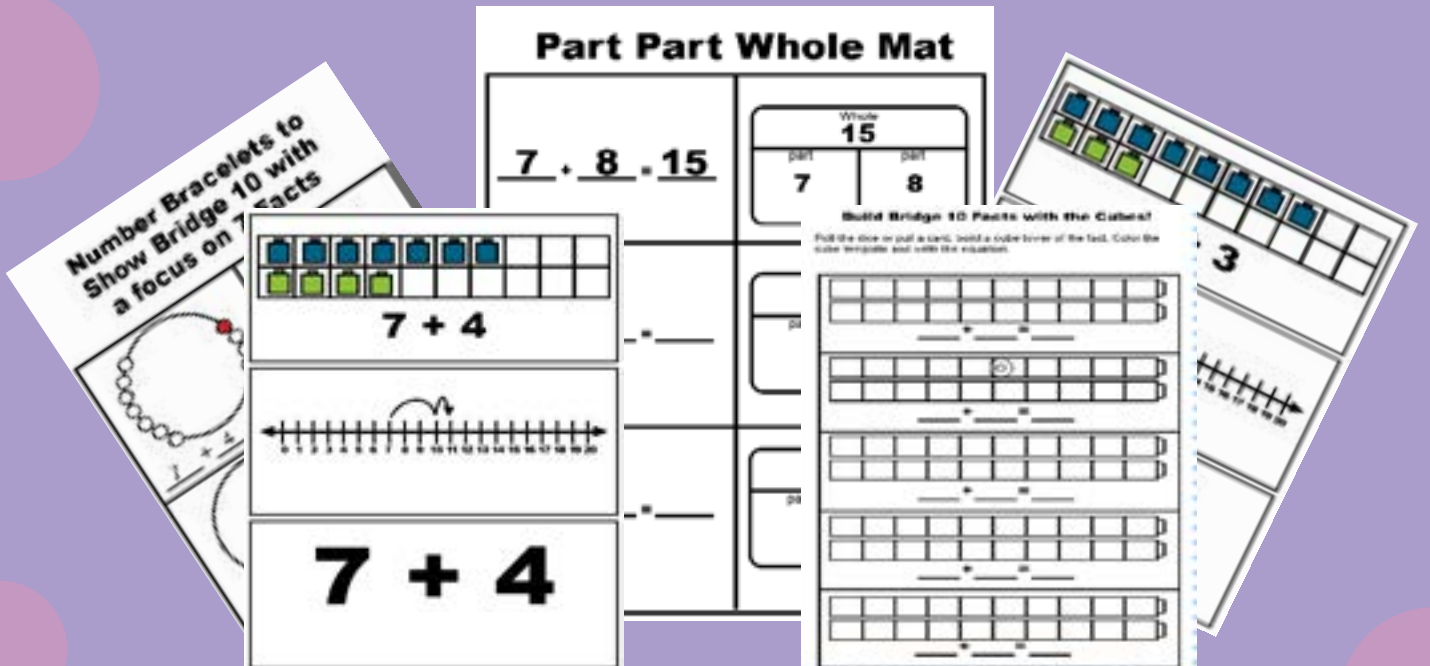
DR. NICKI NEWTON'S

MATH FACT FLUENCY

WORKSTATIONS

#25

BRIDGE 10 WITH
A FOCUS ON 7



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DEDICATED TO MOM AND POPS, ALWAYS

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PREFACE

Why I wrote this book

I wrote this Fluency Practice series because I believe that workstations provide a powerful possibility for improving student achievement. Scaffolding curriculum experiences for students to practice in their zone of proximal development is one of the ways that we move student achievement. I wrote this book series specifically to show what it looks like to scaffold fluency workstations at the concrete, pictorial and abstract levels along the learning trajectory for addition and subtraction.

How to use this book

Each book is divided into 3 parts: The General Overview, The Activities, The Assessment. This book has all the resources to build the Bridge 10 Facts, focusing on 7. Teachers should print out and laminate a variety of concrete, pictorial and abstract activities. There are many activities to choose from, however it is not necessary to put all of the workstations out at once. There should be a variety of activities though at all times. This book is to be used as part of a fluency journey. Each book in the series focuses on practice activities for a targeted strategy.

OVERVIEW

What Are Differentiated Fluency Workstations?

A workstation is a space for students to practice what they are learning and what they are supposed to know. They practice in different ways. Sometimes they practice by themselves, sometimes they practice with a partner and other times they practice in a small group. They can play various types of games as well as do different activities and projects. All of the activities should be meaningful, standards-based and rigorous.

A differentiated fluency workstation is a space for students to work on their basic fact fluency. The stations are organized around the learning trajectories for addition and subtraction. Students take an assessment to see where they should begin the work and then they start at that strategy. They spend time doing various activities around a specific strategy and then they take an assessment and if they show proficiency, they move to the next strategy.

Workstations are not busy work. Workstations are not worksheets. Workstations are not supposed to be boring or frustrating. They are spaces to learn, to grow, to be challenged and to stretch. They are familiar. Students should never be at a workstation that they don't understand. Great workstations allow students to solidify their content knowledge and skills through purposeful practice in the student's zone of proximal development (Vygotsky, 1978).

What does the research say about independent practice?

Teachers must understand the key ideas that their students' need to know and the skills that they must be able to do and how these concepts connect with what came before and what comes next (Ma, 1999). Teachers need to not only know what the concepts are but how to best teach them to the students. What are the learning trajectories required to fully understand the concepts and be able to do the math. Ontario Ministry of Education states that the big ideas also act as a 'lens' for: Making instructional decisions; identifying prior learning; looking at students' thinking and understanding in relation to the mathematical concepts addressed in the curriculum; collecting observations and making anecdotal records; providing feedback to students; determining next steps; communicating concepts and providing feedback on student's achievement to parents (p.4).

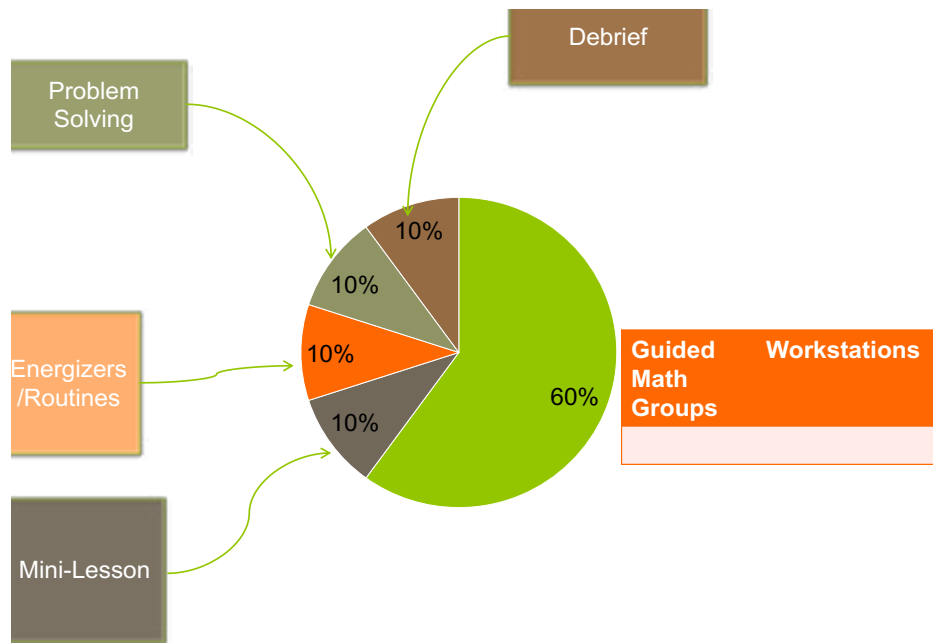
Why should students work in their zone of proximal development?

There is a developmental trajectory for learning math facts (Baroody, 2006; Batista, 2016). Instruction should follow it. Too often we jump from one topic to the next without students really ever having time to practice and own mathematical understandings. Differentiating fluency workstations allows students to practice in their appropriate zone so that they understand one concept before they are rushed to the next. Math topics build on each other. We know that you need to know how to do bridge 7 before you do doubles plus 1. However, most textbooks teach these strategies back to back, not really giving the students time to understand, practice or learn much of anything.

By differentiating the workstations we allow students to practice in their zone (Vygotsky, 1976) and learn the math. The workstations are scaffolded with various concrete, pictorial and then abstract activities so that students have many opportunities to practice different strategies. Van De Walle (2007) told us that we need to give students plenty of different opportunities to practice. Differentiated workstations provide what Anghilieri (2006) calls responsive guidance. The teacher knows where the student is and then responds to that place in the learning trajectory by providing support at that level. “This guidance requires a range of support for pupils’ thought constructions, in a way that develops individual thinking as well as leading to the generation of mathematically valid understandings.” In terms of differentiated math workstations, responsive guidance is about teachers responding to students’ stages of understanding through intentional learning opportunities and practice. Teachers scaffold the learning landscapes.

A QUICK OVERVIEW OF WHEN STUDENTS DO WORKSTATIONS

Workstations can be done as part of a math workshop or they can be done as part of a regular math program that isn't in a workshop format. Either way, the purpose of math workstations is for the students to have an opportunity to do purposeful, meaningful, independent practice. I highly encourage people to do a Math Workshop format. I have written a book on Math Workshop (which details all aspects). In a Math Workshop there are 3 parts:



Opening:

- Energizers and Routines
 - Problem Solving
 - Mini-Lesson

Student Activity

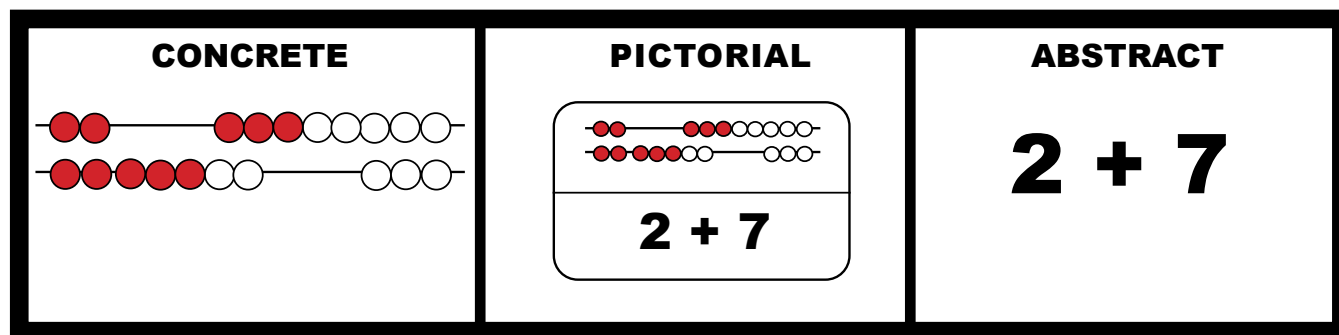
- Math Workstations
- Guided Math Groups

Debrief

- Discussion
- Exit Slip

What do they look like?

Scaffolded workstations are organized according to the learning trajectories. They have 3 components, concrete, pictorial and abstract activities.



How do you manage them?

The fluency workstation is one of the 4 must have workstations (fluency, place value, word problems and the current unit of study). Students visit these workstations in a workstation rotation or as a choice on a menu. It depends how many minutes the math block is on how many rotations are done in a day or a week. There are many ways that teachers build schedules. There can be schedules that are written on chart paper or digitally. Digital schedules allow for the teacher to have an ongoing record of what is happening as well quickly make adjustments. Also, the digital timer can be right there on the screen. Look here for ideas: <https://www.pinterest.com/drnicki7/math-workshop-schedule-boards/>

How do you know who goes where?

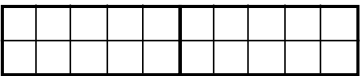
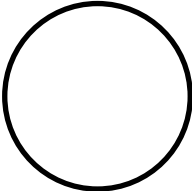
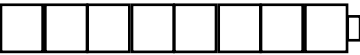
The only way to decide who goes where is to actually give a fluency assessment so that you know where the students practice level is going to be. This could be a Math Running Record. A Math Running Record is like a Fluency GPS. It is given at the beginning, middle and end of the year to find the fluency levels of the students. Find out more about Math Running Records here: <https://mathrunningrecords.com>

What is the role of assessment?

Assessment is the linchpin to scaffolding fluency instruction. We have to know where students are currently working at in order to correctly scaffold where they go next. In the beginning of the year teachers should give a fluency assessment in order to start students off with the right strategy work. After every strategy unit, students are given a quiz and a quick oral assessment. Throughout the unit, the teacher confers with students and takes anecdotal notes.

How do you make sure that students are accountable to the learning?

It is really important to have accountability measures so that you know what the students are doing. Oftentimes this is a recording sheet. Other times, students just write down in their journals the work they are doing. Here are some examples of the recording sheets.

TEN FRAME	NUMBER BRACELET	CUBE MATH
 _____ + _____ = _____	 _____ + _____ = _____	 _____ + _____ = _____

How do you keep track?

You should have a sheet to know which stations students are currently working on and also which ones they have completed. Teachers want to have individual data about the workstations, class data about the workstation and it is also good to look at grade data about the workstations. Some workstations should be used throughout the grade level so that there is consistency across the grade in terms of the content that students are exposed to. Grade Level teachers should decide what is going to be done across the grade for the workstation by everyone and then what is free choice. Everybody has the basics and then they can add on to that as they choose. For example, it is important to be able to discuss fluency across different data sets and how different activities are impacting student achievement levels. So having agreed upon practice experiences benefits everyone in the grade.

Class Snapshot

	Adding Zero/One	Counting On	Adding within 5/ Make 5	Adding within 10/ Make 10	Adding 10	Make 10	Doubles	Doubles +1	Doubles +2	Bridging 10	Adding Higher Facts	Review
Luke												
Tom												
Maritza												

WHAT IS THE ROLE OF PARENTS/GUARDIANS?

Helping Parents/Guardians Help Their Students

Parents play a key role in fluency. Parents need to know what the landscape of learning looks like and where their child is on that landscape. Parents need to know what is the next step and how they can best help their child to achieve that.

Dear Parent,

Your child is working on using bridge 10 as way to think about addition. With this strategy your child will be focusing on what it means to add a number to 7. We have sent home some tools, some flashcards and a game board that focus on bridge 10. Please work with your child by acting out the problems on the rekenrek, by working with first the visual flashcards and then the regular flashcards and by playing the board game. As we are working towards grade level fluency, we go through the cycle of concrete, pictorial and abstract learning so that students can learn their facts.

Math Note:

The math research tells us that fluency has 4 components: accuracy, flexibility, efficiency and appropriate strategy selection. With intentional, purposeful practice, automaticity will come.

Bridge 10 with a focus on 7

Big Ideas: Bridge 10 with a focus on 7 is a way to think about relationships between numbers.

Enduring Understanding: There are a variety of strategies for addition.

Essential Questions: How can I use bridge 10 with a focus on 7 as a way to think about adding numbers?

BRIDGING 10 WITH THE FOCUS ON 7 ACTIVITIES

Concrete Activities Pick 3	Pictorial Activities Pick 3	Abstract Activities Pick 3
Flashcard Ten Frame Build It!	Flashcard Ten Frame Draw it!	Flashcard Ten Frame Write the Equation!
Number Bracelet Build It!	Number Bracelet Draw it!	Number Bracelet Write the Equation!
Rekenrek Build It!	Rekenrek Draw it!	Rekenrek Write the Equation!
Cube Tower Build It!	Cube Tower Draw it!	Cube Tower Write the Equation!
Bead Stick Addition Build It!	Bead Stick Addition Draw it Facts!	Bead Stick Addition Write the Equation!
Part-Part Whole Mats Build It!	Part-Part Whole Mats Build it and Draw it!	Part-Part Whole Mats Write the Equation!
Story Mats Act it out!	Story Mats Draw a picture!	Story Mats Write the Equation!
Number Bond Adding Machine Build It!	Number Bond Adding Machine Draw it!	Number Bond Adding Machine Write the Equation!
Domino, Count and Sort Build it Domino Facts!	Domino Draw a fact!	Domino Write the Equation!

More Activities

Assessment

Give a quick performance test and interview (ask the students to model, show and tell you some of the bridging 10 with a focus on 7 facts).

Ten Frame Activity

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Students pick a flashcard and model it on a ten frame.

Materials

Scaffolded Flashcards
Un scaffolded flashcards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Ten frame flashcards
Set B: Regular bridge 10 focus on 7

Directions

Activity 1

Pull a flashcard.
Model it on the ten frame.
Record it on the recording sheet.
Explain using your math words.
(see below)

Activity 2

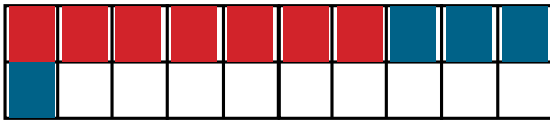
Pull a ten frame flashcard. Use math words to explain the problem and how you solve it.

Use your math words:

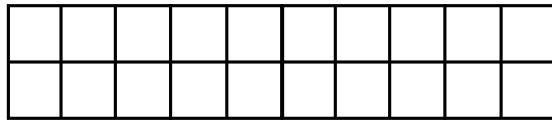
My problem was _____. I added 7 to _____ to make ten, there is _____ left over. My sum is _____.

Recording Sheet

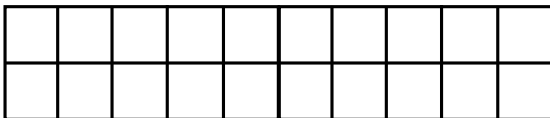
hint: make sure 7 is your first addend.



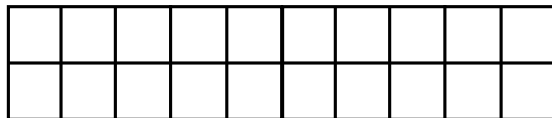
$$\begin{array}{r} 7 + 4 = ? \\ 7 + 3 = 10 \\ 10 + 1 = 11 \\ 7 + 4 = 11 \end{array}$$



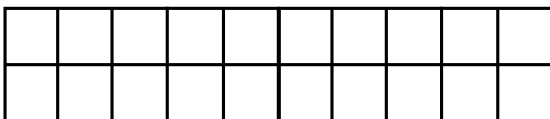
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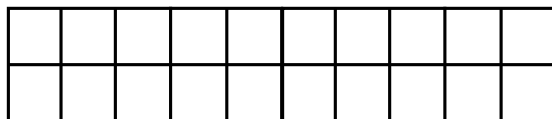
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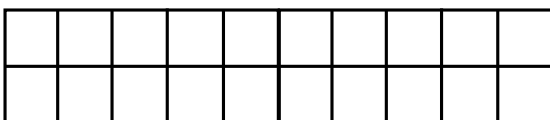
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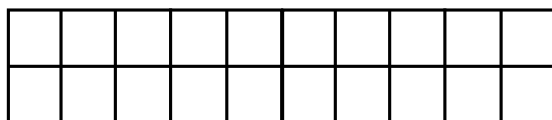
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$$\begin{array}{r} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = 10 \\ 10 + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \end{array}$$



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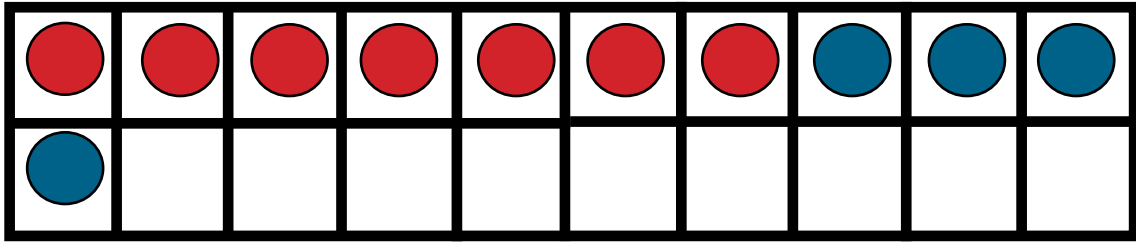
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Recording Sheet

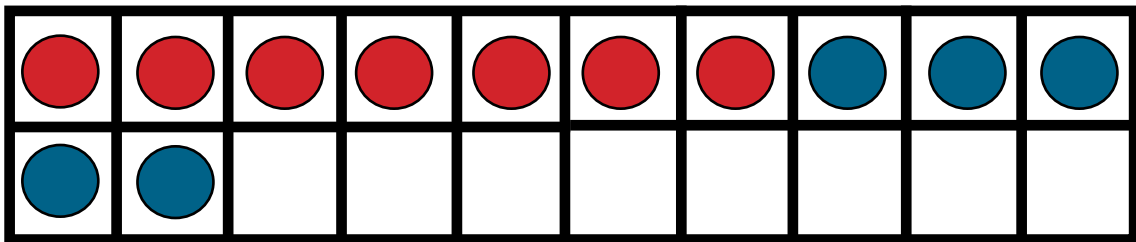
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BRIDGING 10 WITH THE FOCUS ON 7 FLASHCARDS

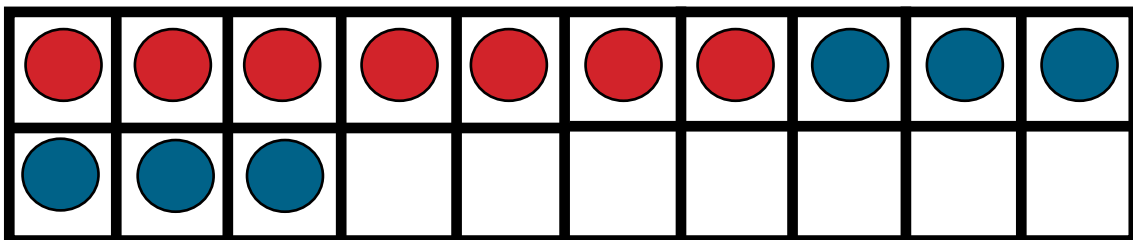
7 + 4	7 + 8	6 + 7
7 + 5	7 + 9	7 + 7
7 + 6	4 + 7	8 + 7
7 + 7	5 + 7	9 + 7



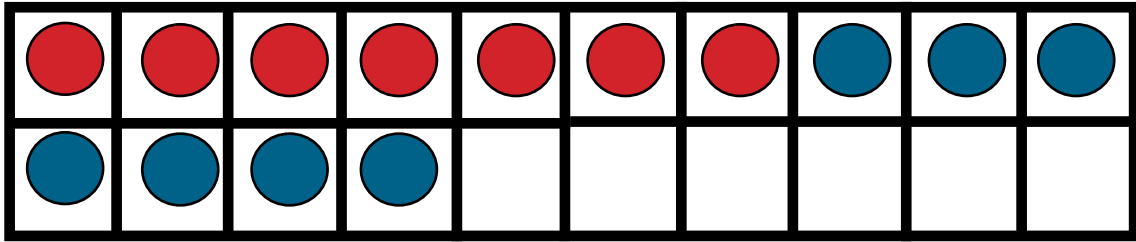
7 + 4
How do you see it?



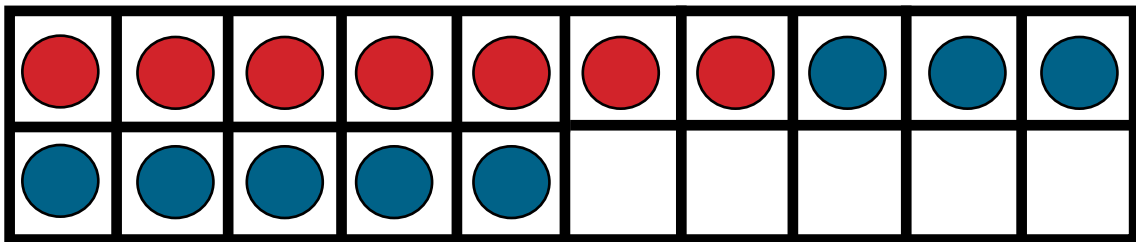
7 + 5
How do you see it?



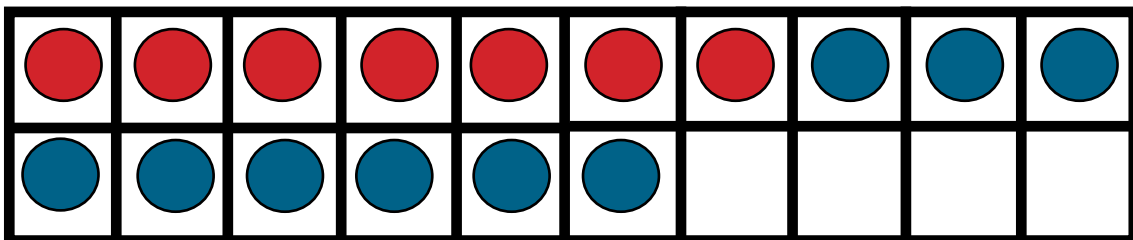
7 + 6
How do you see it?



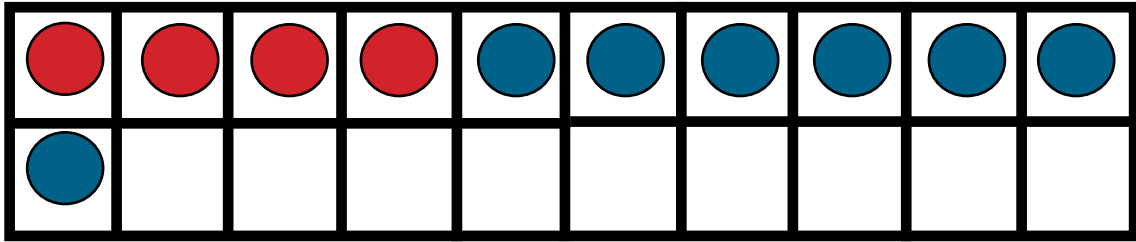
7 + 7
How do you see it?



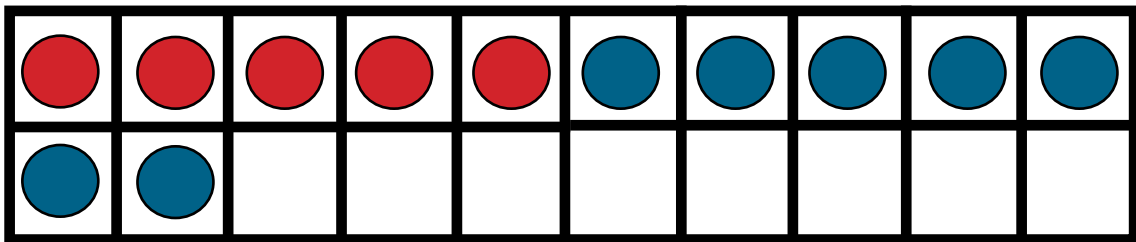
7 + 8
How do you see it?



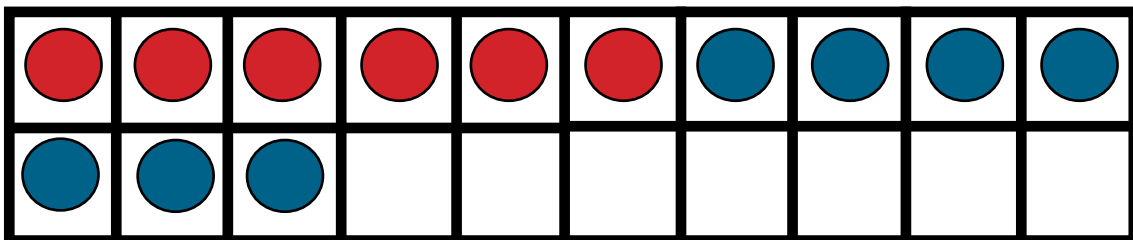
7 + 9
How do you see it?



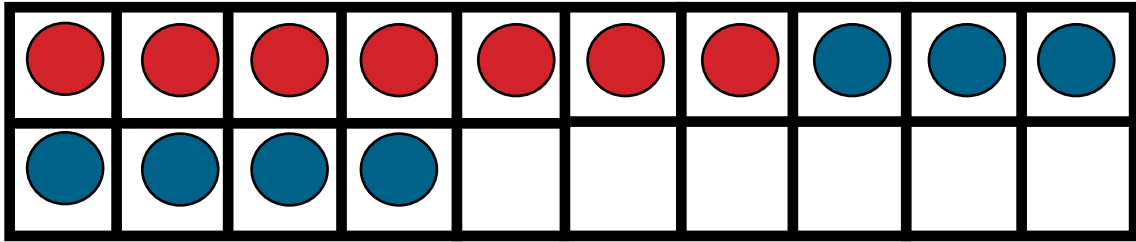
4 + 7
How do you see it?



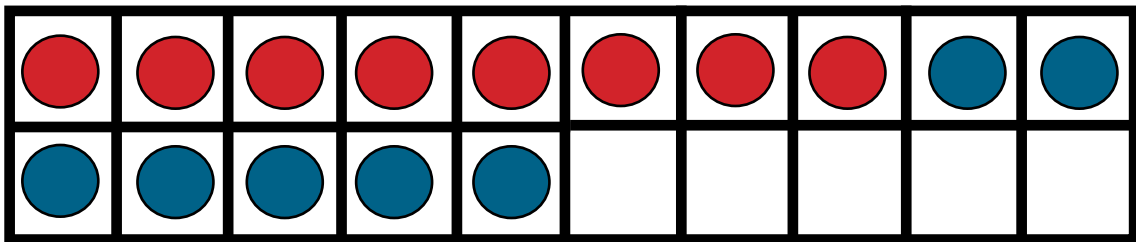
5 + 7
How do you see it?



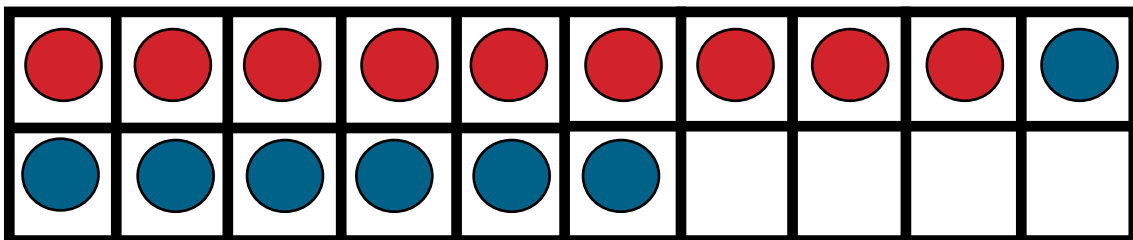
6 + 7
How do you see it?



7 + 7
How do you see it?



8 + 7
How do you see it?



9 + 7
How do you see it?

Number Bracelets

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Students need to make number bracelets out of pony beads and pipe cleaners. Model the problem on the number bracelet.

Materials

Number Bracelet
Number Bracelet Recording sheet
Flashcards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Number Bracelet flashcards that students make.
Set B: Regular flashcards (p.22).

Directions

Activity 1

Pull a flashcard.
Take out the number bracelet and build the bridge 10 focus on 7 fact.
Explain your work using math words.
(See below)

Activity 2

Students draw their number bracelet model on the recording sheet. (This will be the number bracelet flashcards.)

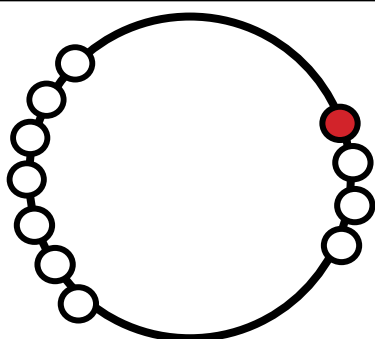
Use your math words:

My problem was _____. I added 7 to _____ to make 10, there is _____ left over. My sum is _____.

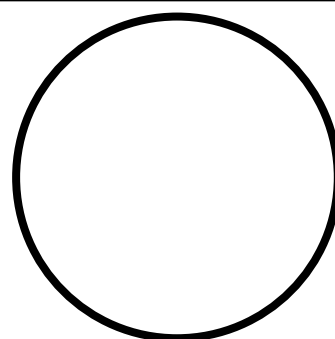
Recording Sheet

Number Bracelets to Show Bridge 10 with a focus on 7 Facts

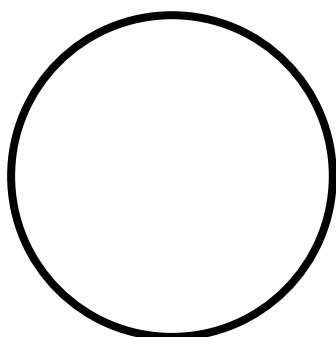
Hint: When writing these equations, start with 7 as your first addend.



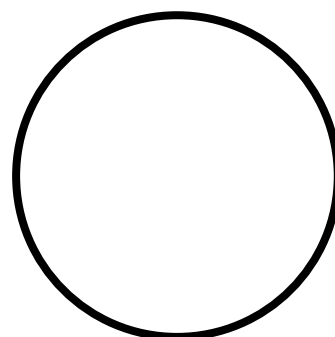
$$\begin{array}{r} 7 \\ \hline \end{array} + \begin{array}{r} 4 \\ \hline \end{array} = \underline{\quad\quad}$$
$$\begin{array}{r} 7 \\ \hline \end{array} + \begin{array}{r} 3 \\ \hline \end{array} = \underline{10}$$
$$\begin{array}{r} 10 \\ \hline \end{array} + \begin{array}{r} 1 \\ \hline \end{array} = \underline{11}$$
$$\begin{array}{r} 7 \\ \hline \end{array} + \begin{array}{r} 4 \\ \hline \end{array} = \underline{11}$$



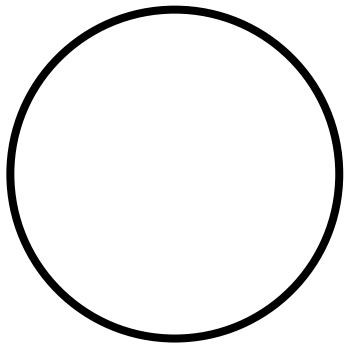
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{10}$$
$$\begin{array}{r} 10 \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$



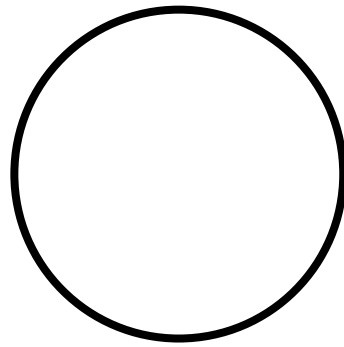
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{10}$$
$$\begin{array}{r} 10 \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$



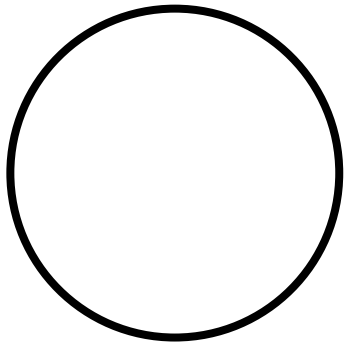
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$
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$$\begin{array}{r} 10 \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$
$$\begin{array}{r} \quad \\ \hline \end{array} + \begin{array}{r} \quad \\ \hline \end{array} = \underline{\quad\quad}$$



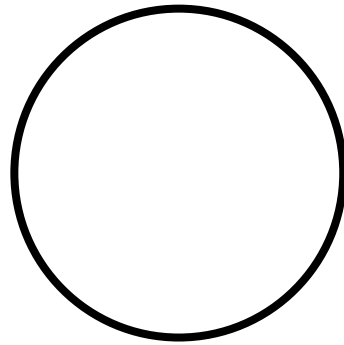
$$\begin{array}{rcl} \underline{\quad} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\mathbf{10}} \\ \underline{\mathbf{10}} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\quad} \end{array}$$



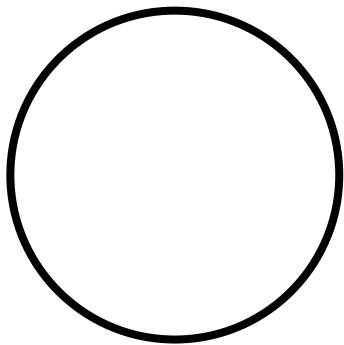
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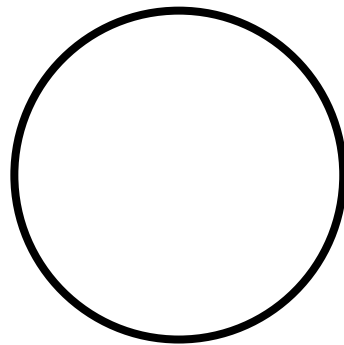
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$$\begin{array}{rcl} \underline{\quad} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\mathbf{10}} \\ \underline{\mathbf{10}} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\quad} \end{array}$$



$$\begin{array}{rcl} \underline{\quad} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\mathbf{10}} \\ \underline{\mathbf{10}} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\quad} \end{array}$$



$$\begin{array}{rcl} \underline{\quad} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\mathbf{10}} \\ \underline{\mathbf{10}} & + & \underline{\quad} = \underline{\quad} \\ \underline{\quad} & + & \underline{\quad} = \underline{\quad} \end{array}$$

Rekenrek

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Model the problem on the rekenrek.

Materials

Rekenrek
Rekenrek Paper
Flashcards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Rekenrek flashcards
Set B: Regular Bridge 10 focus on 7
Flashcards (p. 22).

Directions

Activity 1

Pull a flashcard. (You may choose between Rekenrek Picture flashcards or regular Bridge 10 with a focus on 7 flashcards on p. 22) Take out the rekenrek and build the fact.
Say the problem out loud (See 'use your math words at the bottom of the page.)

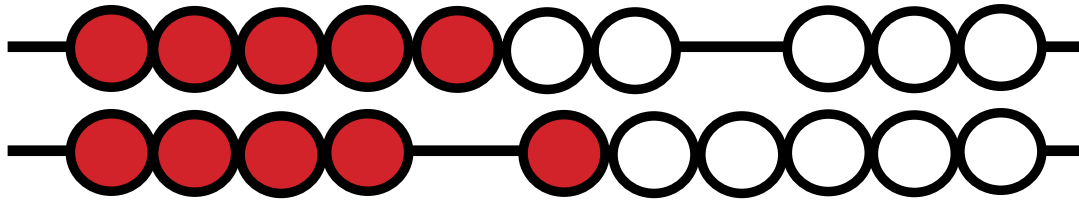
Activity 2

Draw the fact on the rekenrek recording sheet.

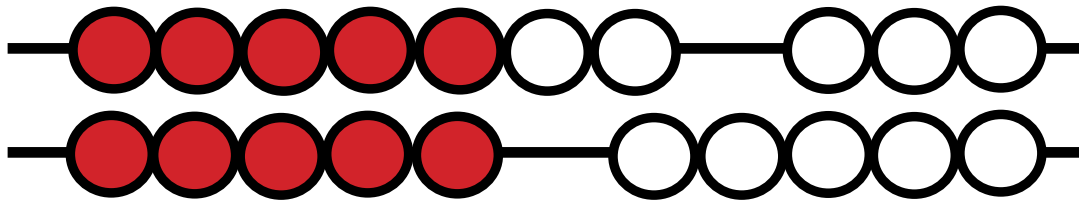
Use your math words:

My problem was _____. I added _____ to make 10, then I added _____.
My sum is _____.

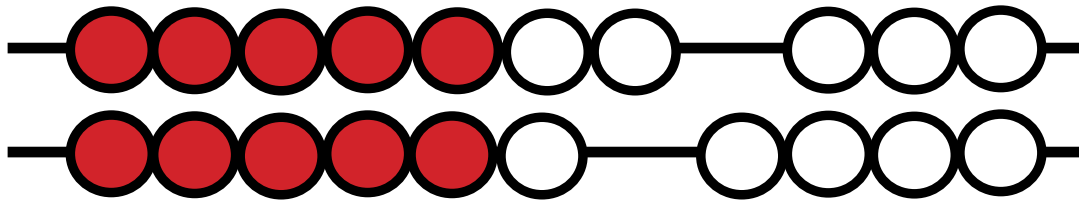
Rekenrek Picture Flashcards



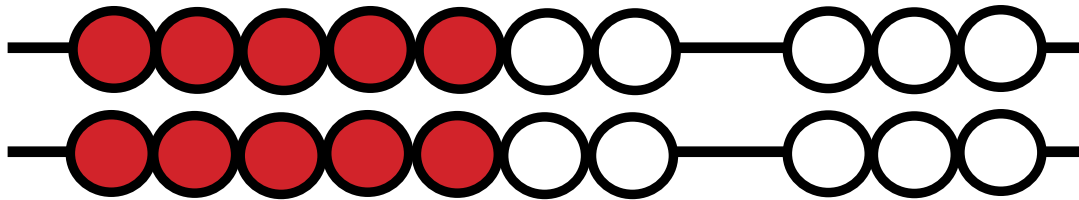
$$7 + 4$$



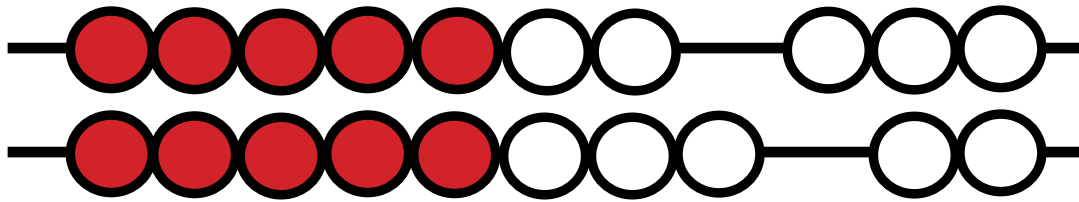
$$7 + 5$$



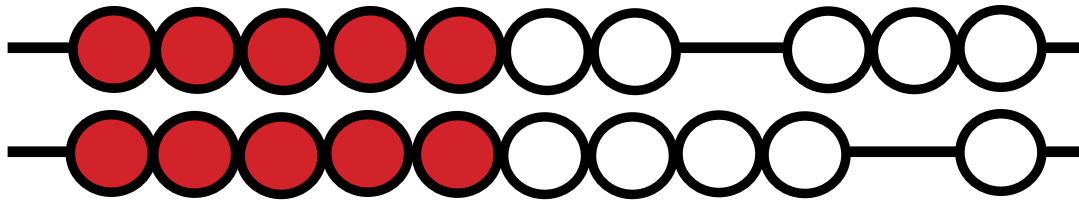
$$7 + 6$$



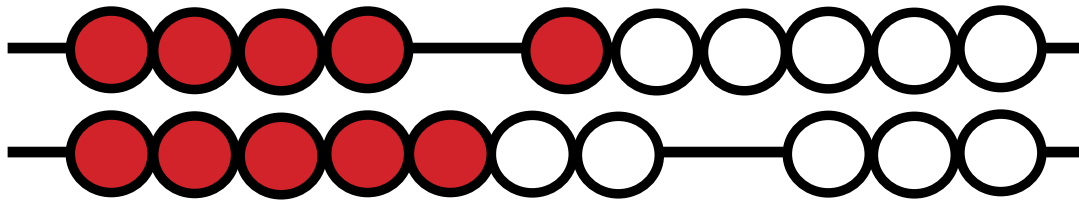
$$7 + 7$$



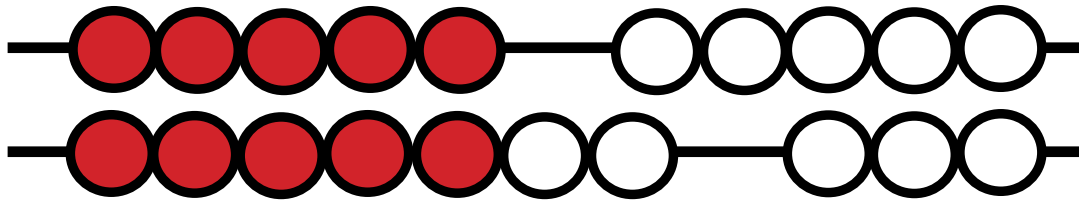
$$7 + 8$$



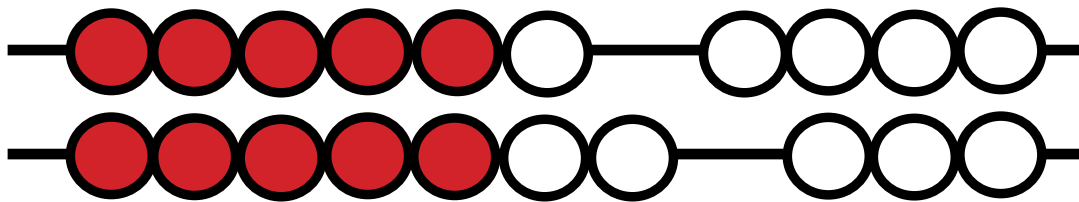
$$7 + 9$$



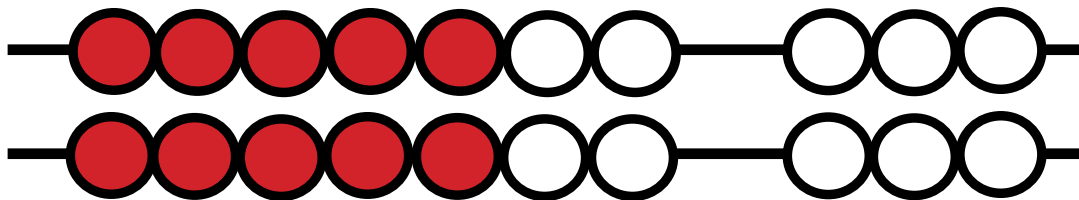
$$4 + 7$$



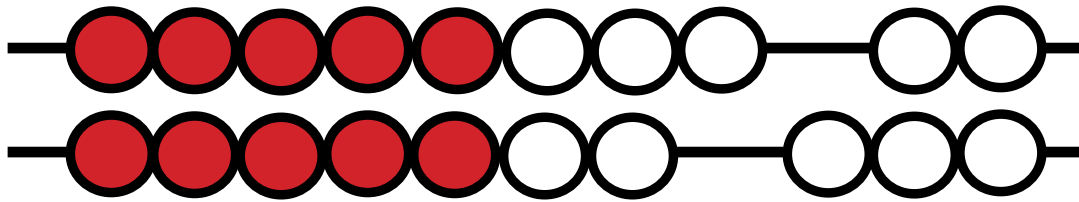
$$5 + 7$$



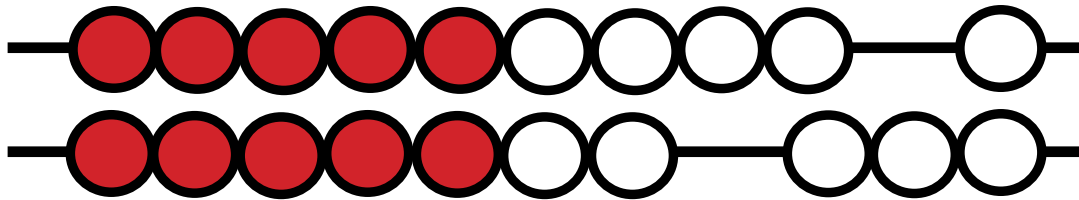
$$6 + 7$$



$$7 + 7$$



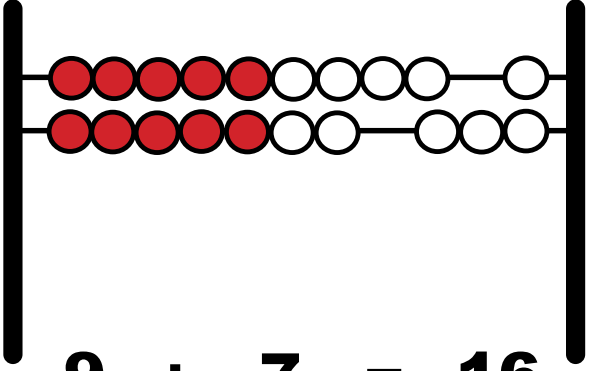
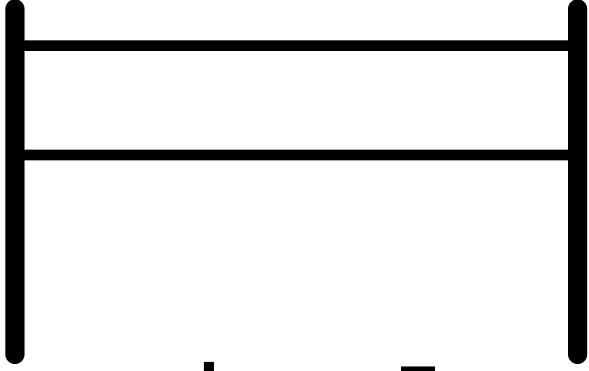
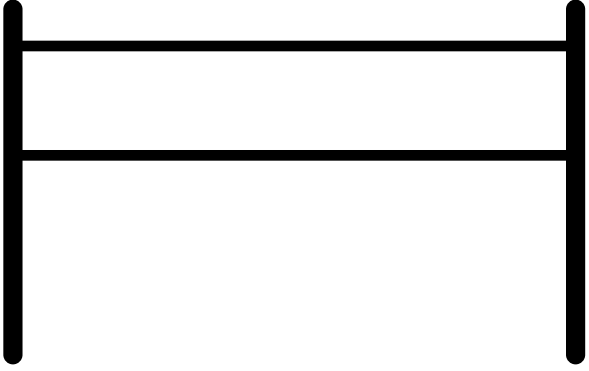
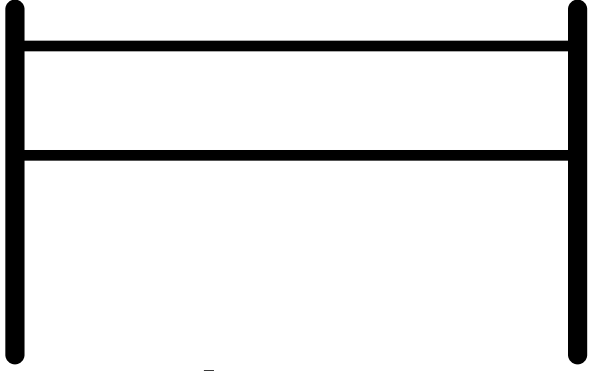
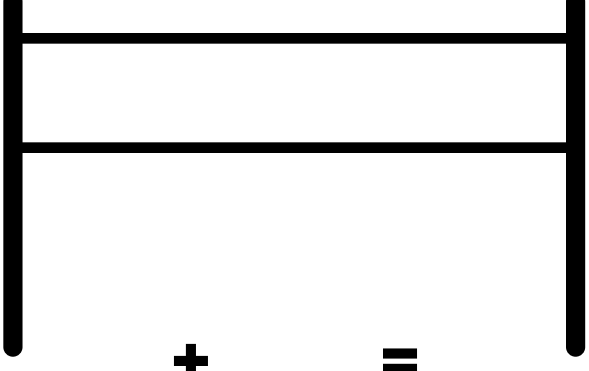
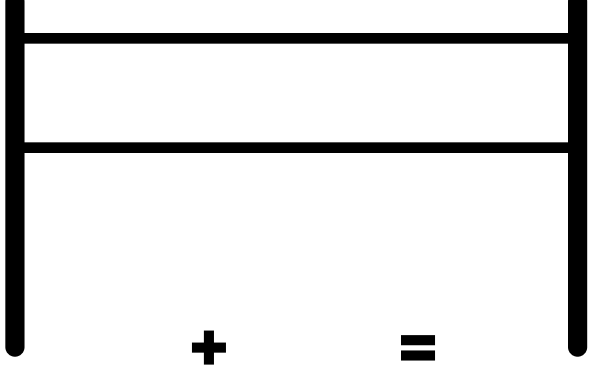
$$8 + 7$$

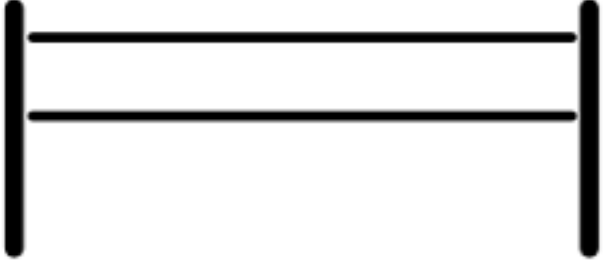
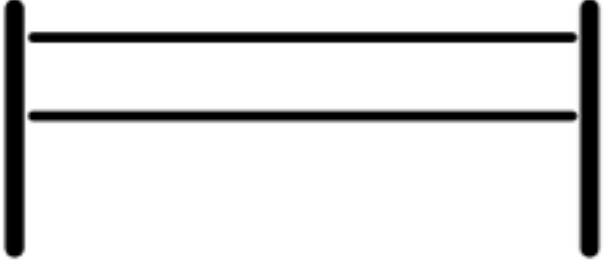
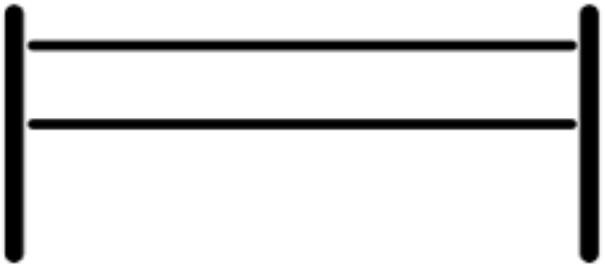
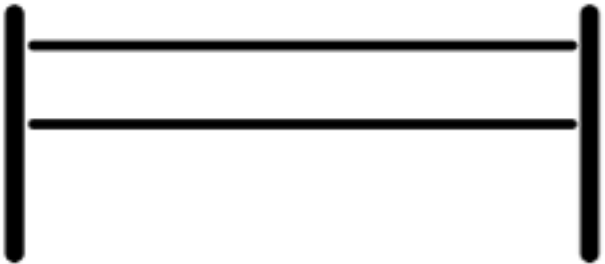
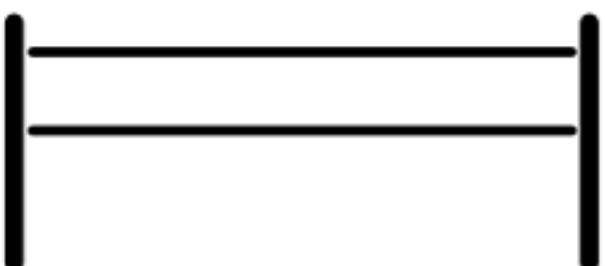
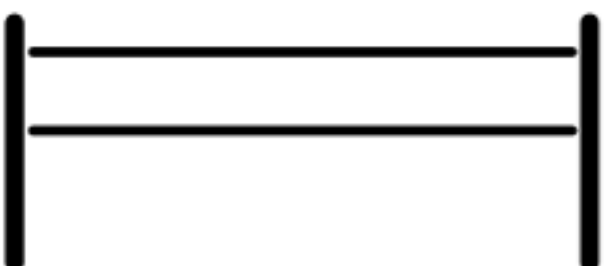
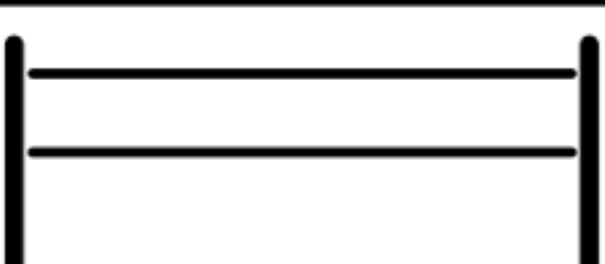
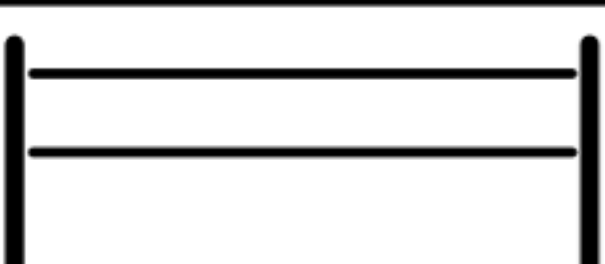


$$9 + 7$$

Recording Sheet

Draw What You Did on the Rekenrek!

 $9 + 7 = 16$	 _____ + _____ = _____
 _____ + _____ = _____	 _____ + _____ = _____
 _____ + _____ = _____	 _____ + _____ = _____

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

Cube Towers and Number Lines

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Model the problem with a cube tower. Record thinking on the cube tower template.

Materials

Cubes
Cube Towers Template
Recording Sheet
Concentration Cards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Scaffolded flashcards with cube pictures.
Set B: Match games with models and expressions.

Directions

Activity 1

Pull a flashcard (from p.22).
Model it with cubes.
Color the cube recording sheet.
Solve.
Explain using math words.

Activity 2

Lay out the cube cards and expressions from the Concentration Cards. (Fold so you do not see the expression on the cube card.)
Take turns looking for the match of the expression and the model.
Whoever finds the most matches wins.
Check your answers by unfolding the cube cards.







Use your math words:

My problem was _____. I started with _____. I added _____ to get to 10. Then I added _____ and ended with _____.

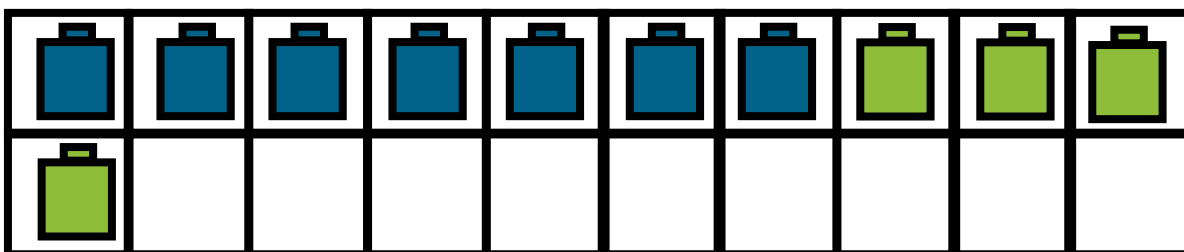
Recording Sheet

Build Bridge 10 Facts with the Cubes!

Roll the dice or pull a card, build a cube tower of the fact. Color the cube template and write the equation. Hint: make 7 your first addend to see the bridge 10 with a focus on 7.

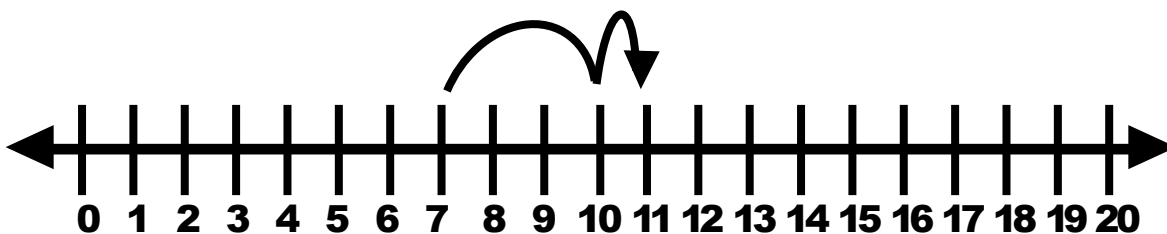
	
	
$\begin{array}{r} 7 + 4 = \\ 7 + 3 = 10 \end{array}$	$\begin{array}{r} 10 + 1 = 11 \\ 7 + 4 = 11 \end{array}$
	
$\begin{array}{r} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = 10 \end{array}$	$\begin{array}{r} 10 + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \end{array}$
	
$\begin{array}{r} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = 10 \end{array}$	$\begin{array}{r} 10 + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \end{array}$
	
$\begin{array}{r} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = 10 \end{array}$	$\begin{array}{r} 10 + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \end{array}$
	
$\begin{array}{r} \underline{\quad} + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = 10 \end{array}$	$\begin{array}{r} 10 + \underline{\quad} = \underline{\quad} \\ \underline{\quad} + \underline{\quad} = \underline{\quad} \end{array}$

<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> _____ + _____ = _____ <u>10</u> + _____ = _____ </div> <div style="display: flex; justify-content: space-between;"> _____ + _____ = <u>10</u> _____ + _____ = _____ </div>	<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> _____ + _____ = _____ <u>10</u> + _____ = _____ </div> <div style="display: flex; justify-content: space-between;"> _____ + _____ = <u>10</u> _____ + _____ = _____ </div>
<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> _____ + _____ = _____ <u>10</u> + _____ = _____ </div> <div style="display: flex; justify-content: space-between;"> _____ + _____ = <u>10</u> _____ + _____ = _____ </div>	<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> _____ + _____ = _____ <u>10</u> + _____ = _____ </div> <div style="display: flex; justify-content: space-between;"> _____ + _____ = <u>10</u> _____ + _____ = _____ </div>
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<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> _____ + _____ = _____ <u>10</u> + _____ = _____ </div> <div style="display: flex; justify-content: space-between;"> _____ + _____ = <u>10</u> _____ + _____ = _____ </div>	<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; border-bottom: 1px solid black; margin-bottom: 5px;"> </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> _____ + _____ = _____ <u>10</u> + _____ = _____ </div> <div style="display: flex; justify-content: space-between;"> _____ + _____ = <u>10</u> _____ + _____ = _____ </div>



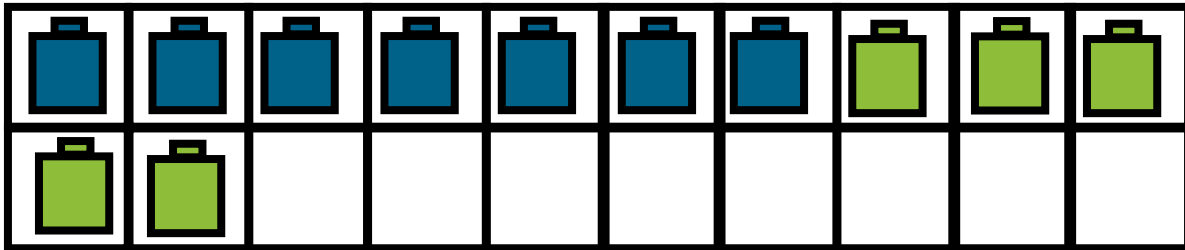
$$7 + 4$$

How do you see it?



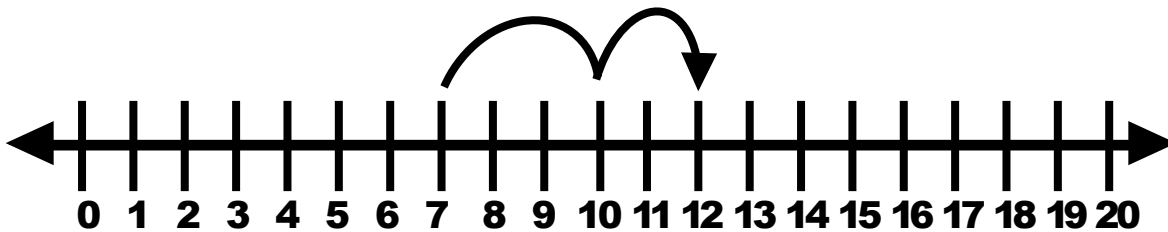
How do you see it?

$$7 + 4$$



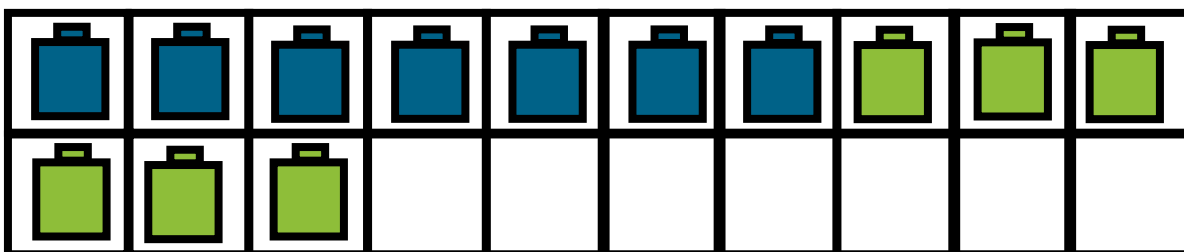
$$7 + 5$$

How do you see it?



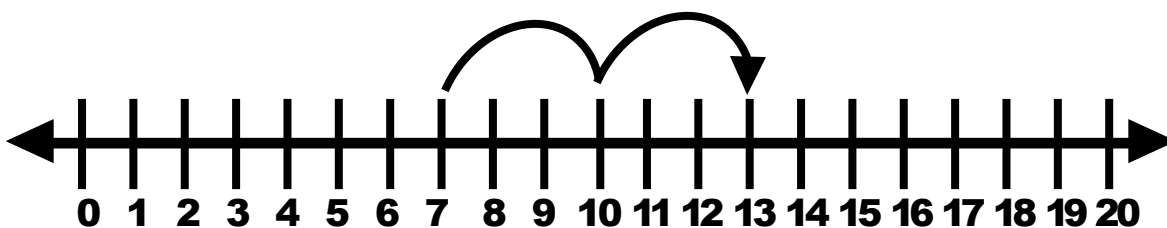
How do you see it?

$$7 + 5$$



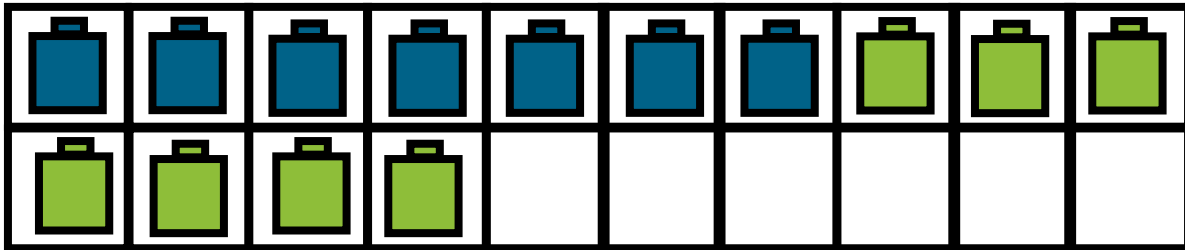
$$7 + 6$$

How do you see it?



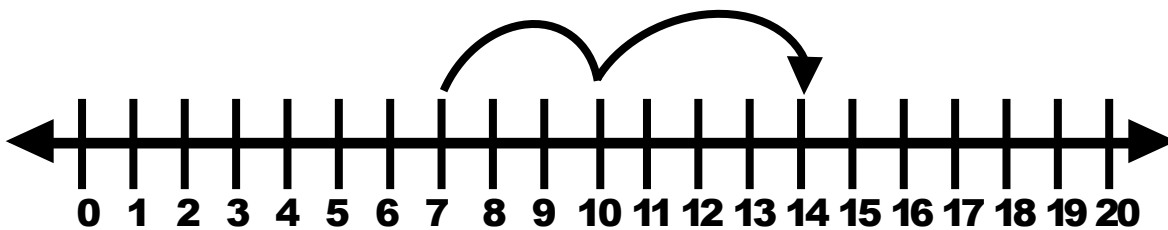
How do you see it?

$$7 + 6$$



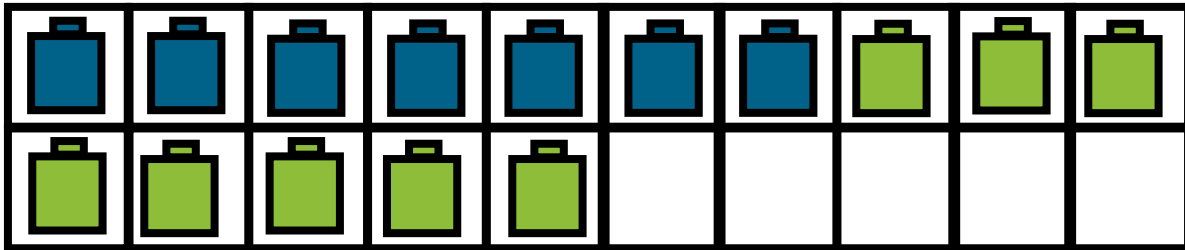
$$7 + 7$$

How do you see it?



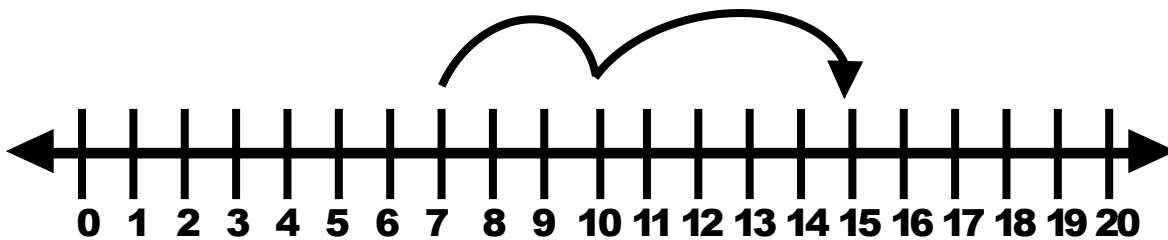
How do you see it?

$$7 + 7$$



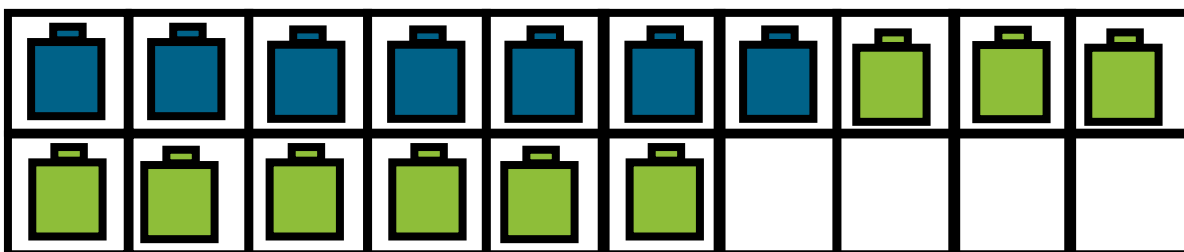
$$7 + 8$$

How do you see it?



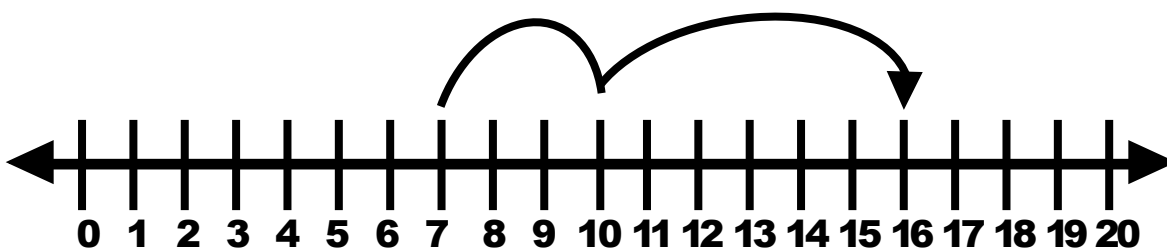
How do you see it?

$$7 + 8$$



$$7 + 9$$

How do you see it?



How do you see it?

$$7 + 9$$

Bead Stick

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Students need to make bead sticks out of pony beads and pipe cleaners. Model the problem with a bead stick. Record thinking on the bead stick template.

Materials

Bead Stick
Bead Stick Activity sheet

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Flashcards that model Bridge 10 with a focus on 7.
(These are on the Bead Stick Activity sheet that students will complete.)
Set B: Flashcards (p.22).

Directions

Activity 1

Pull a flashcard.
Model it with the bead stick.
Color the bead stick activity sheet.
Solve.
Use your math words (see below) to explain your work.

Activity 2

Pull a flashcard from p. 89.
Model the addends on the bead stick (one of the addends should be 7).
Color the bead stick template.
Write the equation.

Use your math words:

My problem was _____. I started with 7 on my bead stick. Then I added _____. My strategy was _____. My sum is _____.

Bead Stick Activity



$$\underline{7} + \underline{4} = \underline{11}$$



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



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









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



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



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

<div style="text-align: center;">  </div> <div style="text-align: center;"> _____ + _____ = _____ </div>	<div style="text-align: center;">  </div> <div style="text-align: center;"> _____ + _____ = _____ </div>
<div style="text-align: center;">  </div> <div style="text-align: center;"> _____ + _____ = _____ </div>	<div style="text-align: center;">  </div> <div style="text-align: center;"> _____ + _____ = _____ </div>
<div style="text-align: center;">  </div> <div style="text-align: center;"> _____ + _____ = _____ </div>	<div style="text-align: center;">  </div> <div style="text-align: center;"> _____ + _____ = _____ </div>

Part Part Whole Mat

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Model the problem with a Part-Part Whole Mat. Record thinking on the template.

Materials

Part-Part Whole Template
Recording Sheet
Concentration Cards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Part Part Whole Flashcards (on Part Part Whole Mat Recording Sheet).
Set B: Regular flashcards.

Directions

Activity 1

Pull a flashcard. (p. 22)
Model it on the big part-part whole mat.
Solve.
Show your work in the part part whole recording sheet.

Activity 2

Pick a number between 4 and 9. Add 7 to it. Show it on the part part whole recording sheet. Continue until you have used all numbers from 4 to 9.

Use your math words:

My problem was _____. I added _____ then _____.

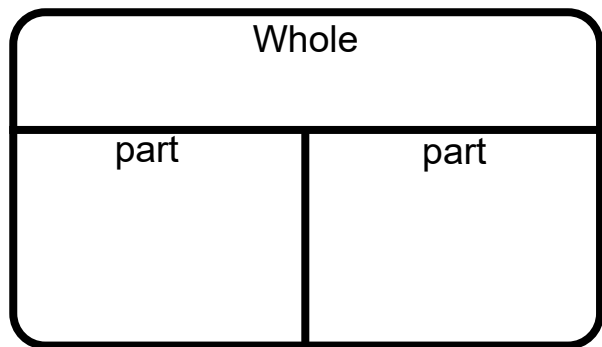
My sum is _____.

Part Part Whole Recording Sheet

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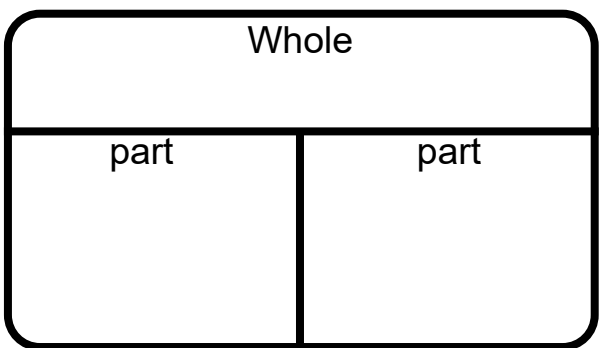
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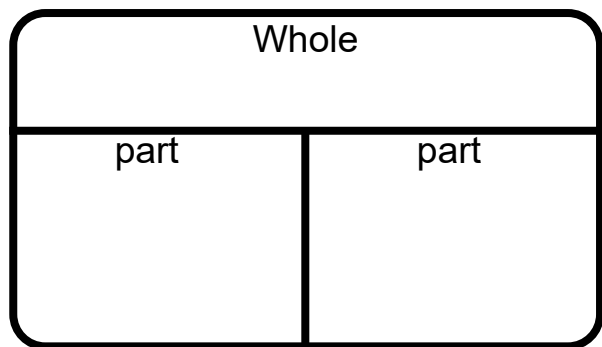
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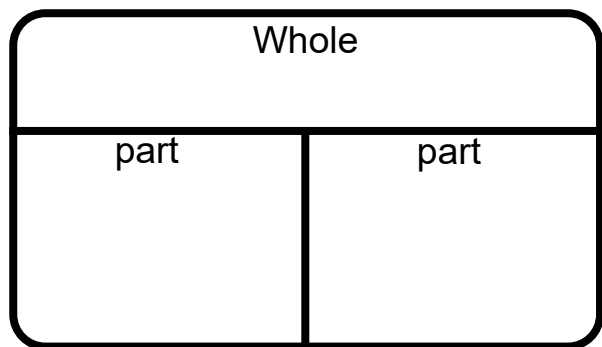
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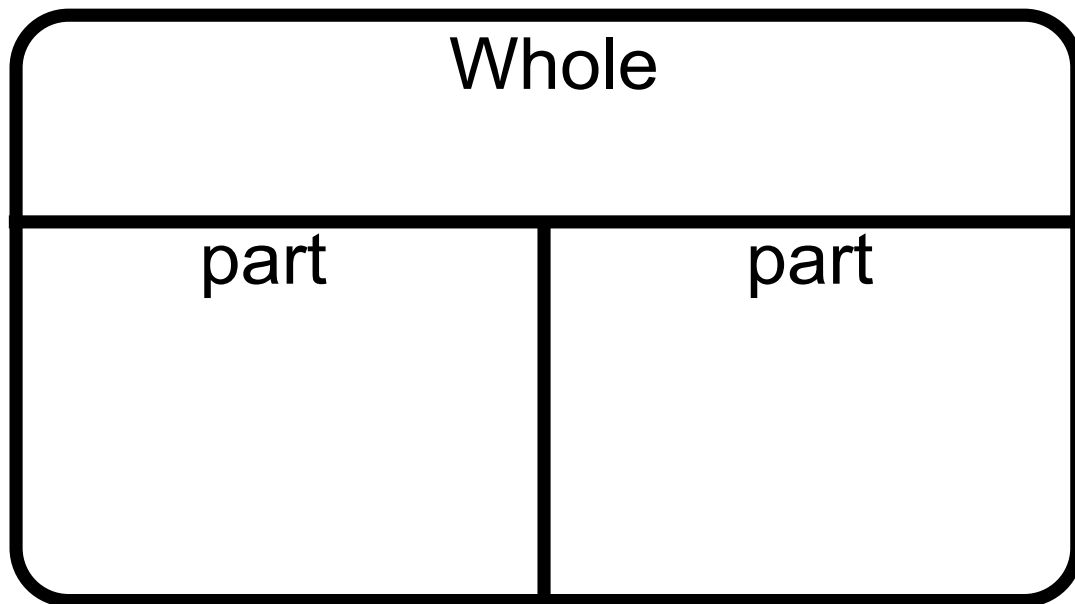


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Part Part Whole Mat



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Story Mats

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Act out facts on the number mat. Students can pull a fact card and act out the problem. They can pull a story telling card and act out the problem. They can just make up their own problems.

Materials

Story Mats
Story Telling pieces
Flashcards
Story problems

Scaffolding the Game

Use the regular flashcards or the word problem mats.
To add rigor, change the word problems to match Set B Flashcards on p. 85.

Directions

Activity 1

Pull an expression from p. 64 and act out a story using counters, pictures, or objects.

Activity 2

Pull a word problem story mat, flashcard, and a story card and recording sheet. Act out the story and fill out the recording sheet.

Use your math words:

My problem was _____. I started with _____ counters.

My strategy is _____. My sum is _____.

Word Problem Story Card and Recording Sheet

(Use p. 64 cards)

DOGS

Aiza had ____ dogs. She got ____ more. How many does she have now?

SET-UP EQUATION:

____ + ____ = ?

Drawing

Twenty Frame

Answer Equation

____ + ____ = ____

Answer:

_____ **Dogs**

Word Problem Story Card and Recording Sheet

(Use p. 64 cards)

FISH

There were ____ fish. ____ more swam up. How many are there now?

SET-UP EQUATION:

____ + ____ = ?

Drawing

Twenty Frame

Answer Equation

____ + ____ = ____

Answer:

_____ **Fish**

Word Problem Story Card and Recording Sheet

(Use p. 64 cards)

BALLS

The kids had ____ balls. They got ____ more. How many do they have altogether now?

SET-UP EQUATION:

____ + ____ = ?

Drawing

Twenty Frame

Answer Equation

____ + ____ = ____

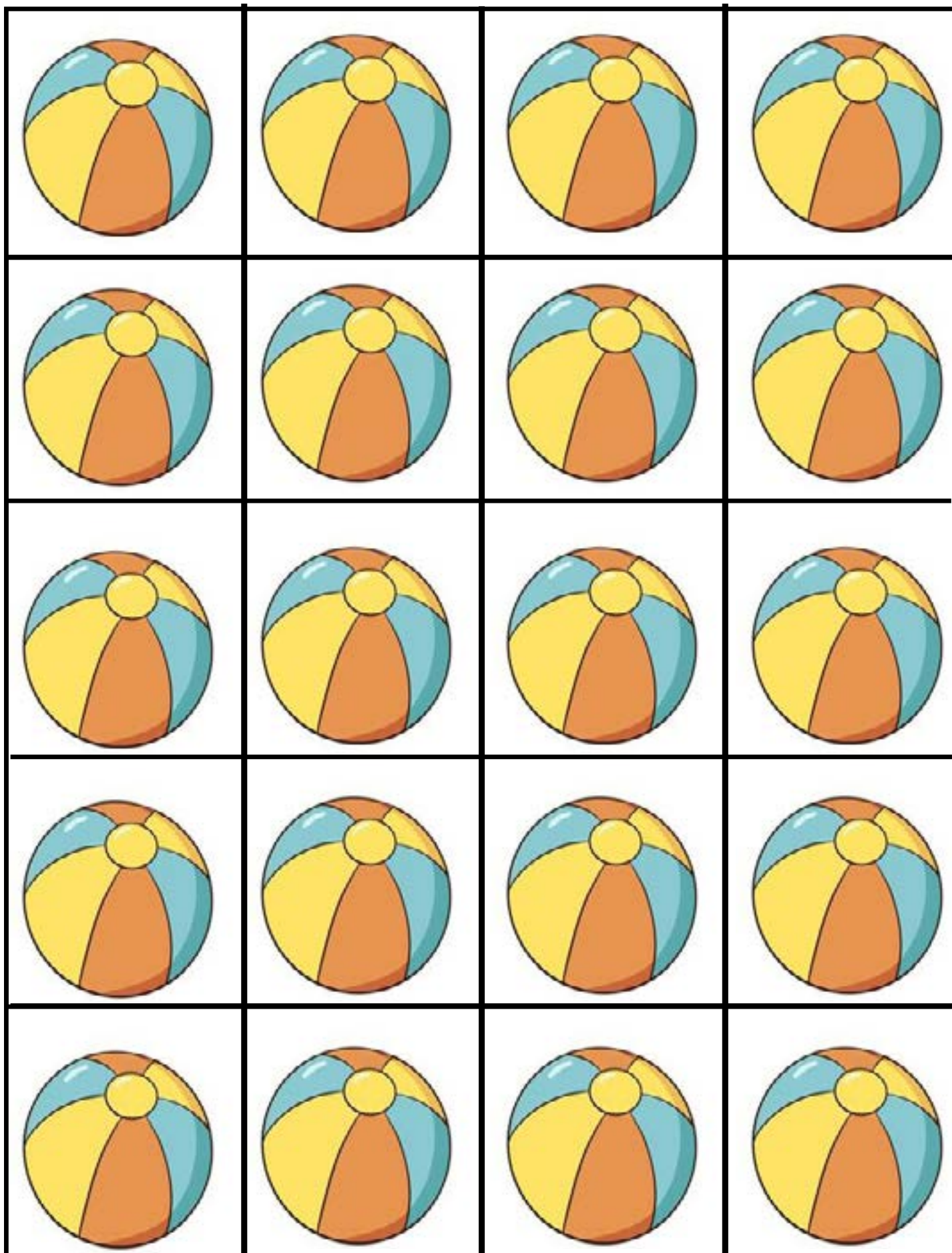
Answer:

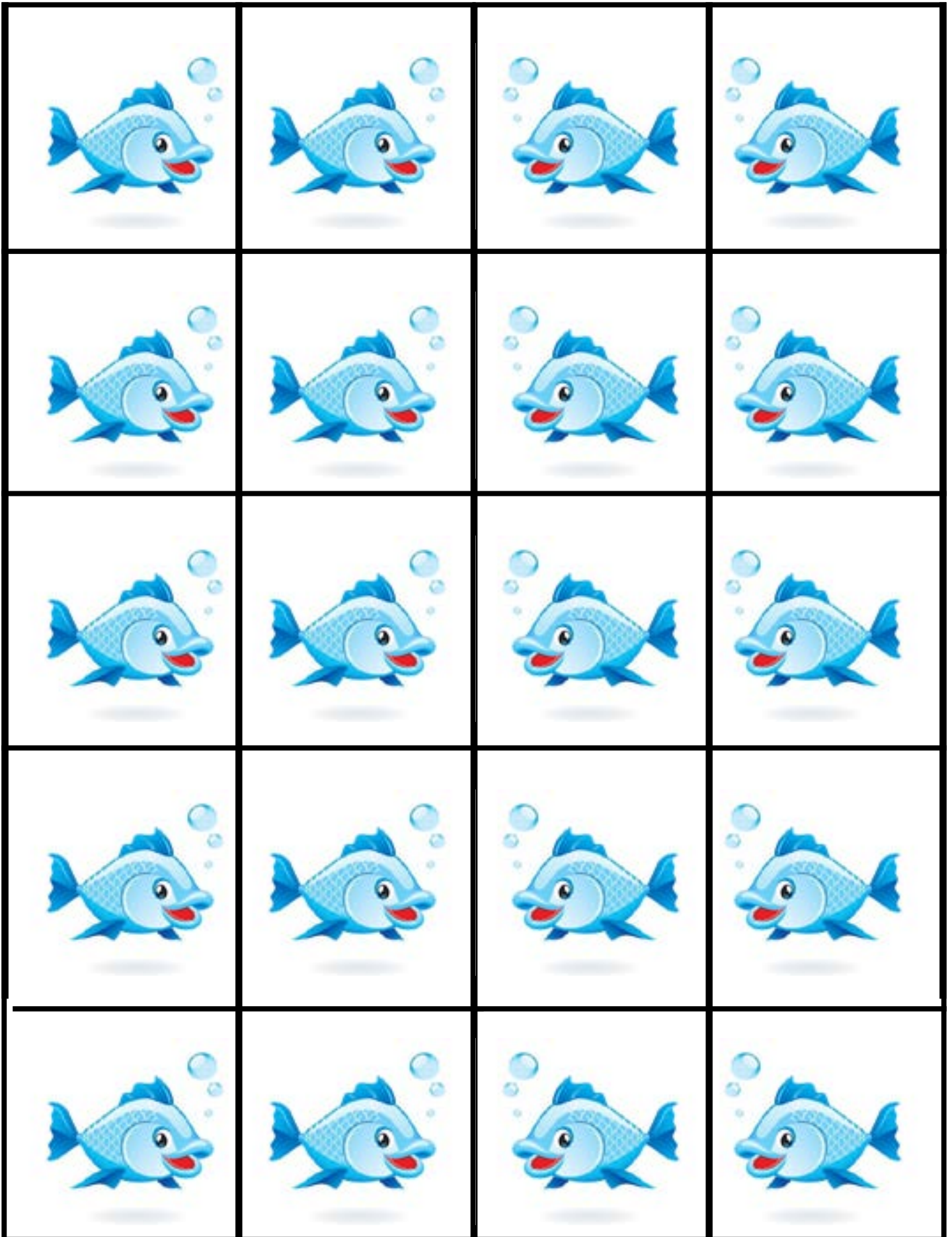
_____ **Balls**

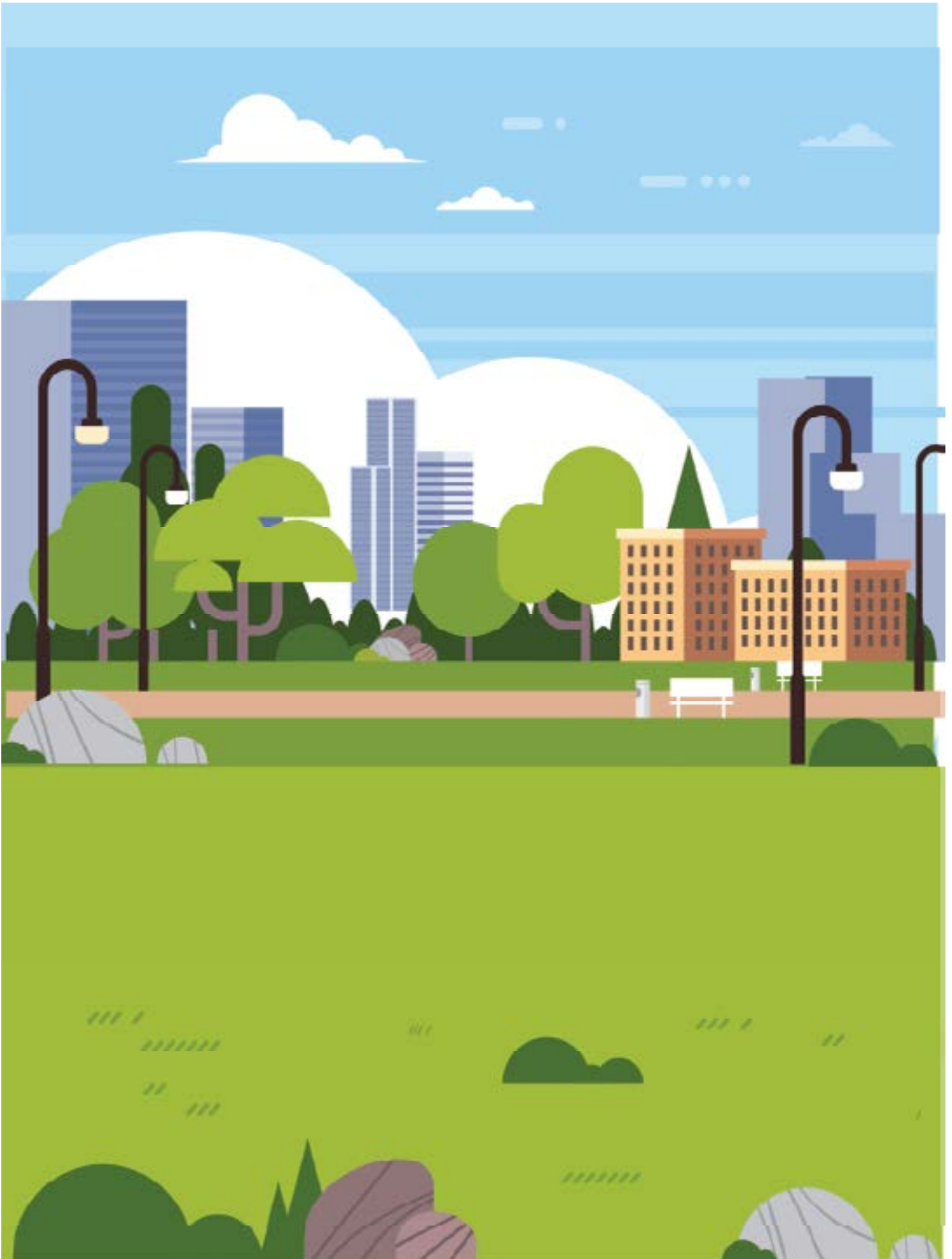
STORYTELLING MATS

Pull a flashcard and act it out on the story mat.
Draw a picture of your story. Write the equation.











Bridge 10 with a focus on 7 Flashcards

Pull and tell a story using the expression!

7 + 4	7 + 8	6 + 7
7 + 5	7 + 9	7 + 7
7 + 6	4 + 7	8 + 7
7 + 7	5 + 7	9 + 7

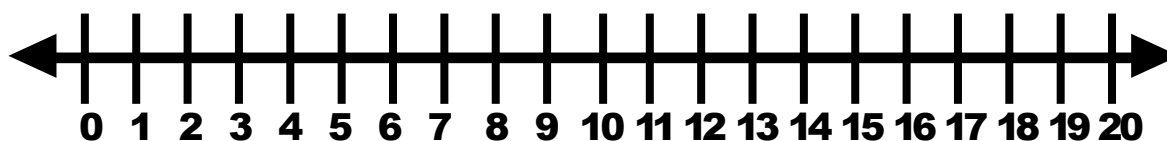
Draw a picture of your story.

Write your equation.

_____ + _____ = _____

Show it on the twenty frame.

Model it on the number line.



Number Bonds

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Pull a flashcard and model on number bond template using manipulatives and/or numbers.

Materials

Big Number Bond Template.
Number Bond Recording Sheet.
Manipulatives (base ten blocks).

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Number Bond flashcards.
(create these on Recording Sheet).
Set B: Regular flashcards.

Directions

Activity 1

Pull a flashcard.
Rebuild it on a number bond template using manipulatives.

Activity 2

Pull a flashcard
Rebuild it on a number bond template.
Draw it on a number bond recording sheet. Write the numbers to match inside of each circle.
Solve.

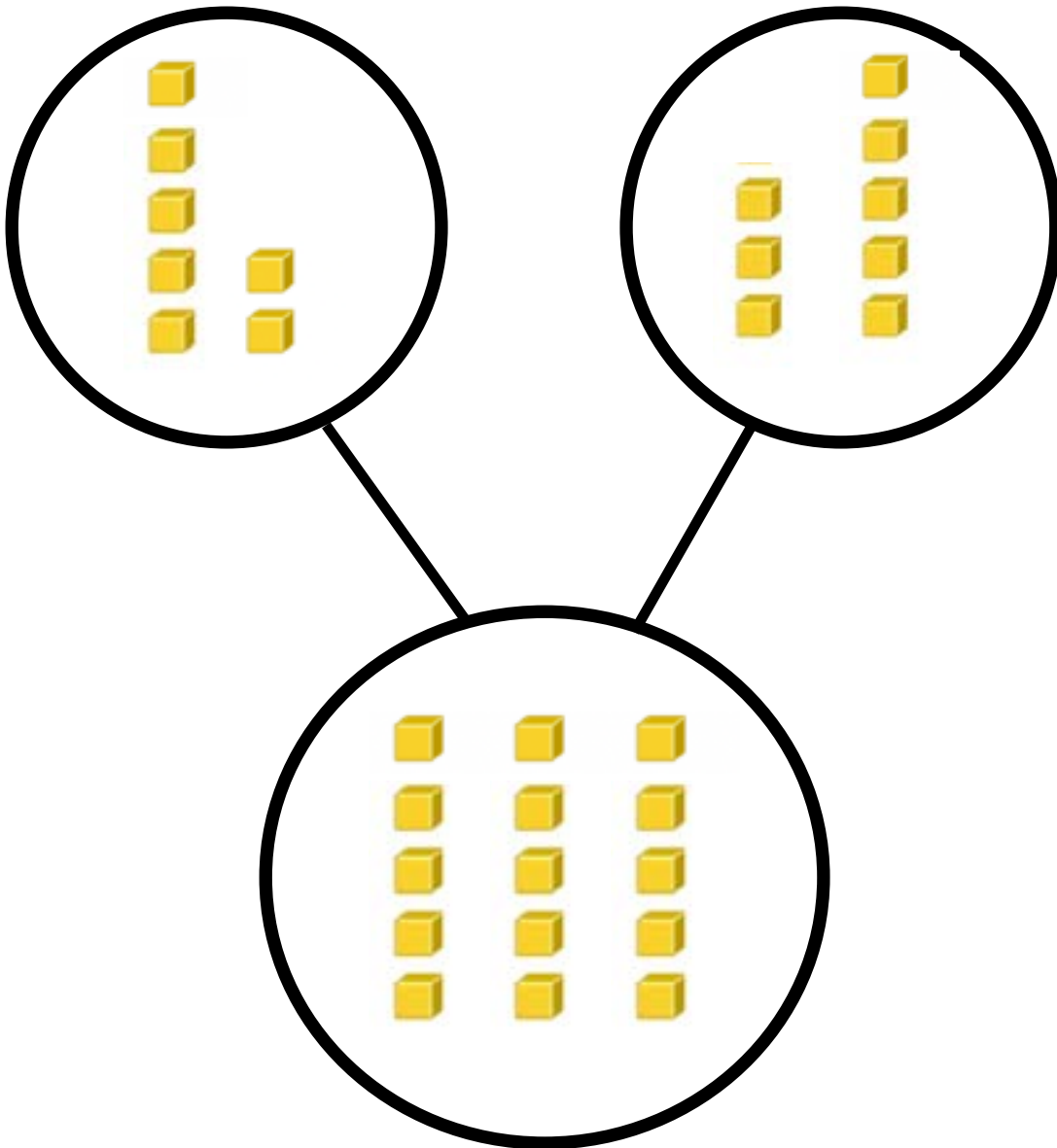
Use your math words:

My problem was _____. My strategy is _____. My sum is _____.

Number Bond Machine

$$7 + 8 = 15$$

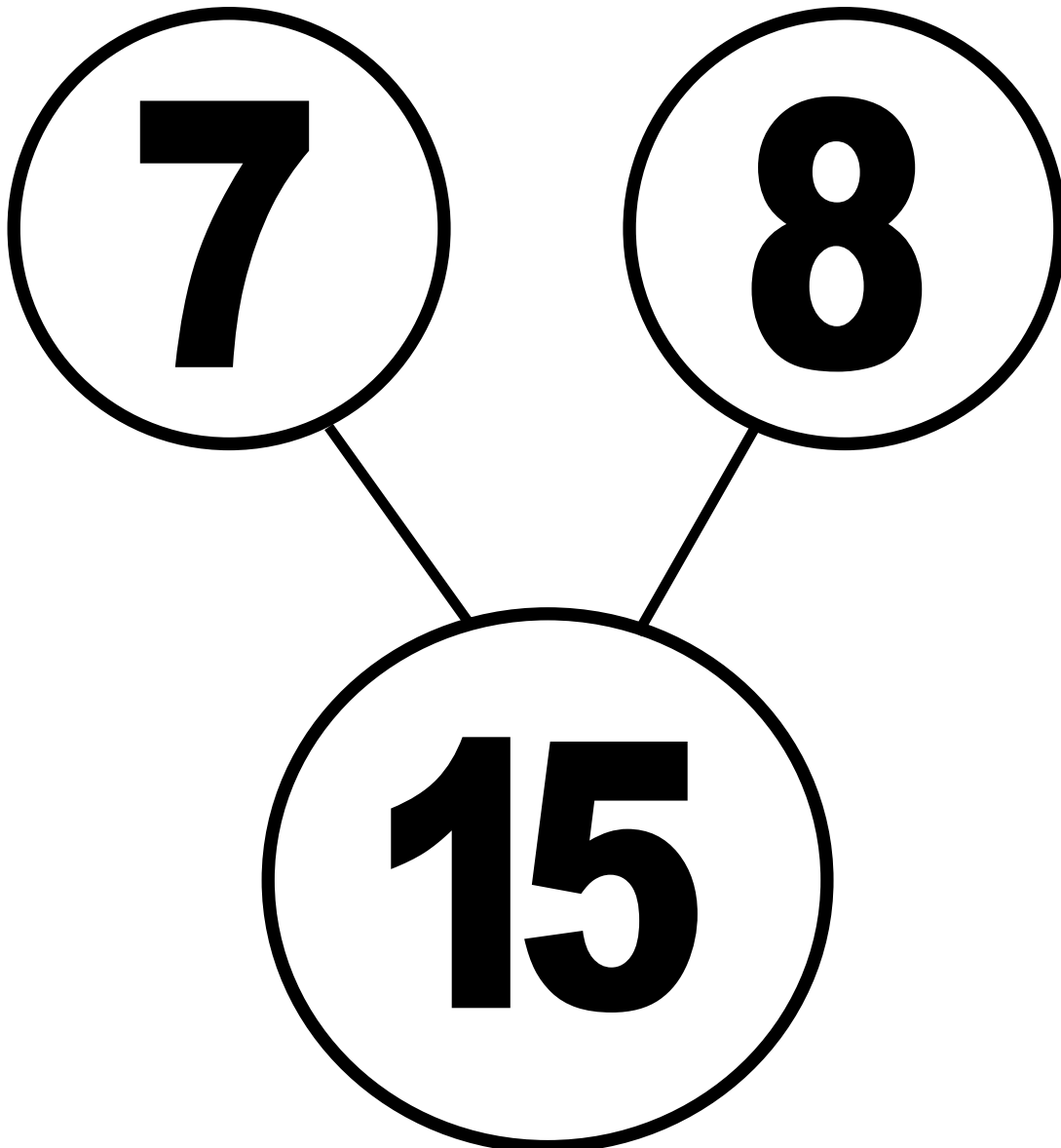
$$15 = 7 + 8$$



Number Bond Machine

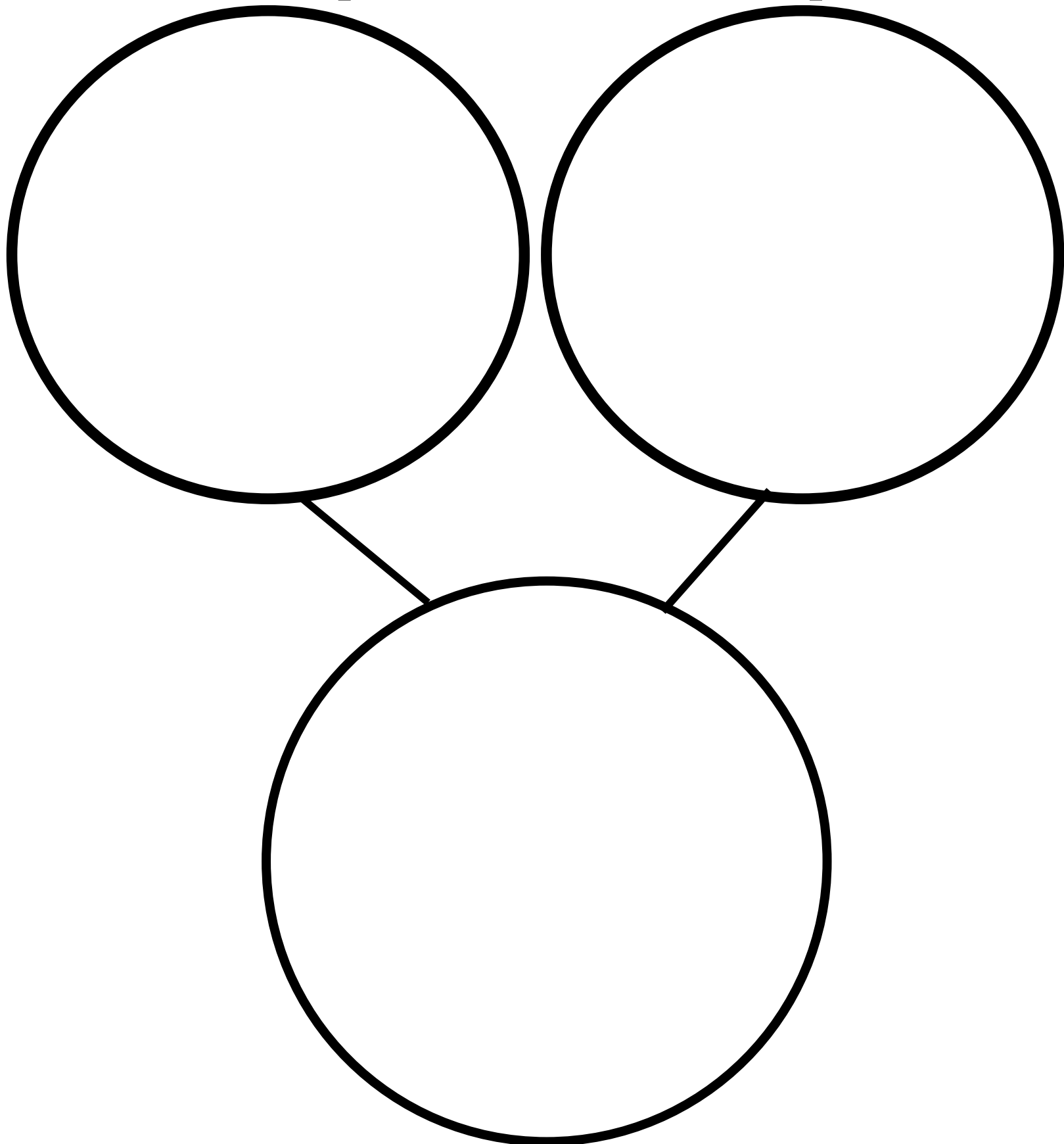
$$7 + 8 = 15$$

$$15 = 7 + 8$$

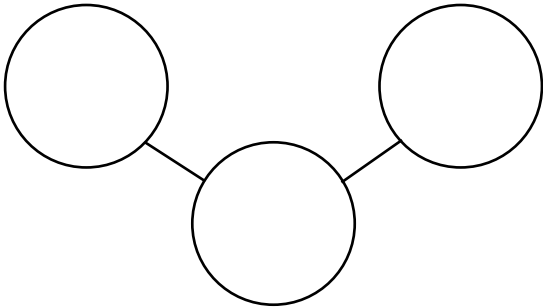
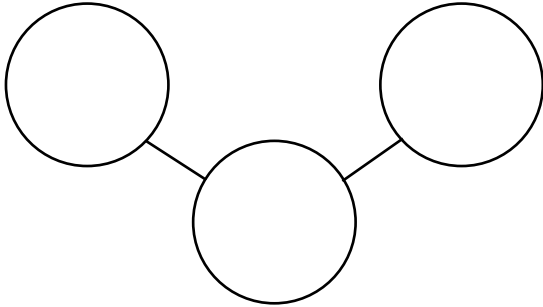
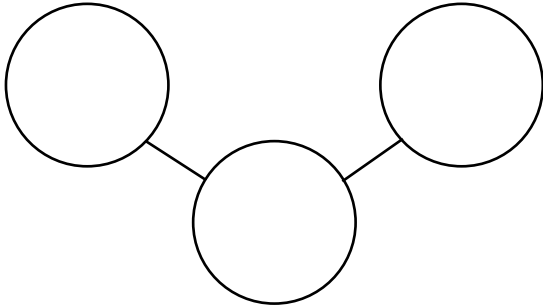
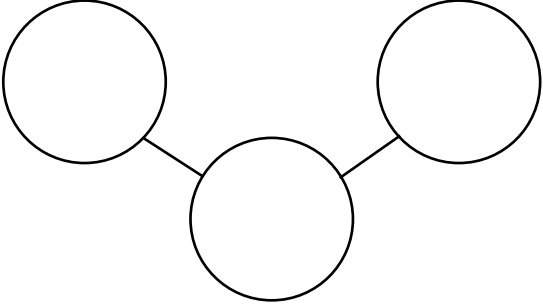


Number Bond Template

Use this template to add with manipulatives.



Recording Sheet for Number Bond Activity

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Draw a picture

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Activity

Students will pick a card (see p.22) and draw a picture using circles or number lines.

Materials

Picture template and
Recording sheet

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Flashcards with pictures.
Set B: Regular flashcards.

Directions

Activity 1

Pull a flashcard.
Draw a picture using circles or a number line and write the equation on the recording sheet.

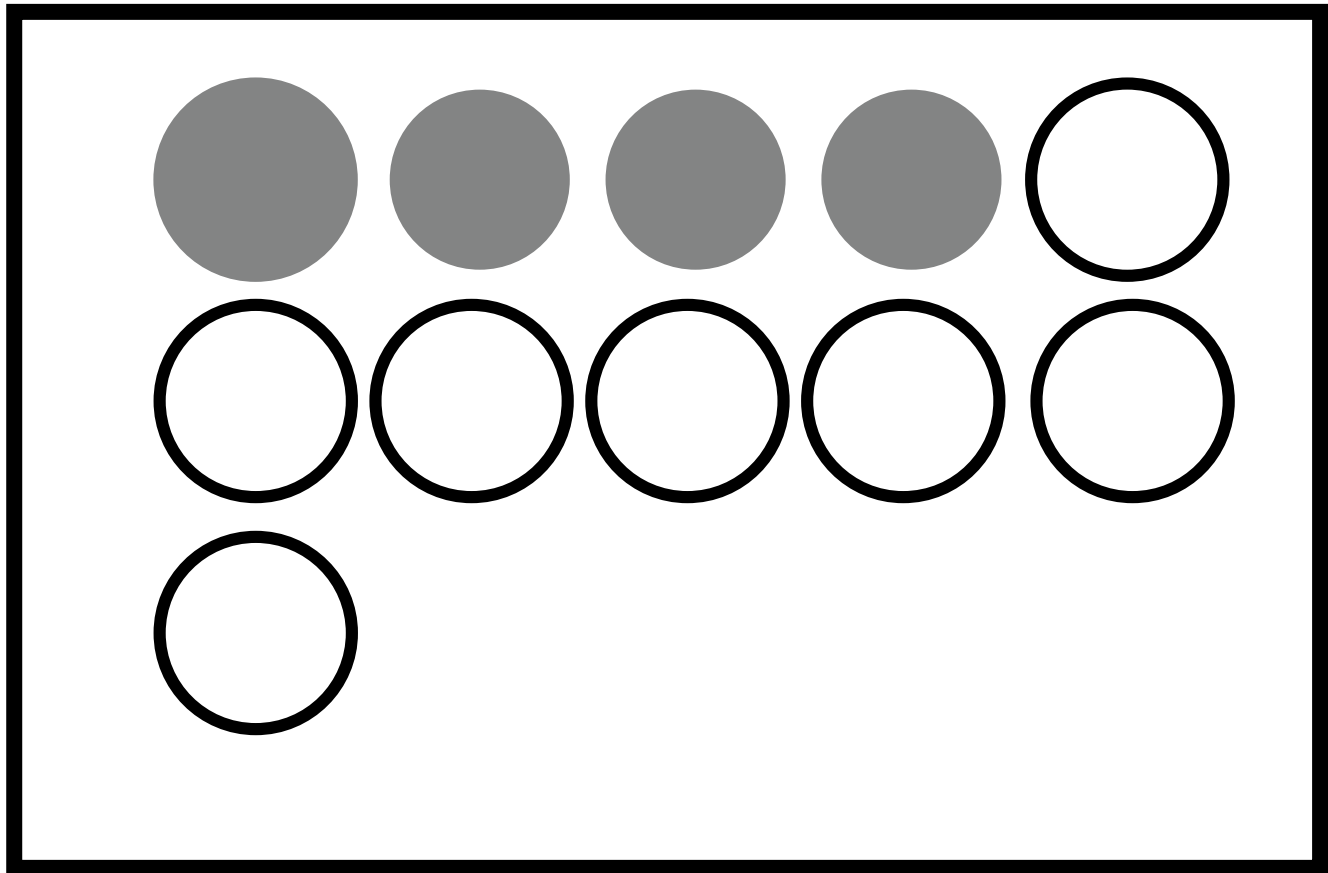
Activity 2

Pull a picture flashcard and say the number sentence to your partner. Use your math words to explain your strategy to your partner.

Use your math words:

My problem was _____. My strategy was _____. My sum is _____.

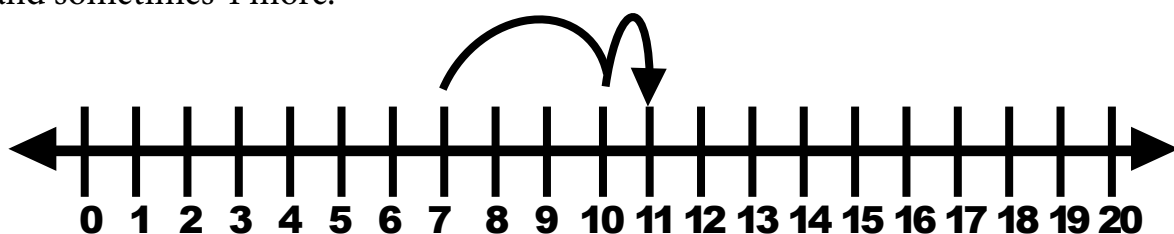
Draw a picture



$$4 + 7 = ?$$

You can jump on the number line

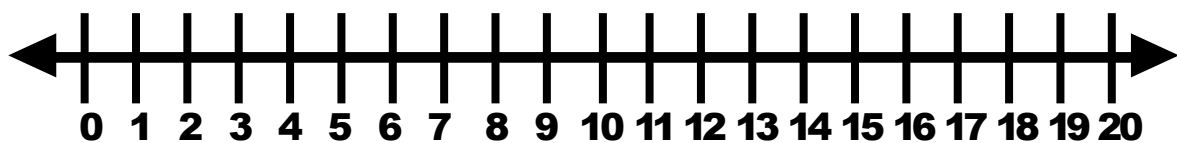
Note: We are always looking for the most efficient strategy. When working with some facts, the most efficient way is to start at the big number and jump 1,2,3, and sometimes 4 more.



Recording Sheet for Pictures

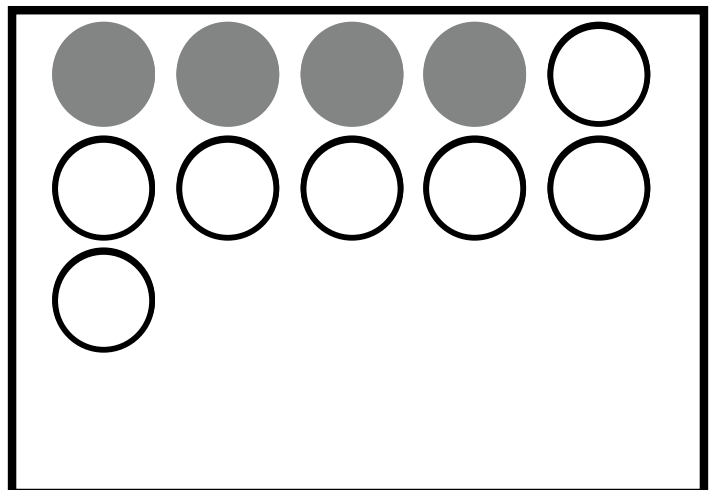
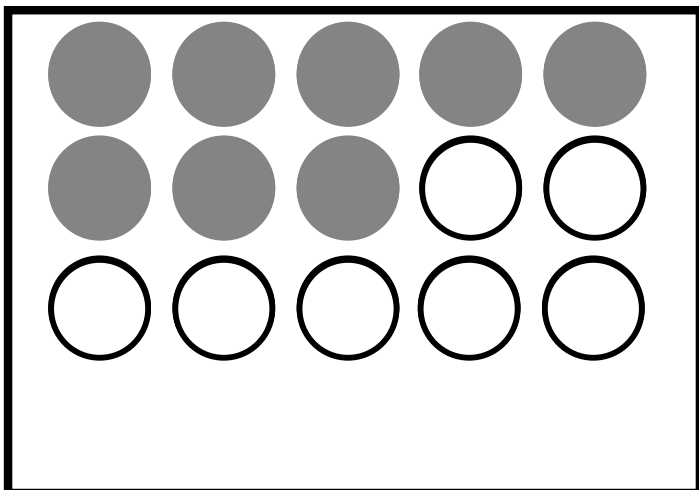
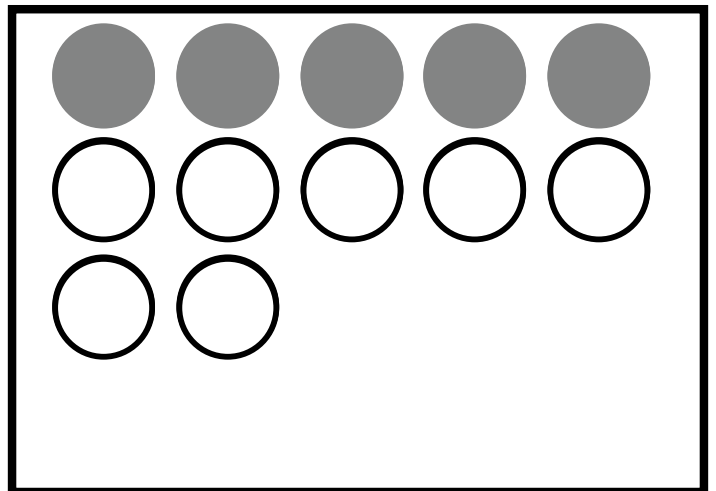
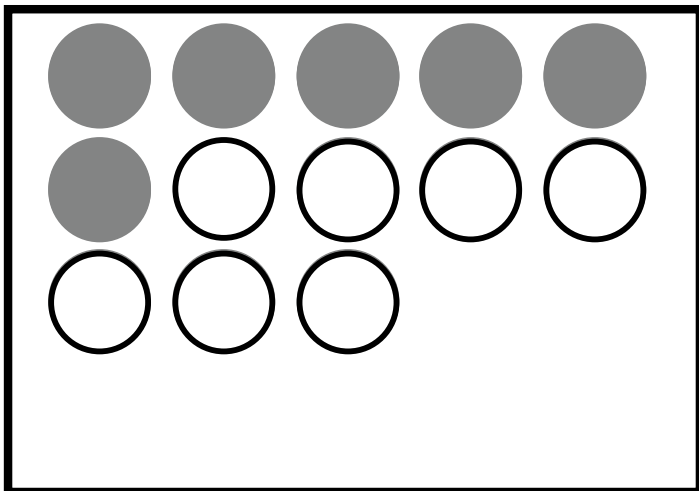
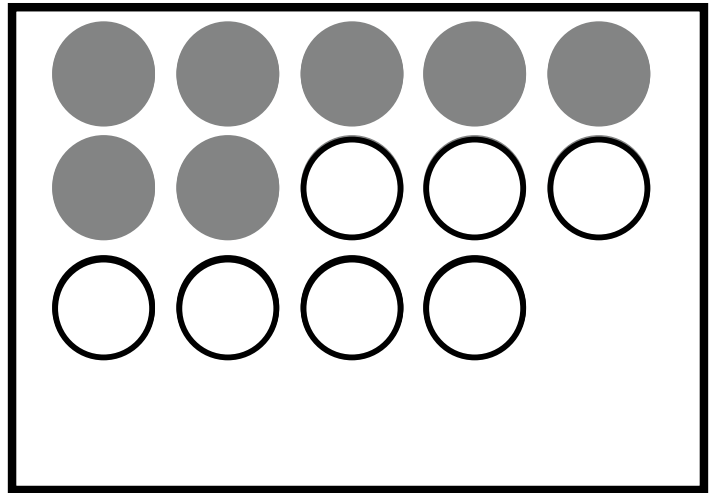
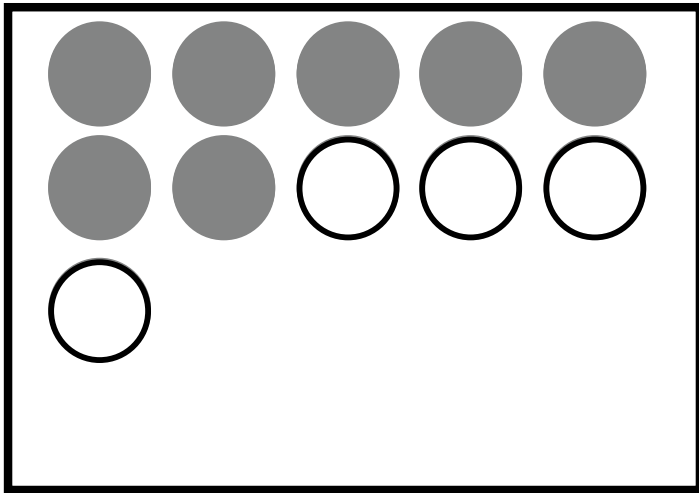
Pull a card. Illustrate the problem. Write the equation.

$\underline{\quad} + \underline{\quad} = \underline{\quad}$	$\underline{\quad} + \underline{\quad} = \underline{\quad}$
$\underline{\quad} + \underline{\quad} = \underline{\quad}$	$\underline{\quad} + \underline{\quad} = \underline{\quad}$
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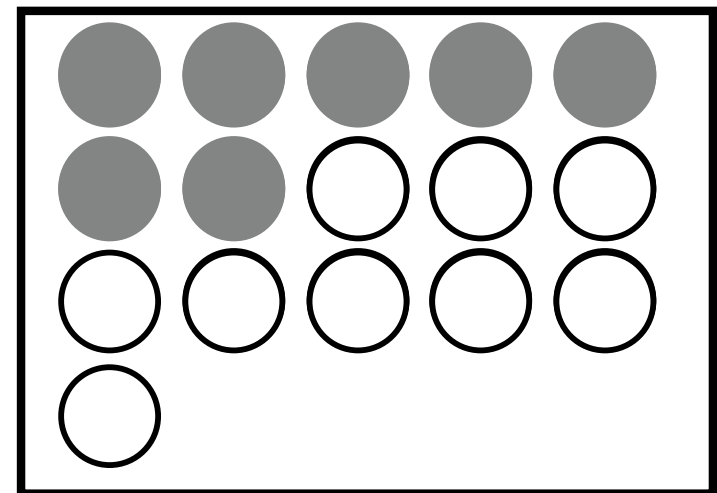
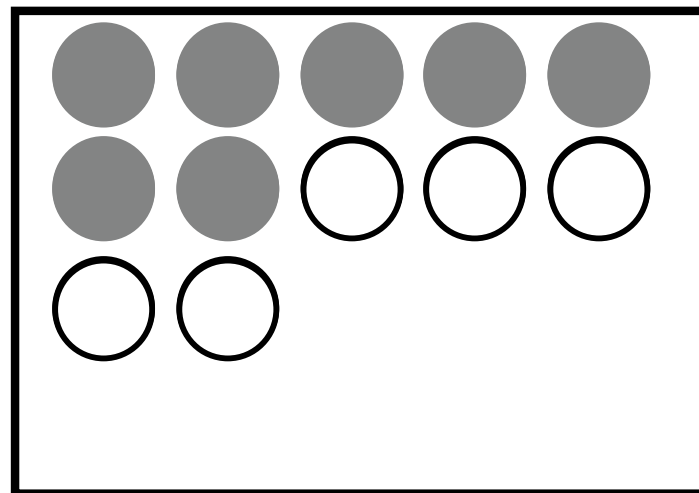
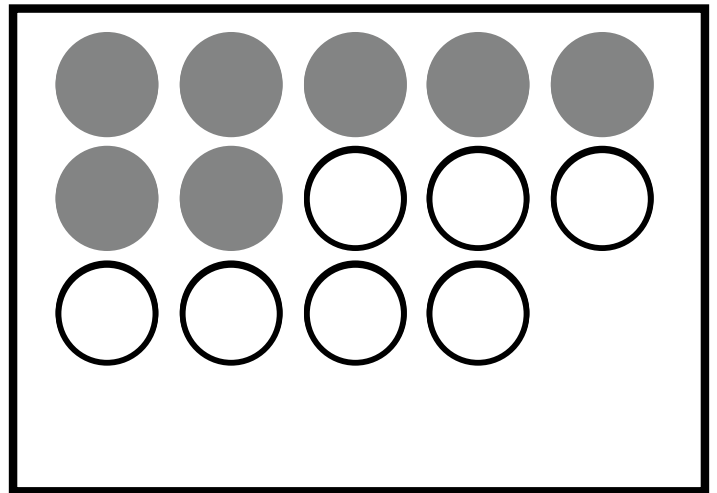
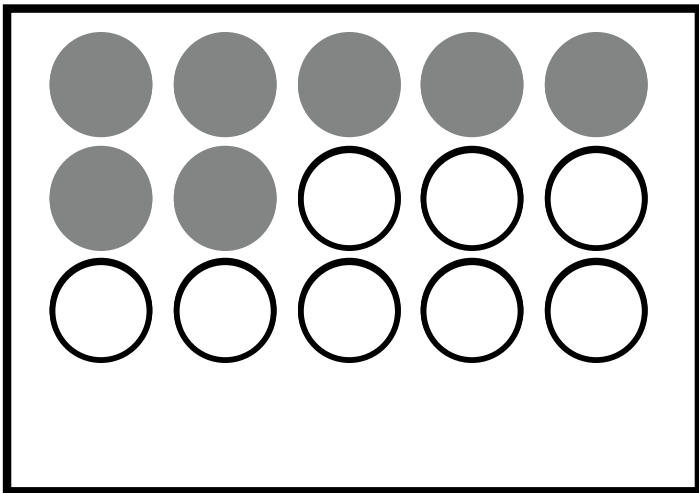
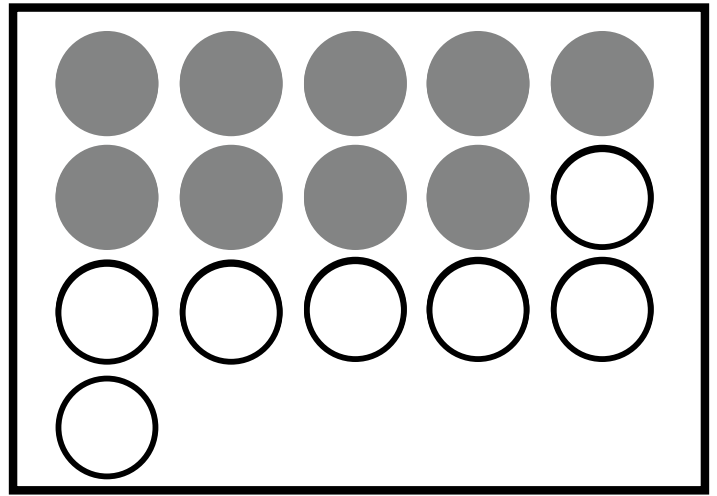
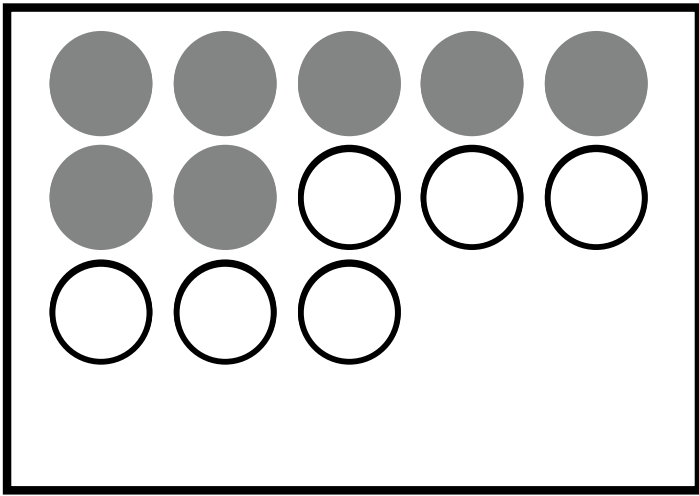
Picture Flashcards

Pull a flashcard and tell your partner the number sentence.



Picture Flashcards

Pull a flashcard and tell your partner the number sentence.



Dominos Activities

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Use the domino template to build facts. Play war with the dominos.

Materials

Dominos
Counters
Big Domino Template
Domino Recording Sheet
Domino Concentration

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Bridge 10 with a focus on 7 with domino pictures
Set B: Regular flashcards.

Directions

Activity 1

Pull a domino.
Rebuild it on a big domino template using counters.
Draw it on domino recording sheet.
Use words to explain your strategy. (see below).
Solve.

Activity 2

Lay out the dominos
Take turns looking for the match of the problem and the domino model.
Whoever finds the most matches wins.

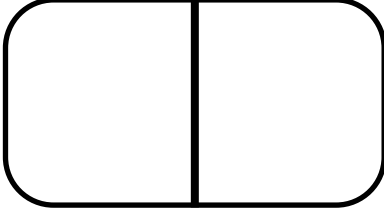
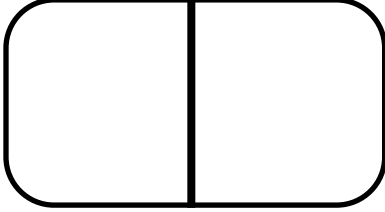
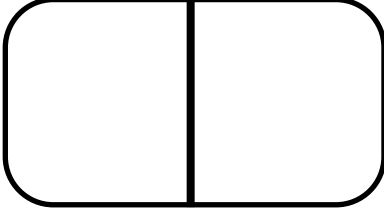
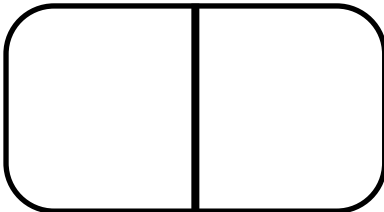
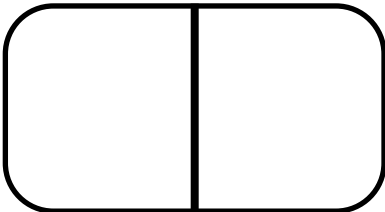

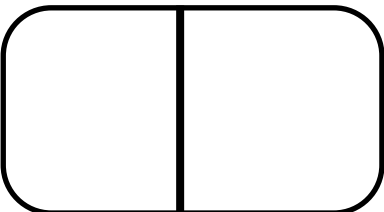
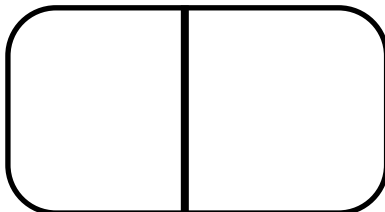
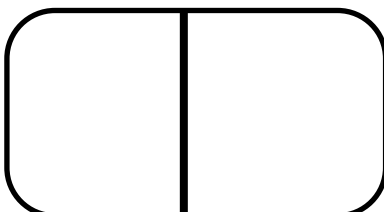
Use your math words:

My problem was _____. My strategy is _____. My sum is _____.

Domino Recording Sheet

Domino Facts

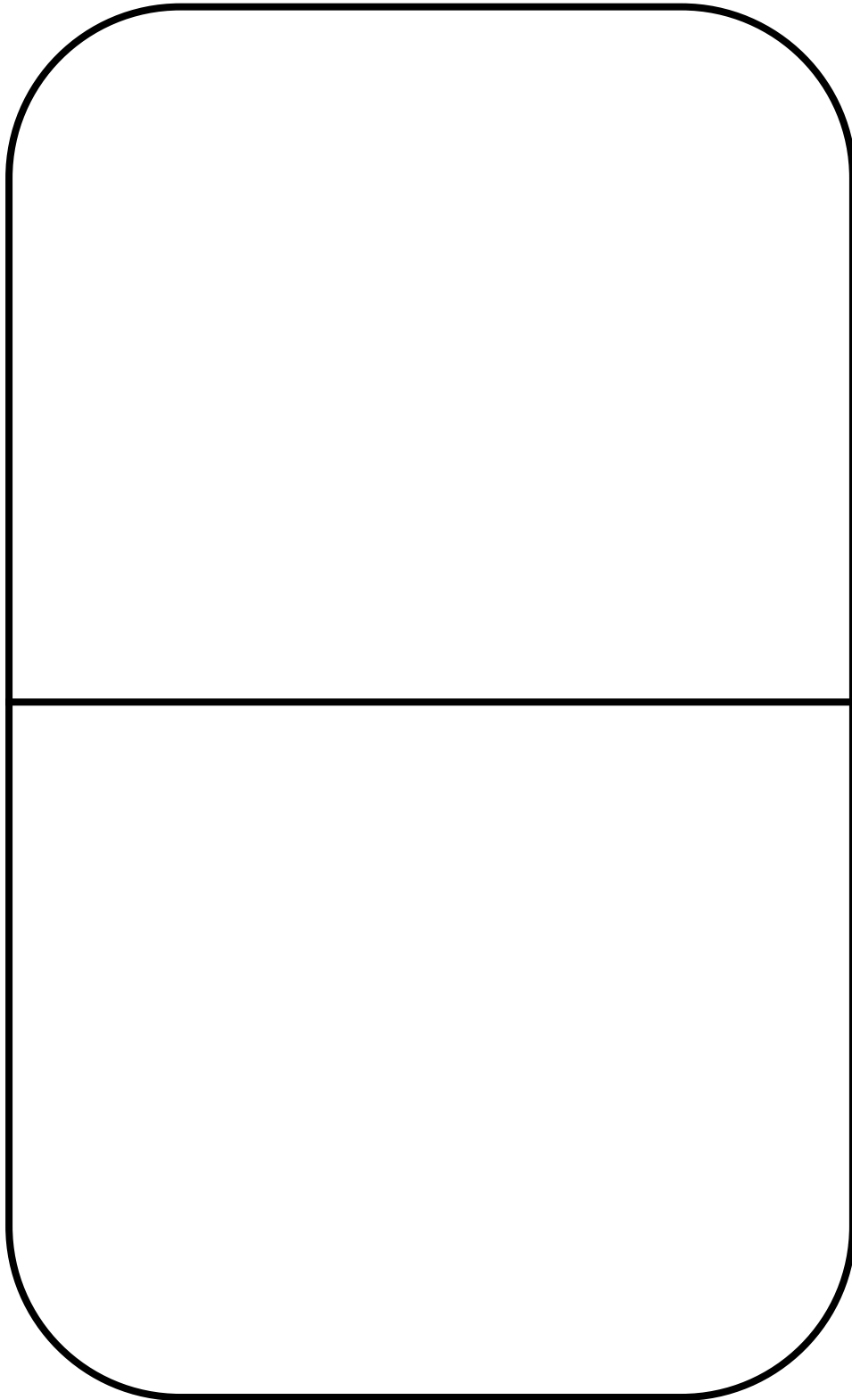
Pick a domino. Draw it and write the equation.

 ____ + ____ = ____	 ____ + ____ = ____	 ____ + ____ = ____
 ____ + ____ = ____	 ____ + ____ = ____	 ____ + ____ = ____
 ____ + ____ = ____	 ____ + ____ = ____	 ____ + ____ = ____

Big Domino Template

Build it. Pull a domino card.

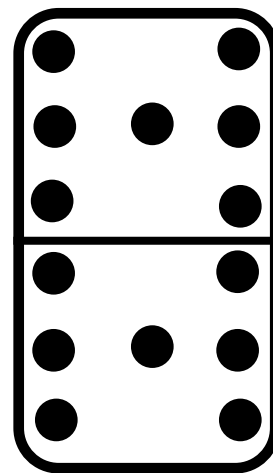
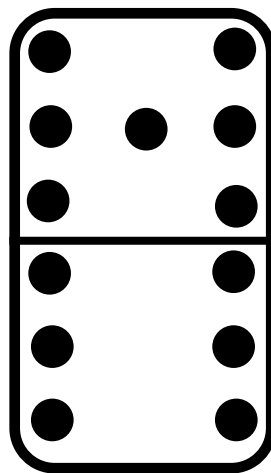
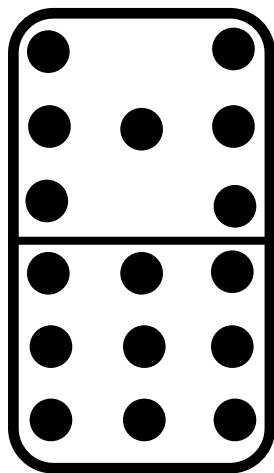
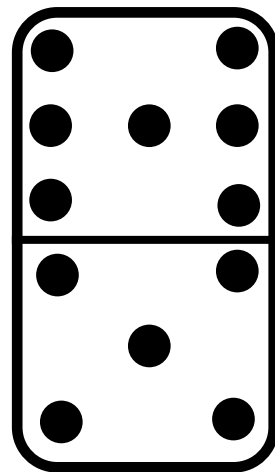
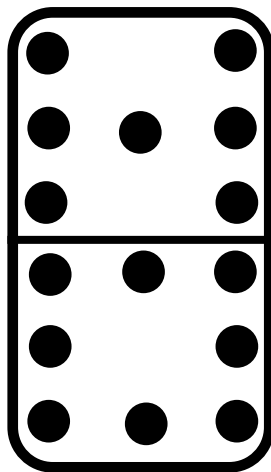
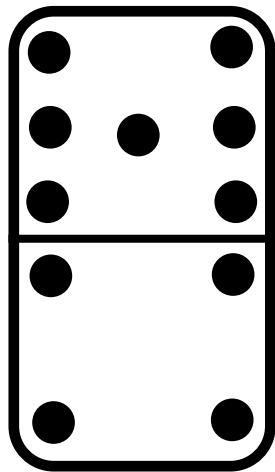
Build it using counters and then act out the addition problem.

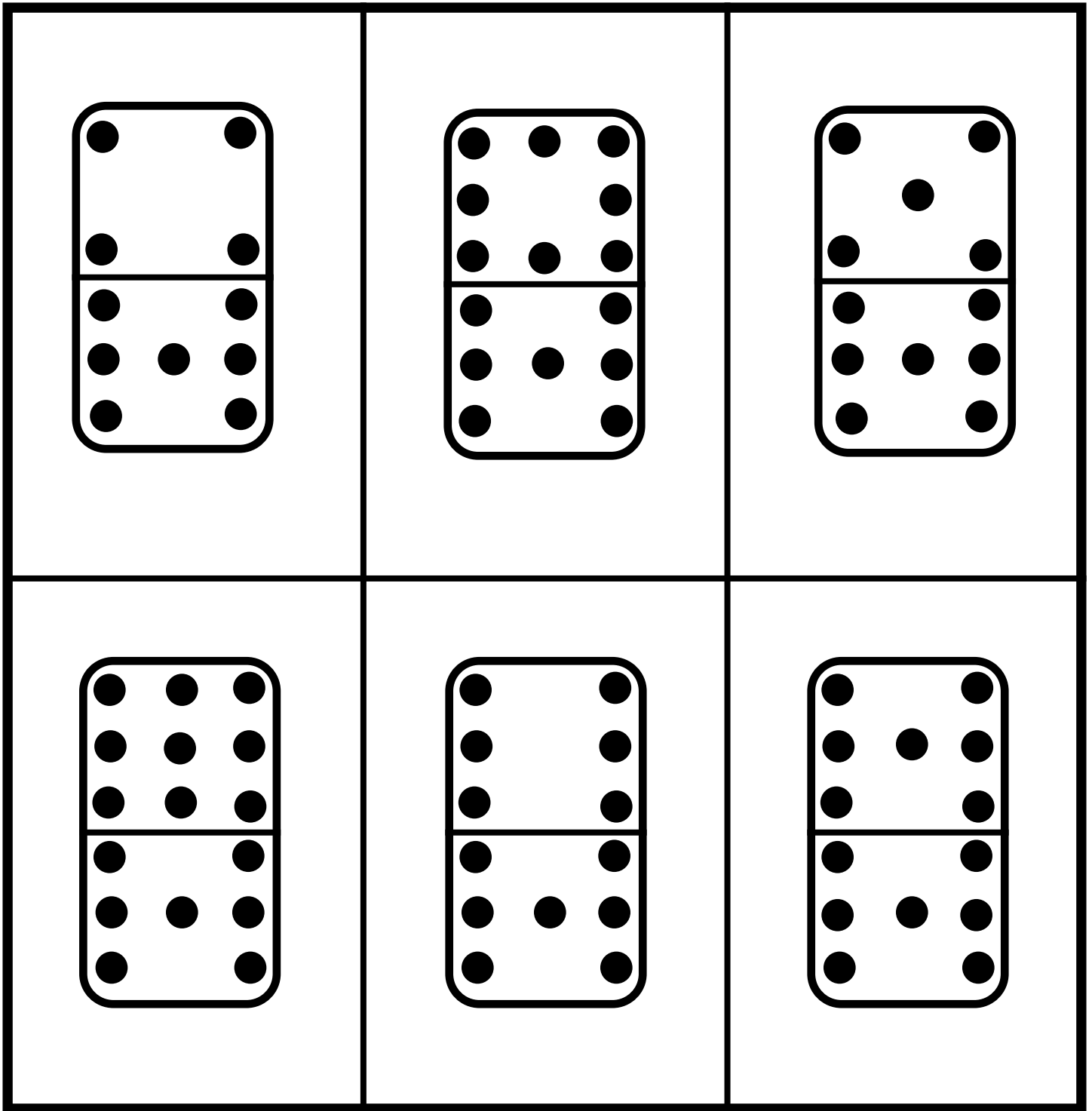


Bridge 10 With a Focus on 7 Cards For Dominoes

7 + 4	7 + 7	6 + 7
5 + 7	8 + 7	4 + 7
7 + 6	9 + 7	7 + 8
7 + 7	7 + 5	7 + 9

Work with a friend to match the dominos and the expressions.
Say the expression that matches the domino.





Draw a Picture showing Bridging 10 with the focus on 7 facts!

Write Some Bridging 10 with the focus on 7 facts!

Flashcards

Goal

Students focus on the idea of Bridge 10 with a focus on 7.

Way to Play

Students place all cards face down. They take turns turning over the cards. Whoever has the largest sum wins those cards. When all the cards are gone, whoever has the most cards wins.

Materials

Flashcards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Flashcards that model bridge 10 with the focus on 7.
Set B: Missing addends flashcards.

Directions

Activity 1

Pull a flashcard.
Model it on the number line.
Say the problem out loud.

Activity 2

Pull a flashcard. Model on a double ten frame. Solve. Use your math words to explain your strategy.

Use your math words:

My problem was _____. My strategy was _____.

My sum is _____.

SET A

**Bridge 10 with a
focus on 7!**

$$7 + 7 =$$

$$6 + 7 =$$

$$7 + 8 =$$

$$7 + 5 =$$

$$4 + 7 =$$

$$9 + 7 =$$

**Bridge 10 with a
focus on 7!**

$$5 + 7 =$$

$$7 + 9 =$$

$$7 + 4 =$$

$$8 + 7 =$$

$$7 + 7 =$$

$$7 + 6 =$$

SET B

$7 + \underline{\quad} = 15$	$6 + \underline{\quad} = 13$
$\underline{\quad} + 4 = 11$	$5 + \underline{\quad} = 12$
$7 + \underline{\quad} = 16$	$\underline{\quad} + 7 = 14$
$15 = 8 + \underline{\quad}$	$16 = 9 + \underline{\quad}$
$11 = \underline{\quad} + 7$	$13 = \underline{\quad} + 6$
$12 = \underline{\quad} + 5$	Bridge 10 with a focus on 7!

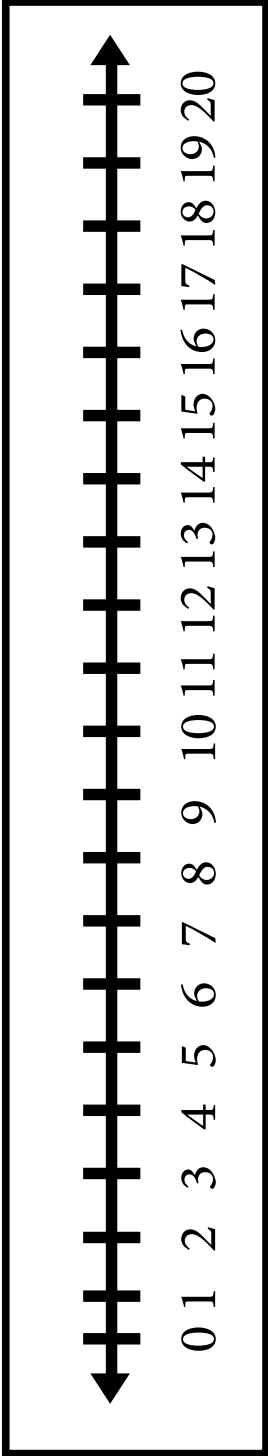
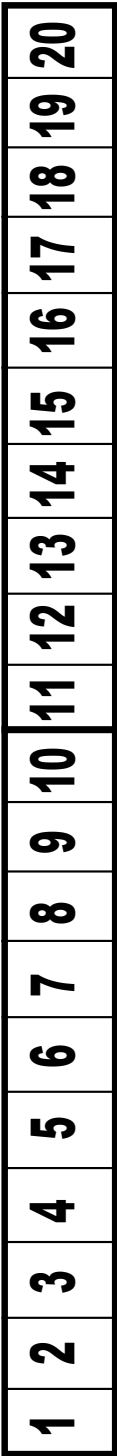
Model the facts

Model it on the Double Ten Frame

Model it on the Number Path

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

Use the number line or number path if you need help!



GAMEBOARD

Superhero Addition

Directions: Pull a flashcard and the person with the highest number goes first. Pull a card and match the sum with an expression on the board. Whoever gets 4 in a row wins!

7 + 9	7 + 6	7 + 7	7 + 7
8 + 7	5 + 7	9 + 7	7 + 8
7 + 7	4 + 7	7 + 5	7 + 9
7 + 6	7 + 8	7 + 4	8 + 7
4 + 7	7 + 6	7 + 5	9 + 7



NUMBER CARDS

11

12

13

14

15

16

11

12

13

14

15

16

GAMEBOARD

SPINNER GAME

Each partner spins and adds 7 to the number. Whoever gets the largest sum gets a counter. Keep track of the score in the ten frame. Whoever gets 10 counters first wins.



PARTNER A

PARTNER B

GAMEBOARD

Use set A or B Flashcards. Players get the same number of cards. Play war. Each player writes his\her equation. on her side. Write > or < to compare the equations.

Player 1	Compare your equations with a symbol: < = >	Player 2
$\underline{\quad} + \underline{\quad} = \underline{\quad}$		$\underline{\quad} + \underline{\quad} = \underline{\quad}$
$\underline{\quad} + \underline{\quad} = \underline{\quad}$		$\underline{\quad} + \underline{\quad} = \underline{\quad}$
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GAMEBOARD



BUMP GAME

Addition Bridging 10 with
the focus on 7 Facts



$9 + 7$	$4 + 7$	$7 + 8$	$7 + 6$	$7 + 5$
$7 + 5$	$7 + 7$	$7 + 4$	$7 + 9$	$9 + 7$
$6 + 7$	$8 + 7$	$5 + 7$	$7 + 7$	$4 + 7$
$8 + 7$	$7 + 9$	$7 + 4$	$7 + 8$	$6 + 7$

Use the number cards. Pull a card. Whoever has the highest number goes first. Player 1 pulls a card and finds the expression for that sum and covers it up. If player 2 pulls an expression for the same sum, they can bump player 1 off. If a player has 2 cubes on a space they have captured the space. Whoever captures the most spaces wins.

NUMBER CARDS

11

12

13

14

15

16

11

12

13

14

15

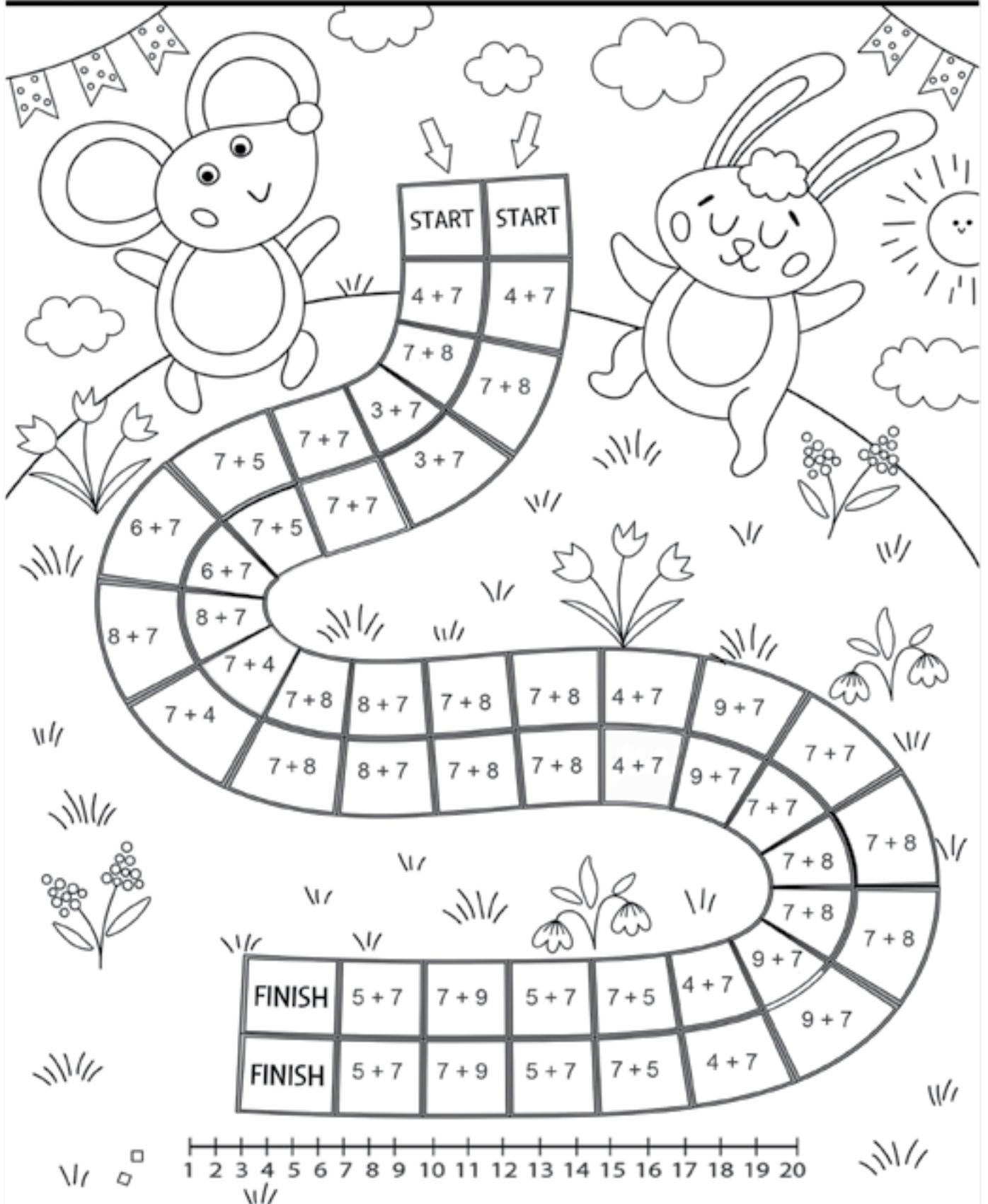
16

GAMEBOARD



BRIDGING 10 WITH THE FOCUS ON 7

Instructions: Roll the dice. Move and solve the problem. Whoever reaches the end first wins!



Bridging 10 with the focus on 7 Quiz

Match the expression and the sum!

7 + 5	11
8 + 7	16
7 + 6	12
7 + 9	15
4 + 7	13

Model a Bridge 10 with a focus on 7

_____ + _____ = _____

Show 7 + 6

Solve:

Jen had 9 marbles. She got seven more. How many does she have?

Make the equations true.

14 = 7 + _____

13 = 7 + _____

Performance Quiz and Oral Interview

1. What are Bridging 10 with the focus on 7 facts?	2. Can you pick a flashcard and model one for me on a double ten frame?	3. Can you pick a flashcard and model one for me on the number path or number line?
4. Model this with your counters. Nikko had 7 marbles. He got 4 more. How many does he have now?	5. Show the students a few flashcards to see how they solve the problems.	6. What is easy and what is tricky about learning to add with 7?

