

DR. NICKI NEWTON'S

MATH FACT FLUENCY

WORKSTATIONS

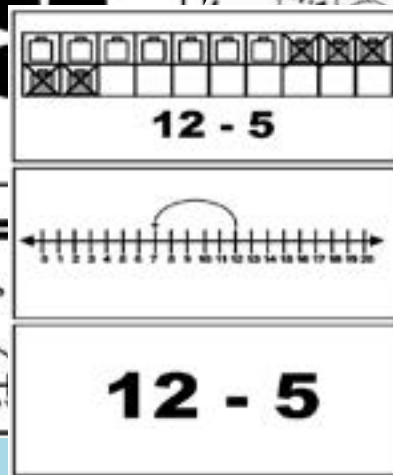
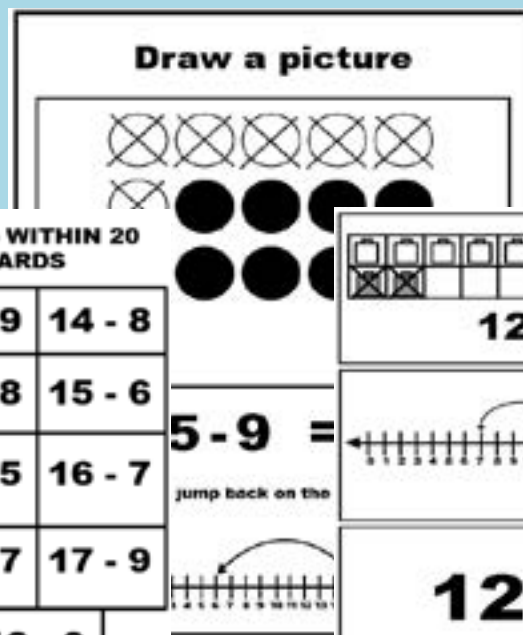
#33

SUBTRACTING
WITHIN 20



**SUBTRACTING WITHIN 20
FLASHCARDS**

11 - 4	11 - 9	14 - 8
12 - 5	17 - 8	15 - 6
13 - 8	11 - 5	16 - 7
14 - 6	12 - 7	17 - 9
15 - 9	13 - 9	



Contact Us!

Dr. Nicki Newton

Email: drnickinewton@gmail.com

Website: www.drnickinewton.com

Blog: guidedmath.wordpress.com



Gigglenook Publication
Email: drnickinewton@gmail.com
Website: www.drnickinewton.com

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Chief Operating Officer: Dr. Nicki Newton
Publisher: Newton Education Solutions
Cover Design: Dr. Nicki Newton
Text Design and Composition: Staff
Printed in the United States of America
Volume 1



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 Subtracting within 20 Workstation. 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).

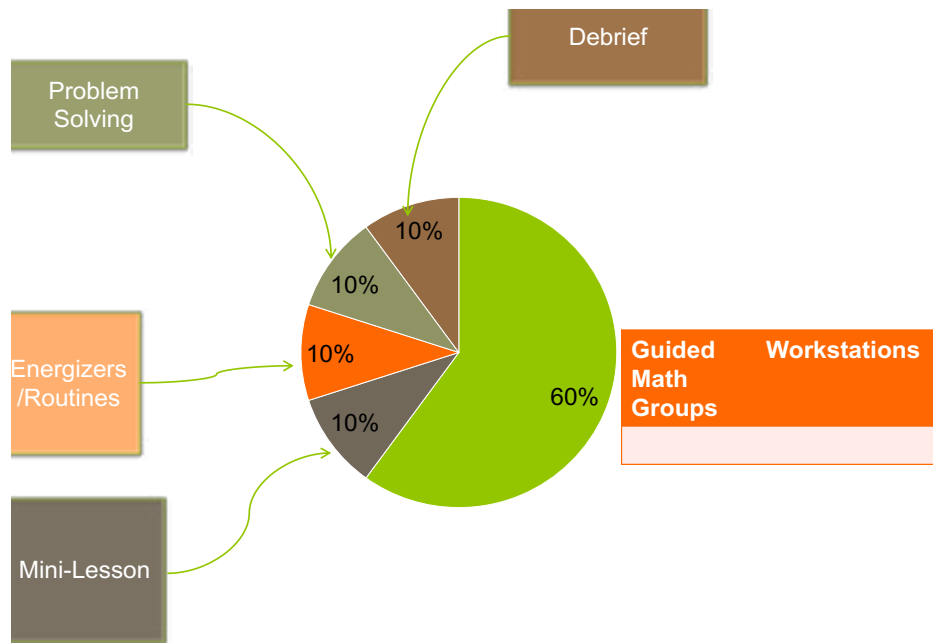
Why should students work in their zone of proximal development?

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 doubles 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

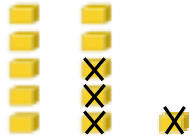
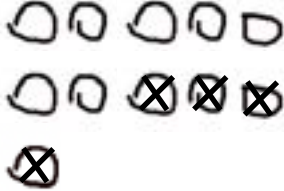
- Math Workstations
- Guided Math Groups

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.

CONCRETE	PICTORIAL	ABSTRACT
$11 - 4 = 7$ 		$11 - 4 = 7$

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?

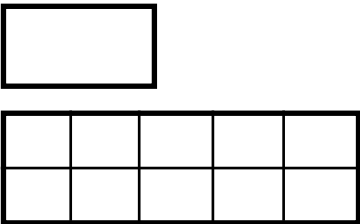
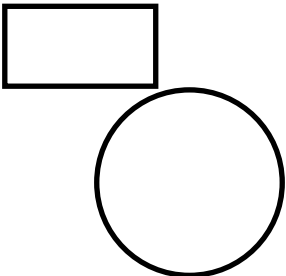
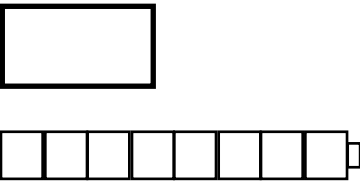
The only way to decide who goes where is to actually give a fluency assessment so that you know where the students practice level is going to be. This could be a Math Running Record. A Math Running Record is like a Fluency GPS. It is given at the beginning, middle and end of the year to find the fluency 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.

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

	Subtracting 0 and 1	Subtracting within 5 and from 5	Subtracting within 10	Subtracting from 10	Subtracting a number from itself	Subtracting lower doubles	Subtracting 10 from a teen number	Subtracting the ones from a teen number	Subtracting half facts	Subtracting by bridging 7, 8, and 9	Subtracting within 20	Subtracting from 20
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 subtracting from 20. We will be using a variety of materials to help reinforce subtraction skills. 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.

Subtracting within 20

Big Ideas: Subtracting within 20 is subtracting a number from 20 that the equal range is 10 to 20

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

Essential Questions: How do we use subtraction in our everyday lives?

SUBTRACTING WITHIN 20 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!
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		
Give Quiz A or Quiz B		
Give a quick performance test and interview (ask the students to model, show and tell you some of the subtracting within 20 facts).		

Twenty Frame Activity

Goal

Students focus on
Subtracting within 20.

Way to Play

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

Materials

Scaffolded Flashcards
Unscaffolded flashcards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Twenty frame flashcards
Set B: Regular Flashcards

Directions

Activity 1.

Pull a flashcard.
Model it on the twenty frame.
Record it on the recording sheet.

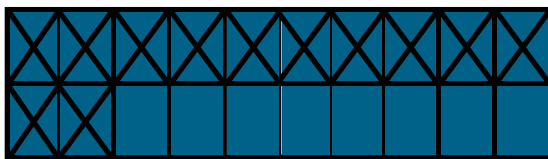
Activity 2

Pull a flashcard.
Solve.
Explain using math words below.

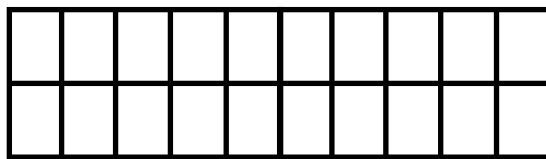
Use your math words:

My problem was __. I subtracted __ from __.

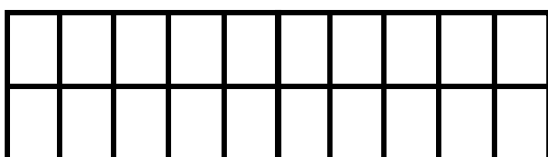
My difference is __.



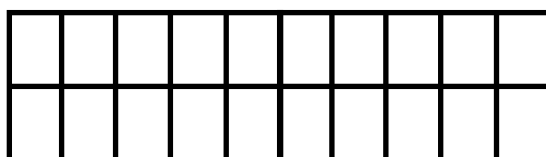
$$\underline{20} - \underline{12} = \underline{8}$$



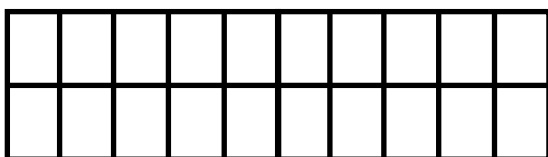
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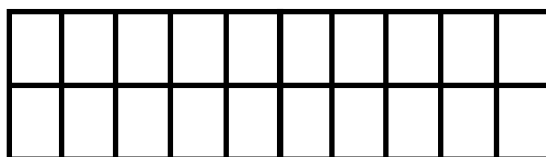
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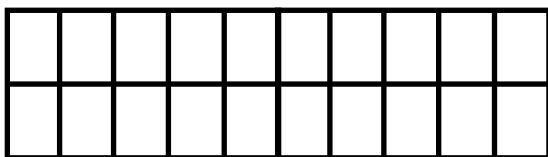
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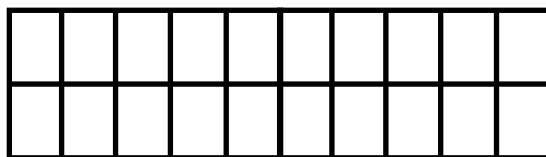
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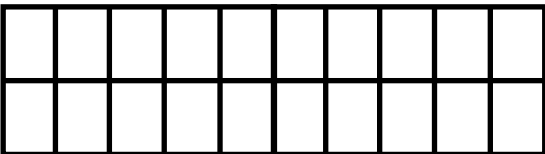
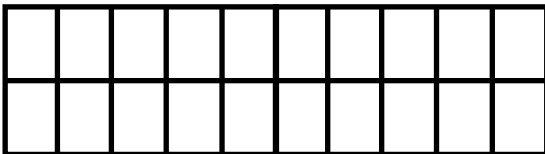
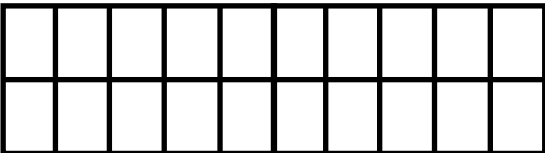
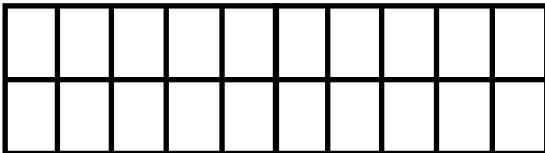
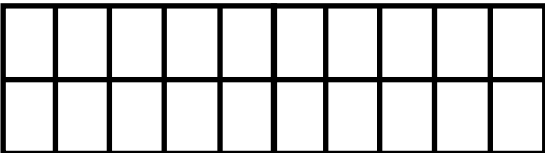
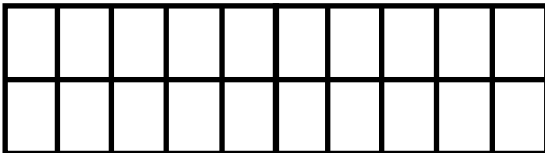
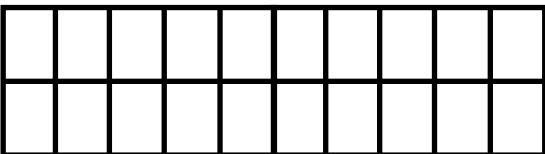
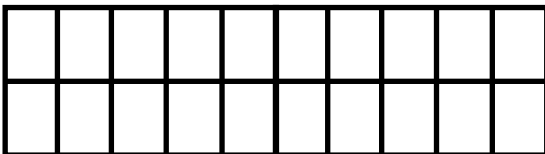
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 _____ - _____ = _____	 _____ - _____ = _____
 _____ - _____ = _____	 _____ - _____ = _____
 _____ - _____ = _____	 _____ - _____ = _____
 _____ - _____ = _____	 _____ - _____ = _____

SUBTRACTING WITHIN 20

FLASHCARDS

$11 - 4$

$16 - 9$

$14 - 8$

$12 - 5$

$17 - 8$

$15 - 6$

$13 - 8$

$11 - 5$

$16 - 7$

$14 - 6$

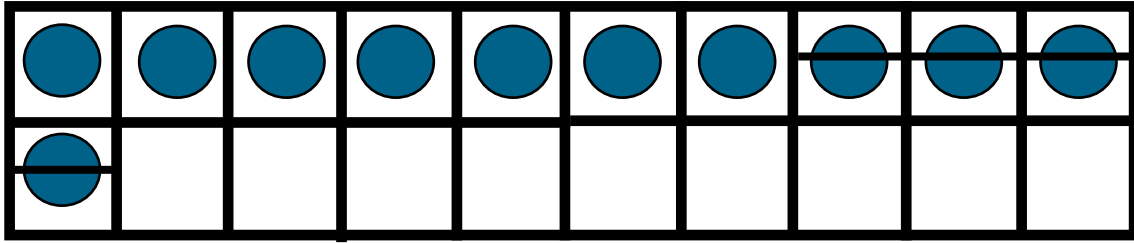
$12 - 7$

$17 - 9$

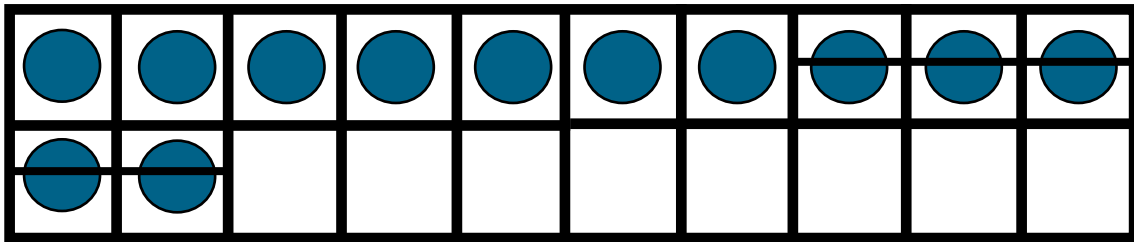
$15 - 9$

$13 - 9$

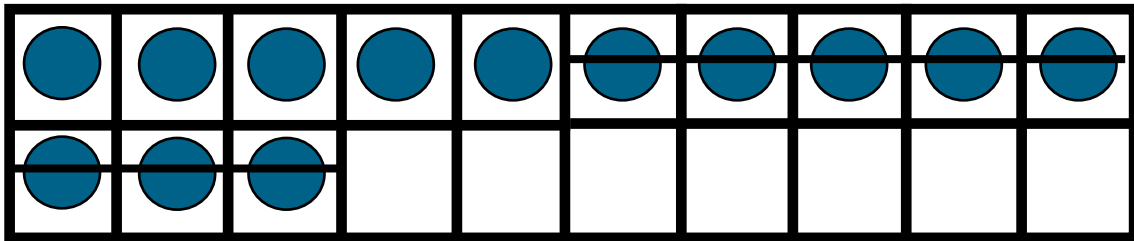
How do you see it?



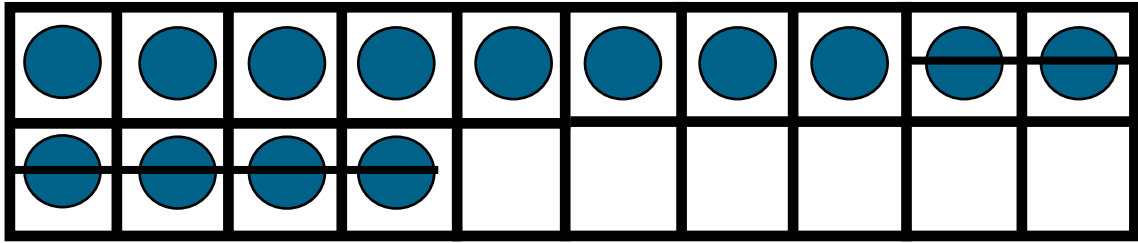
$$11 - 4$$



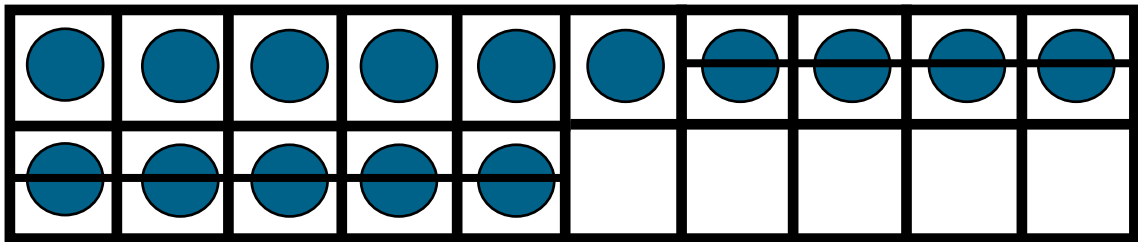
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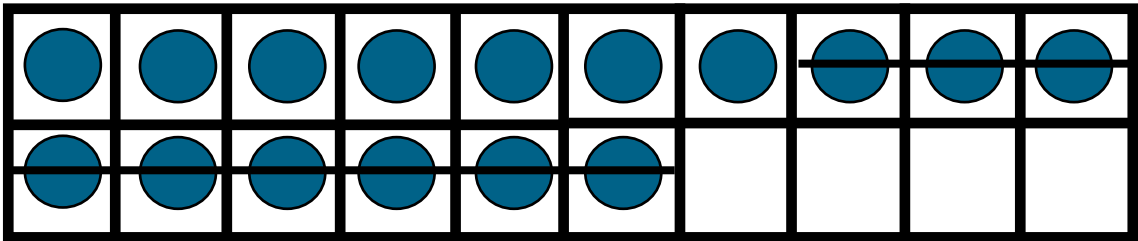
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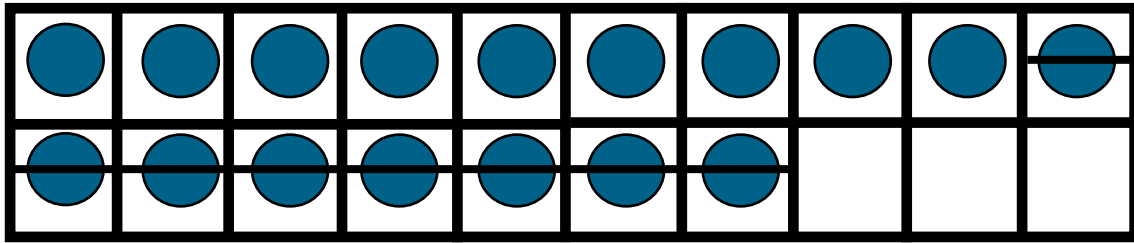
$$14 - 6$$



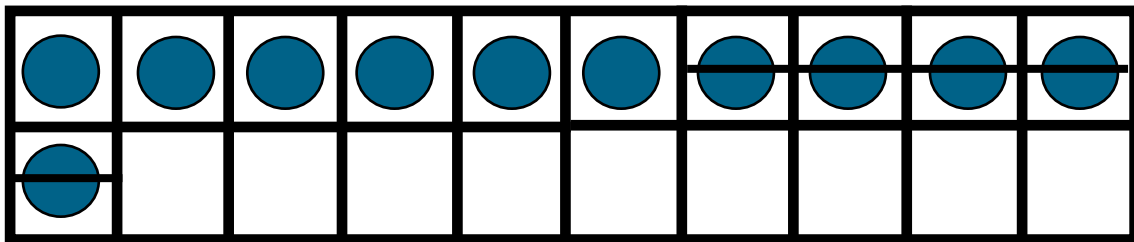
$$15 - 9$$



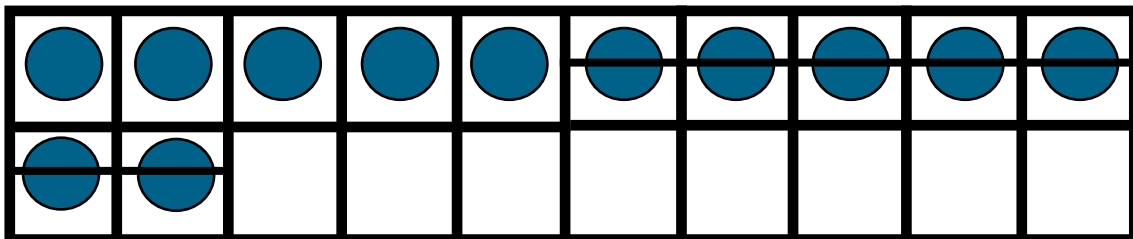
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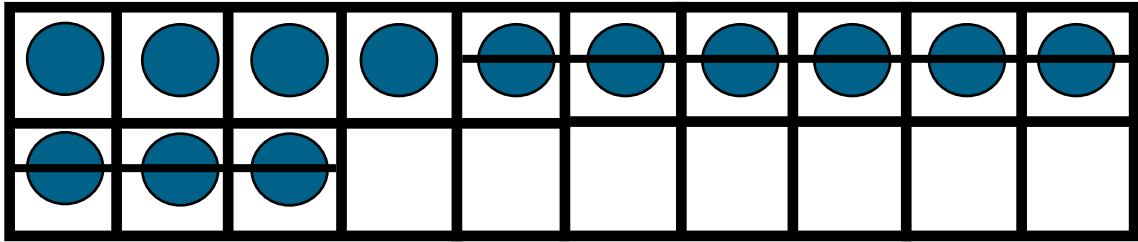
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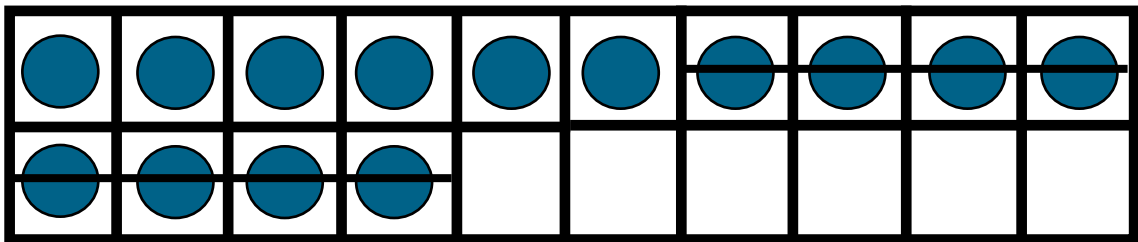
$$11 - 5$$



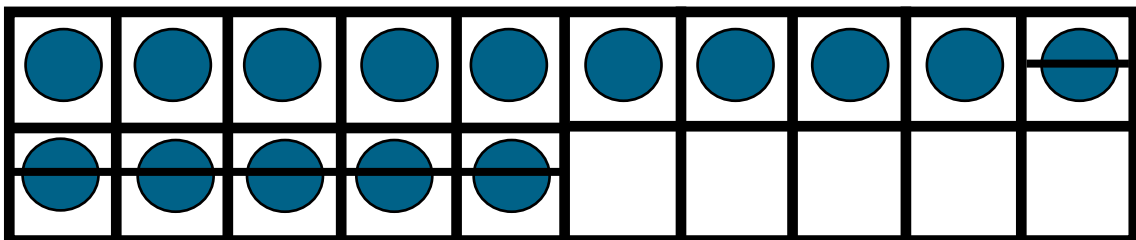
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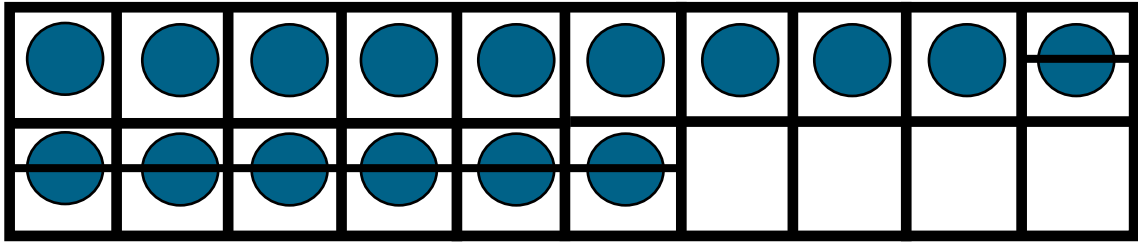
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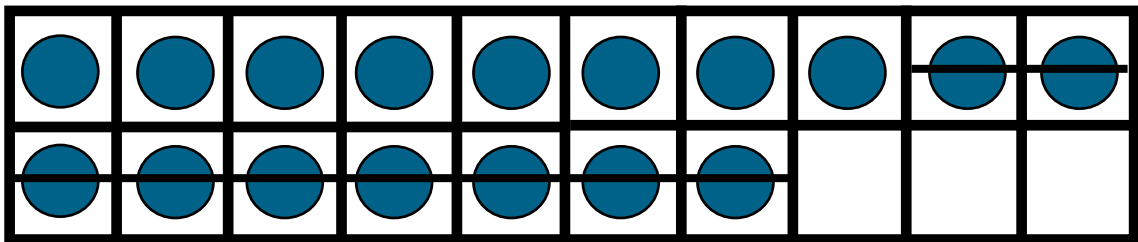
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$$15 - 6$$



$$16 - 7$$



$$17 - 9$$

Number Bracelets

Goal

Students focus on
Subtracting within 20.

Way to Play

Make a Beaded Number Bracelet with
pony beads and a pipe cleaner.
Make 10 beads of one color and 10
beads of another.

Materials

Number Bracelet
Number Bracelet Templates
Flashcards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Subtracting within 20 Facts
modeled on 10 frame flashcards.
Set B: Regular Subtracting within 20
Flashcards.

Directions

Activity 1

Pull a flashcard.
Take out the number bracelet and
build the Subtracting within 20 fact.

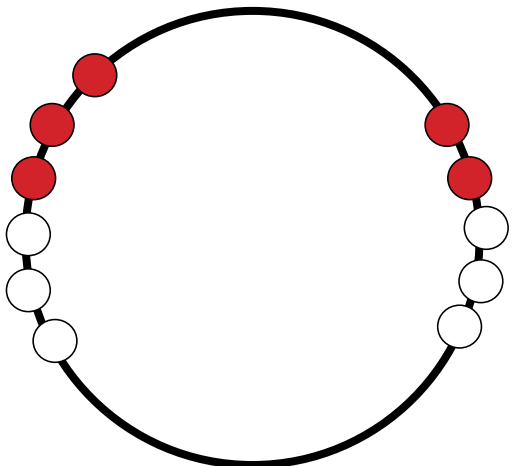
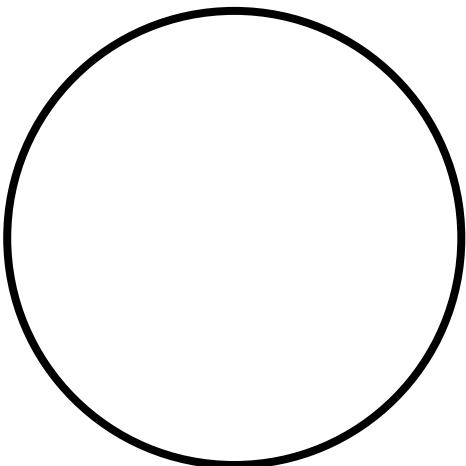
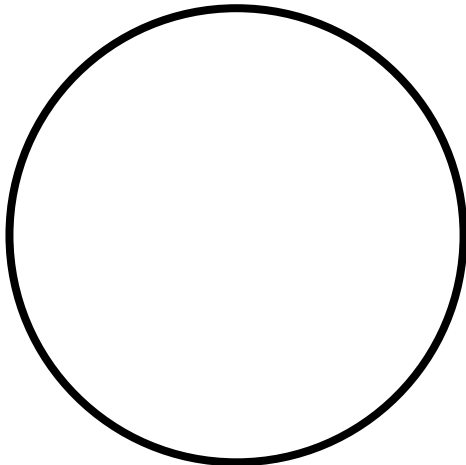
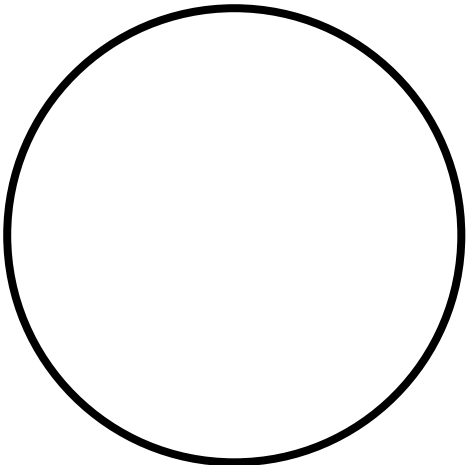
Activity 2

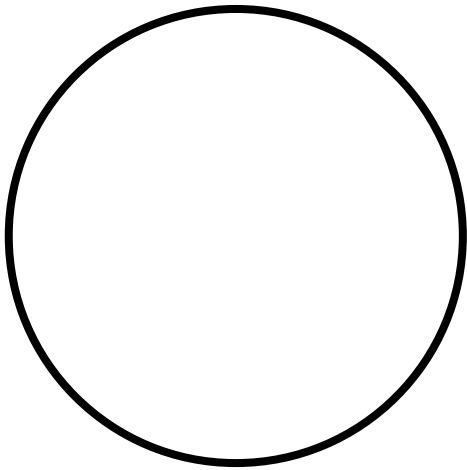
Students draw their number bracelet
model on the template.
Explain using math words below.

Use your math words:

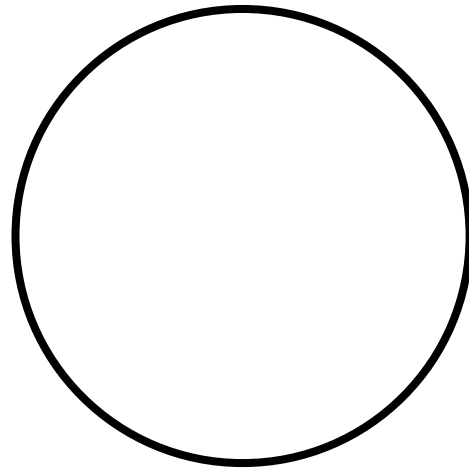
**My problem was __. I started with __. I subtracted __.
My difference is __.**

Number Bracelets to Subtracting within 20

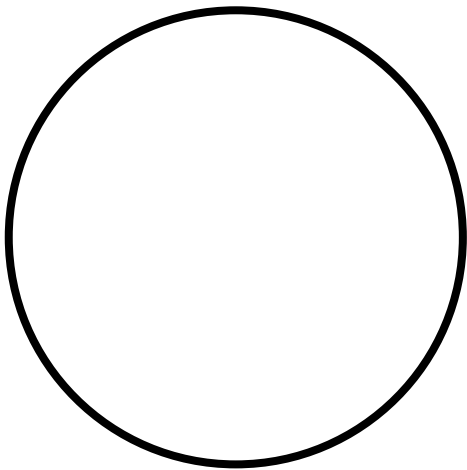
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 _____ - _____ = _____	 _____ - _____ = _____



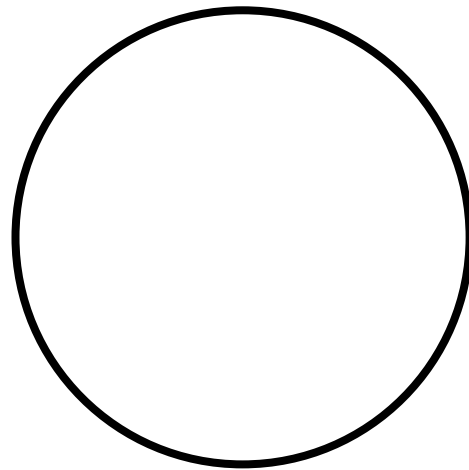
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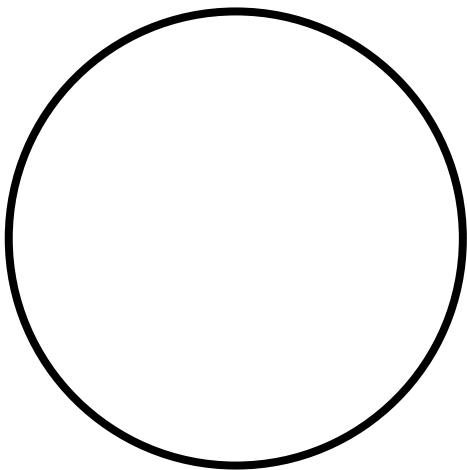
_____ - _____ = _____



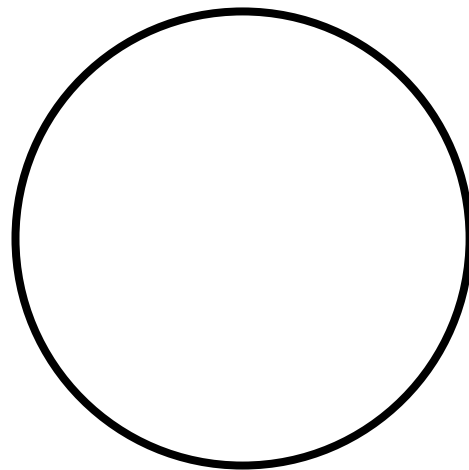
_____ - _____ = _____



_____ - _____ = _____



_____ - _____ = _____



_____ - _____ = _____

Cube Towers and Number Lines

Goal

Students focus on
Subtracting within 20.

Way to Play

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

Materials

Cubes
Cube Stick 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.
Model it with cubes.
Color the cube template.
Solve.
Explain using math words below.

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.
Option 2: Play "How do you see it?" Use the
concentration cards. Explain how you see the
subtraction on the different models.

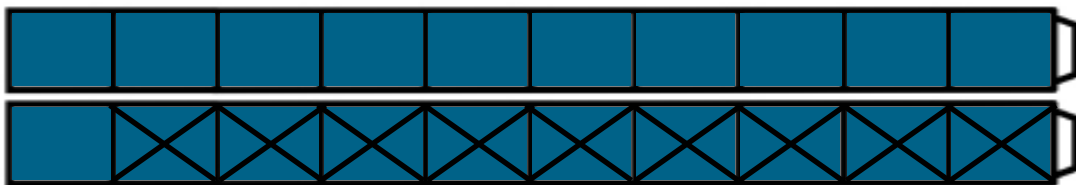
Use your math words:

My problem was __. I subtracted __ minus __.

My difference is __.

Model a Subtracting within 20 strategy with the cubes!

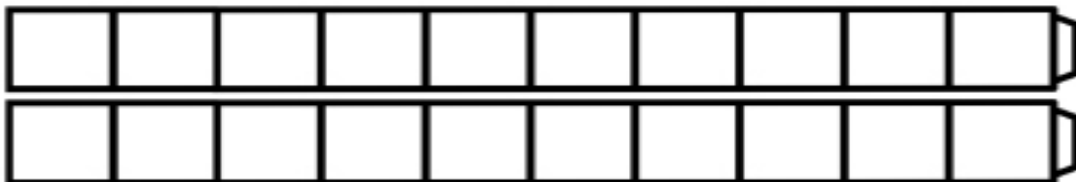
Roll the dice or pull a card, build a cube tower of the fact. Color the cube template and write the equation.



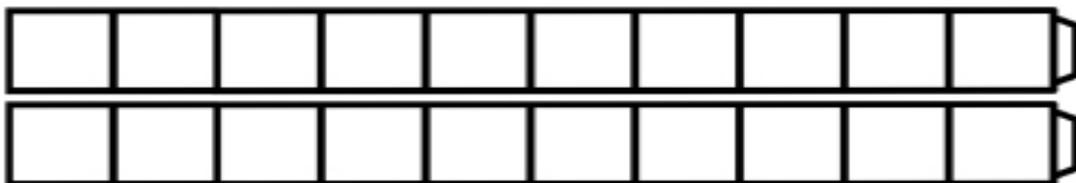
$$\underline{20} - \underline{9} = \underline{11}$$



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



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



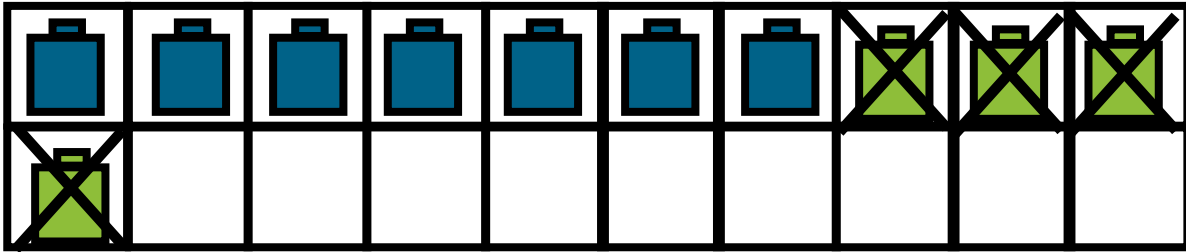
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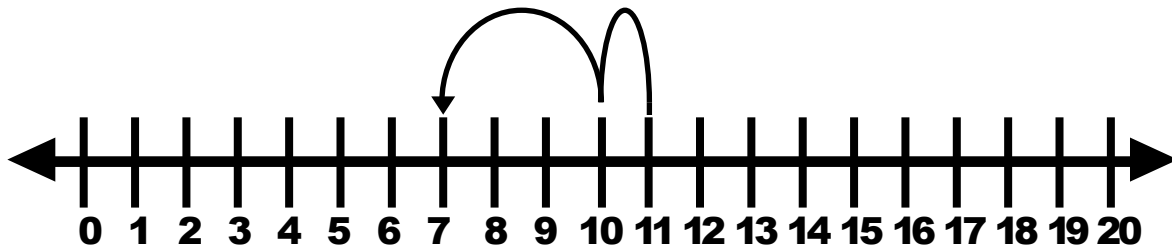
$$\underline{\quad} - \underline{\quad} = \underline{\quad}$$

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Concentration Cards

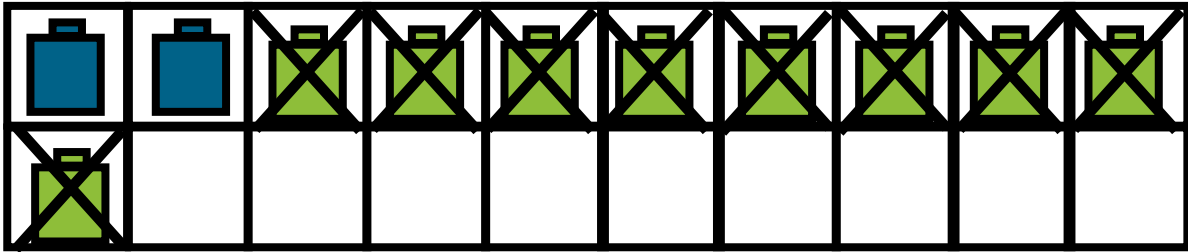


$$11 - 4$$

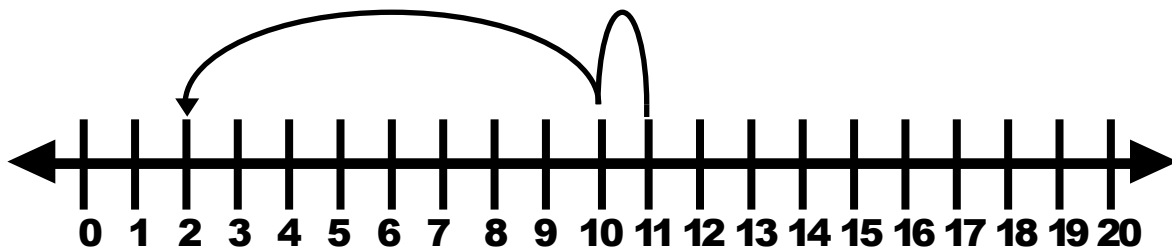


As students are subtracting get them to think about bridging through ten by subtracting back to ten and then subtracting the rest.

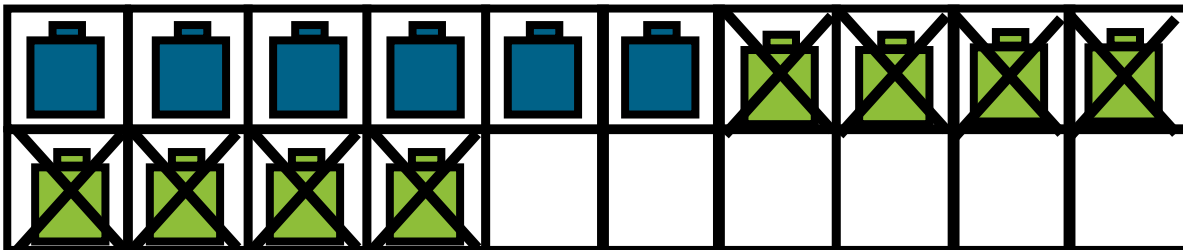
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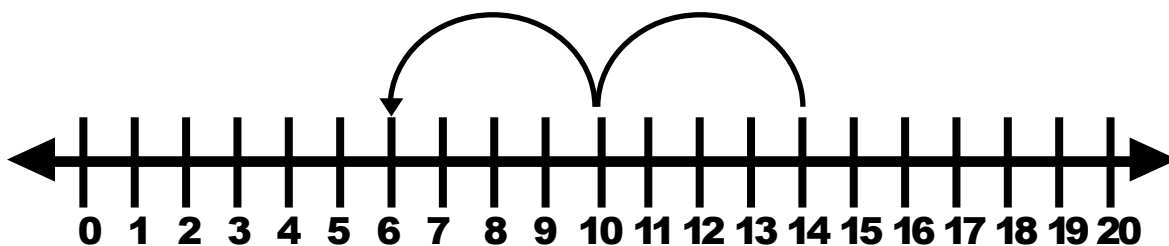
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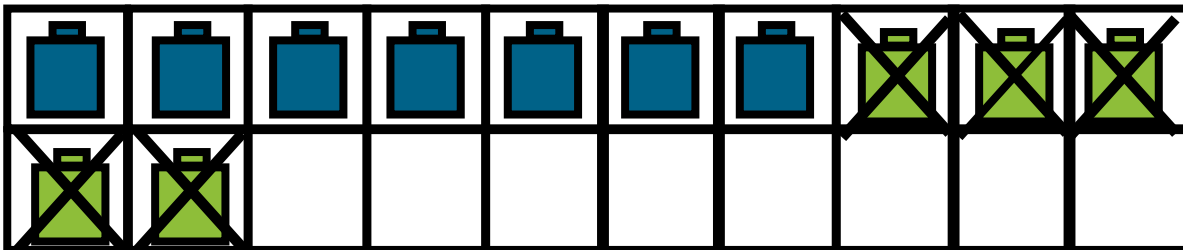
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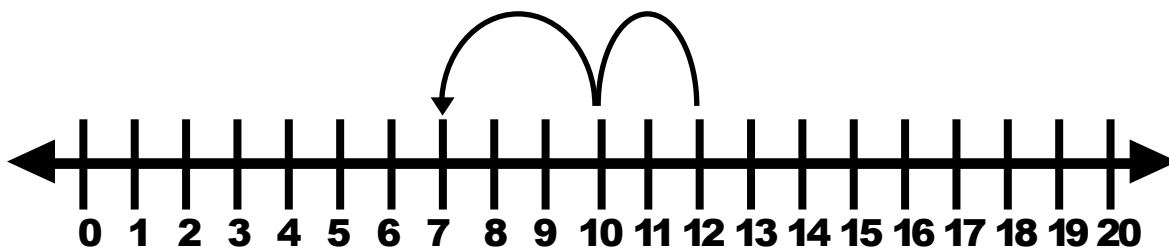
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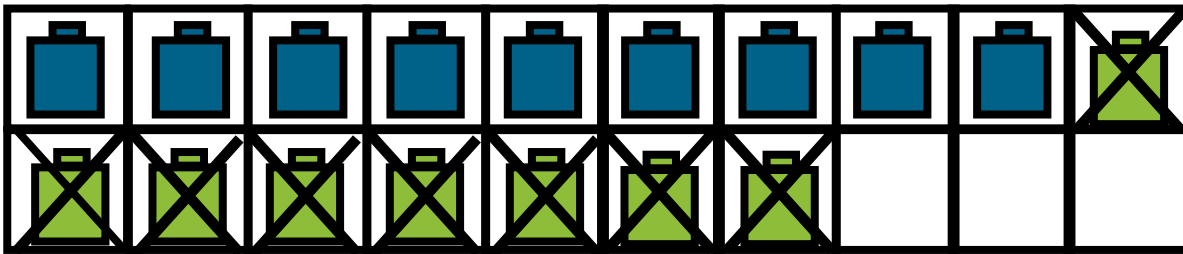
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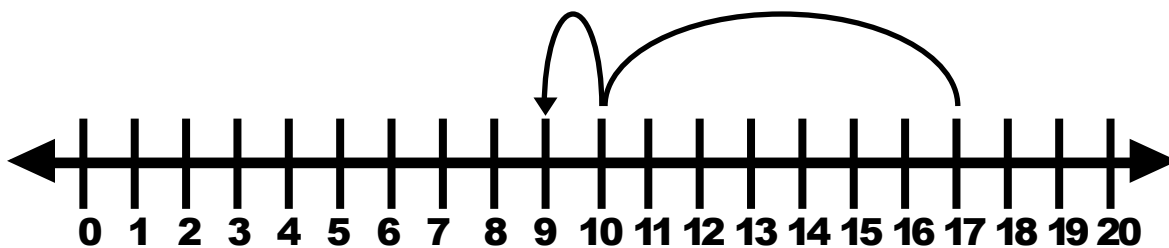
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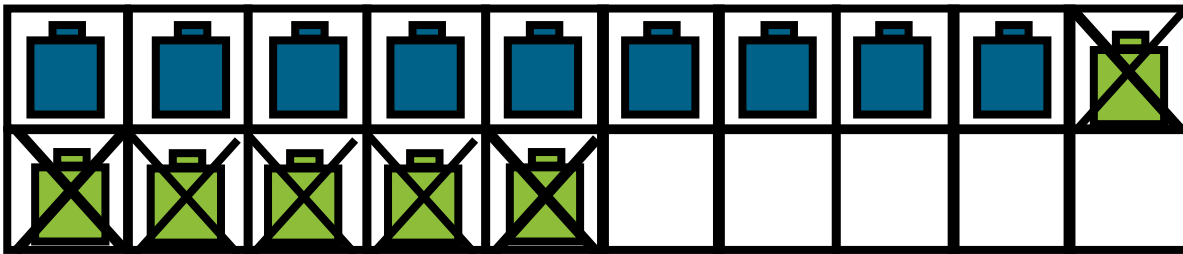
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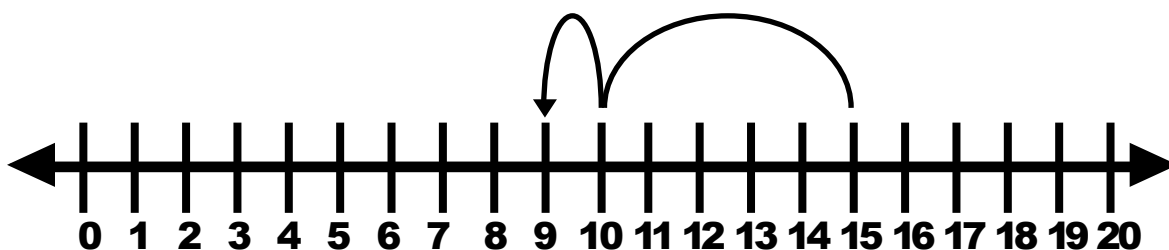
$$17 - 8$$



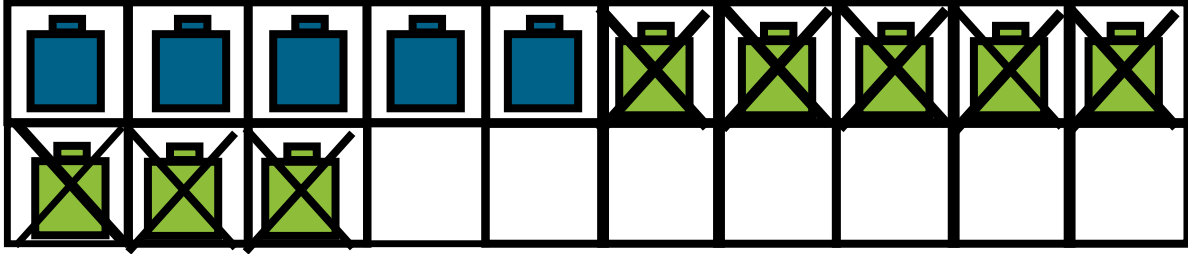
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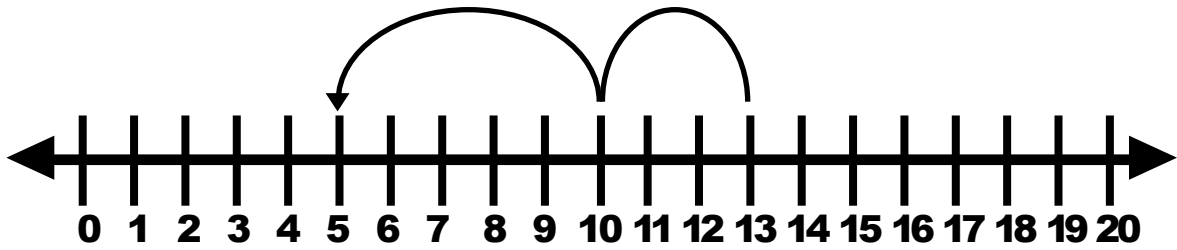
$$15 - 6$$



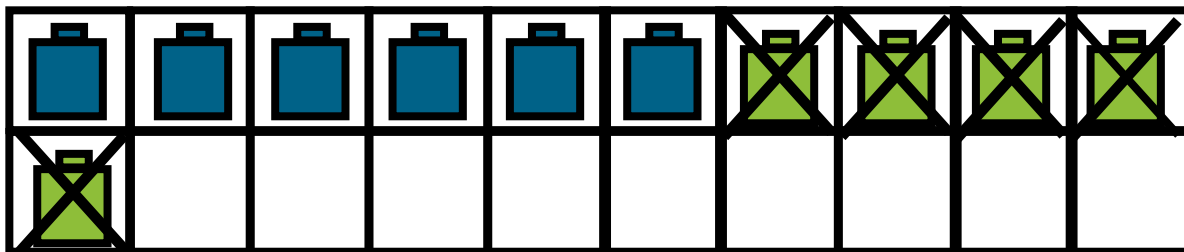
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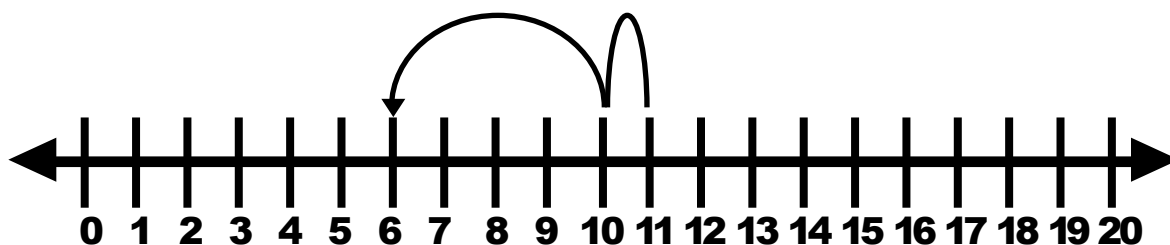
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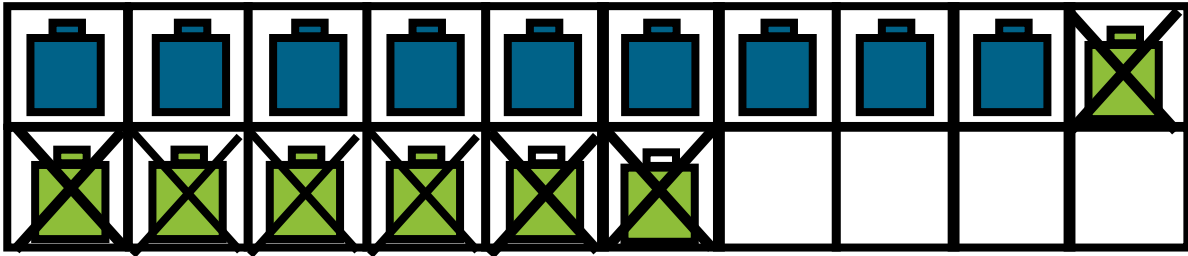
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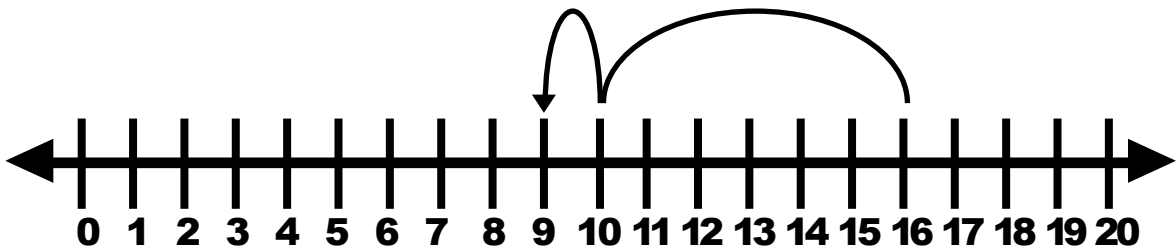
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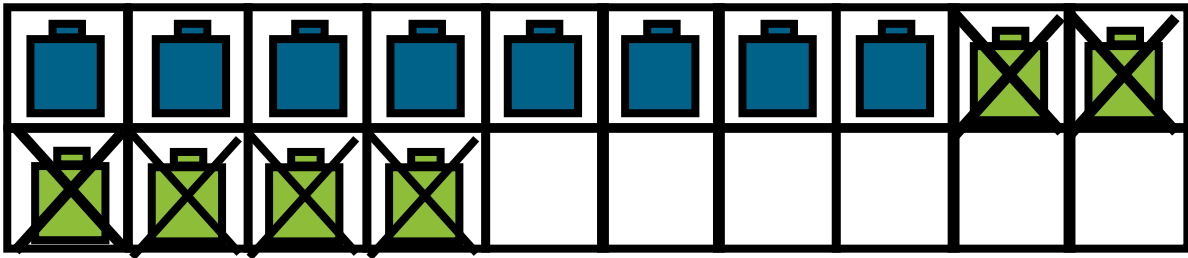
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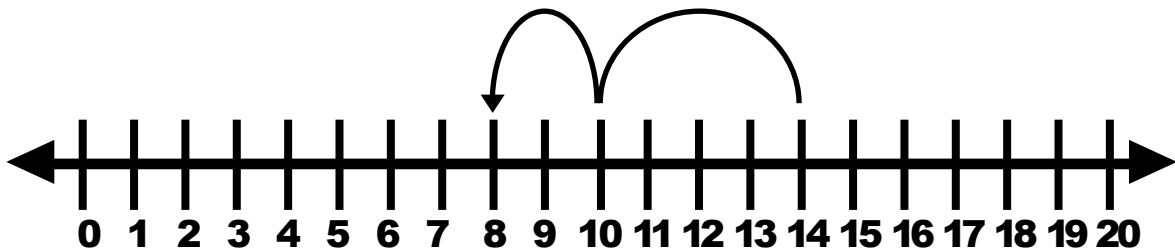
$$16 - 7$$



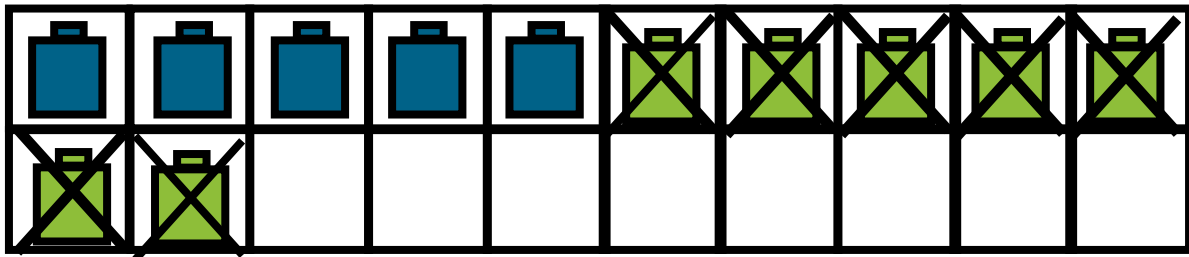
$$16 - 7$$



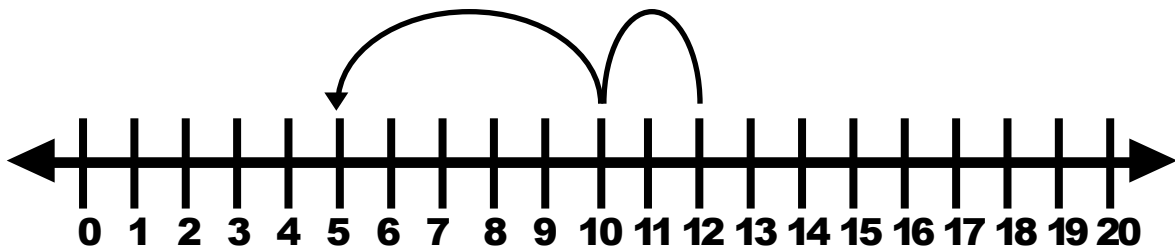
$$14 - 6$$



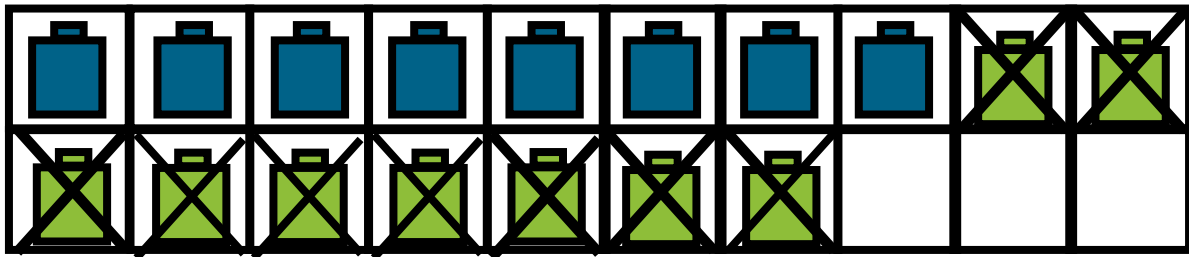
$$14 - 6$$



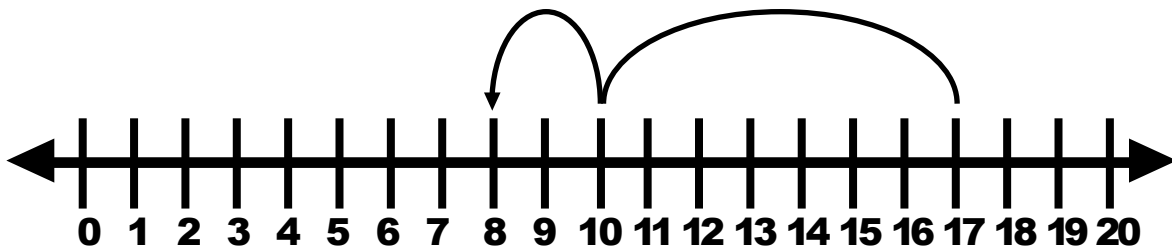
$$12 - 7$$



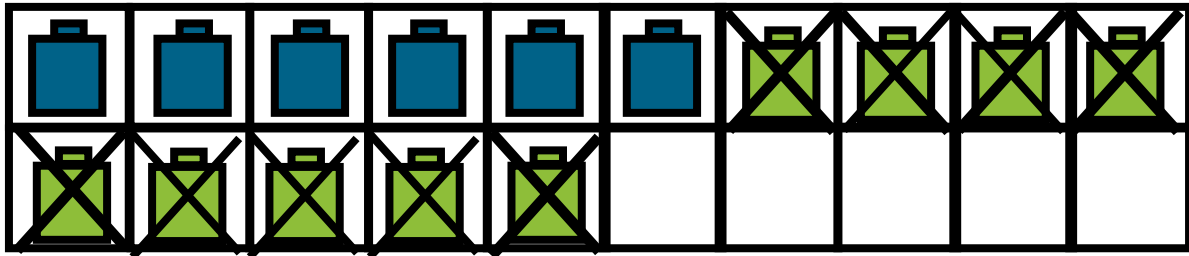
$$12 - 7$$



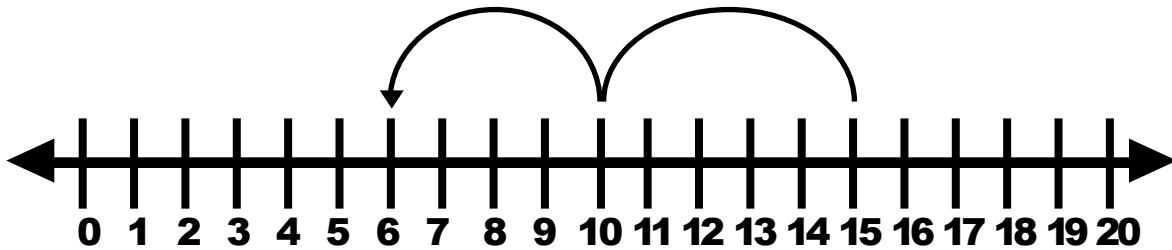
$$17 - 9$$



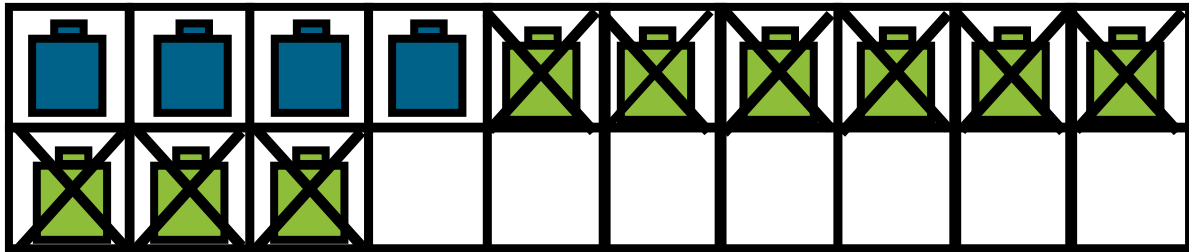
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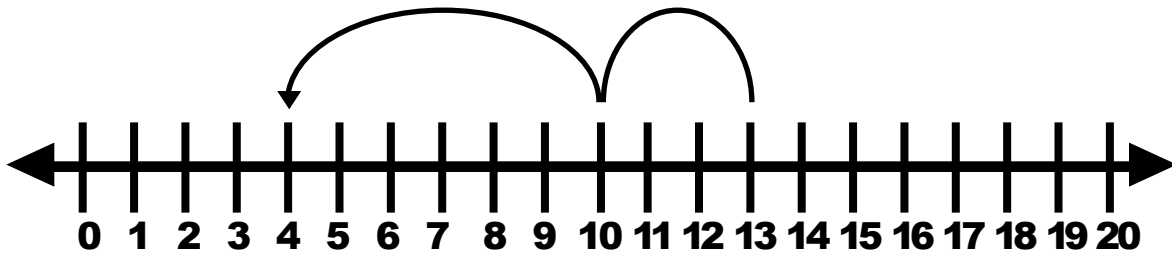
$$15 - 9$$



$$15 - 9$$



$$13 - 9$$



$$13 - 9$$

Bead Stick

Goal

Students focus on
Subtracting within 20.

Way to Play

Make a bead stick with pony beads
and a pipe cleaner.
Model the problem with a bead stick.
Record thinking on the bead stick
template.

Materials

Bead Stick
Bead Stick Template

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Bead Stick Flashcards
Set B: Regular Flashcards.

Directions

Activity 1

Pull a flashcard.
Model it with the bead stick.
Color the bead stick template.
Solve.
Explain using math words below.

Activity 2

Lay out the bead stick cards
(from Activity sheet). Fold the equations
so you can not see them. Lay out the
flashcards (p. 20).
Take turns looking for the match of the
bead stick and expression. Unfold the
bead stick cards to check your answers.
Whoever finds the most matches
wins.

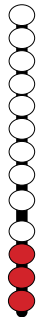





Use your math words:







My problem was __. I subtracted __ from __.

My difference is ____.

Bead Stick Activity

As students are subtracting get them to think about bridging through ten by subtracting back to ten and then subtracting the rest.

 $\underline{13} - \underline{9} = \underline{4}$	 $\underline{\quad} - \underline{\quad} = \underline{\quad}$
 $\underline{\quad} - \underline{\quad} = \underline{\quad}$	 $\underline{\quad} - \underline{\quad} = \underline{\quad}$
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Part Part Whole Mat

Goal

Students focus on
Subtracting within 20.

Way to Play

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

Materials

Large Part-Part Whole Mat
Part-Part Whole Template/
Recording Sheet
Concentration Cards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Part-part whole flashcards
Set B: Regular Flashcards.

Directions

Activity 1

Pull a flashcard.
Model it on the big
part-part whole mat.
Record on the recording sheet.
Solve.
Explain using math words.

Activity 2

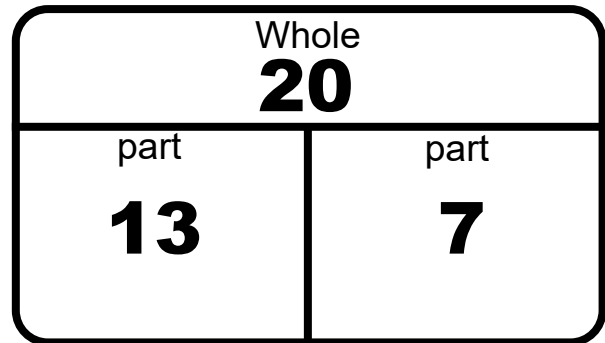
Make up your own subtract within 20
problems.
Show it on the part-part whole mat.
Record and explain using math words
below.

Use your math words:

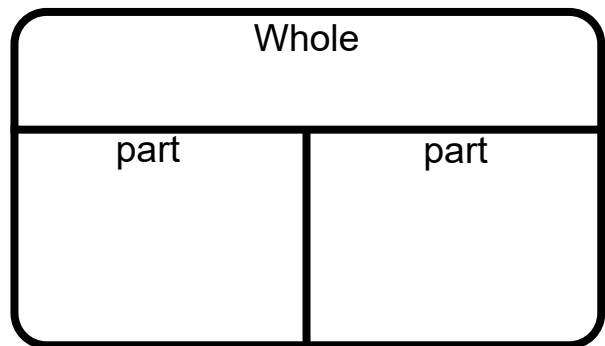
**My problem was _____. ____ was the whole. I took _ from it, which
left _____. ____ was my whole and my parts were _ and _.**

Part Part Whole Mat

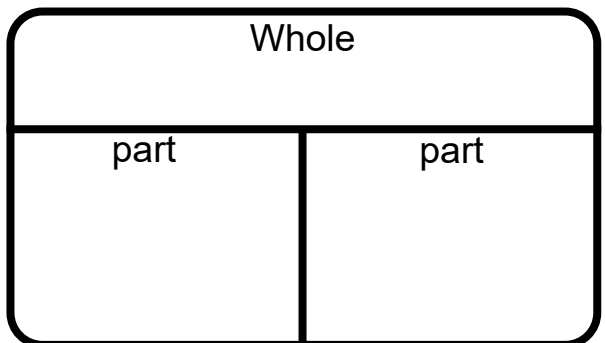
$$\begin{array}{r} 20 - 13 = 7 \\ 7 = 20 - 13 \end{array}$$



$$\begin{array}{r} \underline{\quad} - \underline{\quad} = \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \end{array}$$

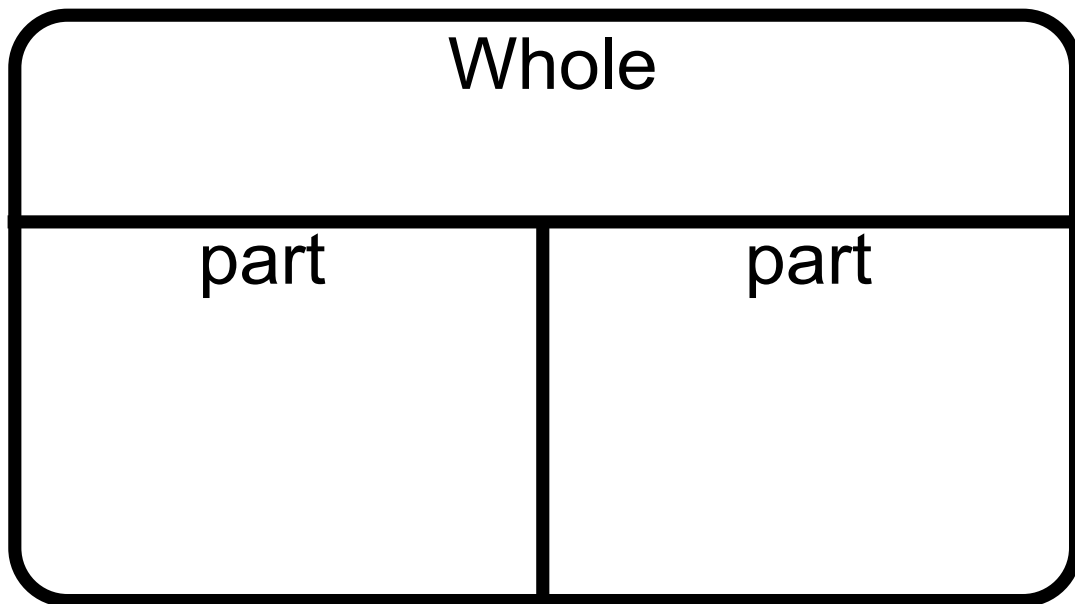


$$\begin{array}{r} \underline{\quad} - \underline{\quad} = \underline{\quad} \\ \underline{\quad} = \underline{\quad} - \underline{\quad} \end{array}$$



<div style="text-align: center;"> $\begin{array}{r} \text{ } \\ \text{ } \end{array} - \begin{array}{r} \text{ } \\ \text{ } \end{array} = \begin{array}{r} \text{ } \\ \text{ } \end{array}$ </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;">Whole</div> <div style="display: flex; justify-content: space-around; border-top: 1px solid black; border-left: 1px solid black; border-right: 1px solid black;"> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> </div> </div>
<div style="text-align: center;"> $\begin{array}{r} \text{ } \\ \text{ } \end{array} - \begin{array}{r} \text{ } \\ \text{ } \end{array} = \begin{array}{r} \text{ } \\ \text{ } \end{array}$ </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;">Whole</div> <div style="display: flex; justify-content: space-around; border-top: 1px solid black; border-left: 1px solid black; border-right: 1px solid black;"> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> </div> </div>
<div style="text-align: center;"> $\begin{array}{r} \text{ } \\ \text{ } \end{array} - \begin{array}{r} \text{ } \\ \text{ } \end{array} = \begin{array}{r} \text{ } \\ \text{ } \end{array}$ </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;">Whole</div> <div style="display: flex; justify-content: space-around; border-top: 1px solid black; border-left: 1px solid black; border-right: 1px solid black;"> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> </div> </div>
<div style="text-align: center;"> $\begin{array}{r} \text{ } \\ \text{ } \end{array} - \begin{array}{r} \text{ } \\ \text{ } \end{array} = \begin{array}{r} \text{ } \\ \text{ } \end{array}$ </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;">Whole</div> <div style="display: flex; justify-content: space-around; border-top: 1px solid black; border-left: 1px solid black; border-right: 1px solid black;"> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> <div style="border: 1px solid black; padding: 10px; text-align: center;">part</div> </div> </div>

Part Part Whole Mat



$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} - \underline{\hspace{2cm}}$$

Story Mats

Goal

Students focus on
Subtracting within 20.

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 mat 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 some rigor, use set B from p. 75 and change up the word problems.)

Directions

Activity 1

Pull an expression and act out a story.

Activity 2

Pull a story card and a flashcard and act out the story. (Use the flashcard to fill in the blanks of the story.)

Use your math words:

My problem was __. I subtracted _ from __.

My difference is __.

Story Card

DOGS

Marie had ____ dogs. She gave ____ away. How many does she have left?

SET-UP EQUATION:

____ - ____ = ?

Drawing

Twenty Frame

Answer Equation

____ - ____ = ____

Answer:

_____ **Dogs**

Story Card

FISH

There were ____ fish. ____ swam away. How many are left?

SET-UP EQUATION:

____ - ____ = ?

Drawing

Twenty Frame

Answer Equation

____ - ____ = ____

Answer:

_____ **Fish**

Story Card

BALLS

The kids had ____ balls. They lost ____ balls. How many do they have left?

SET-UP EQUATION:

____ - ____ = ?

Drawing

Twenty Frame

Answer Equation

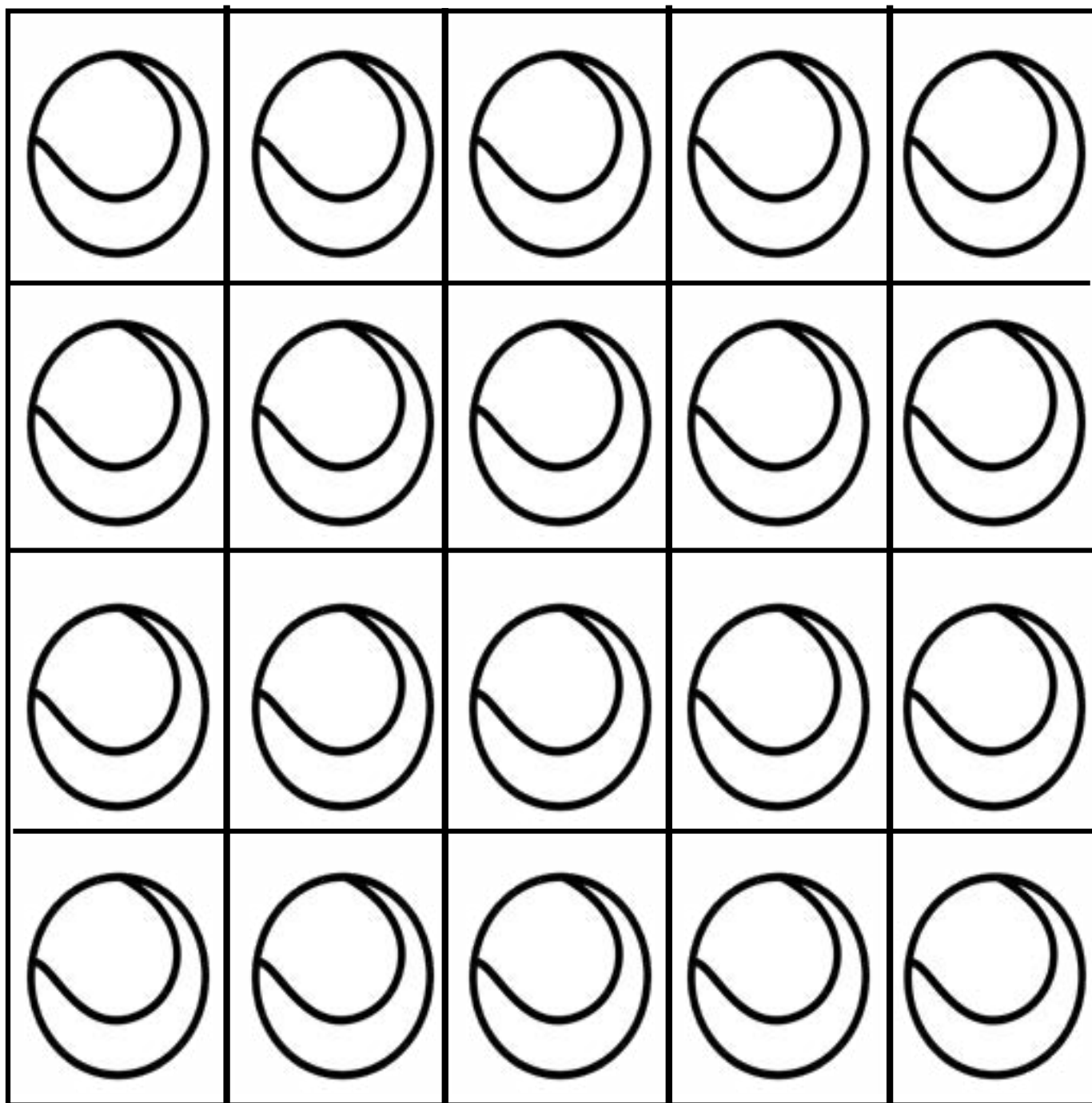
____ - ____ = ____

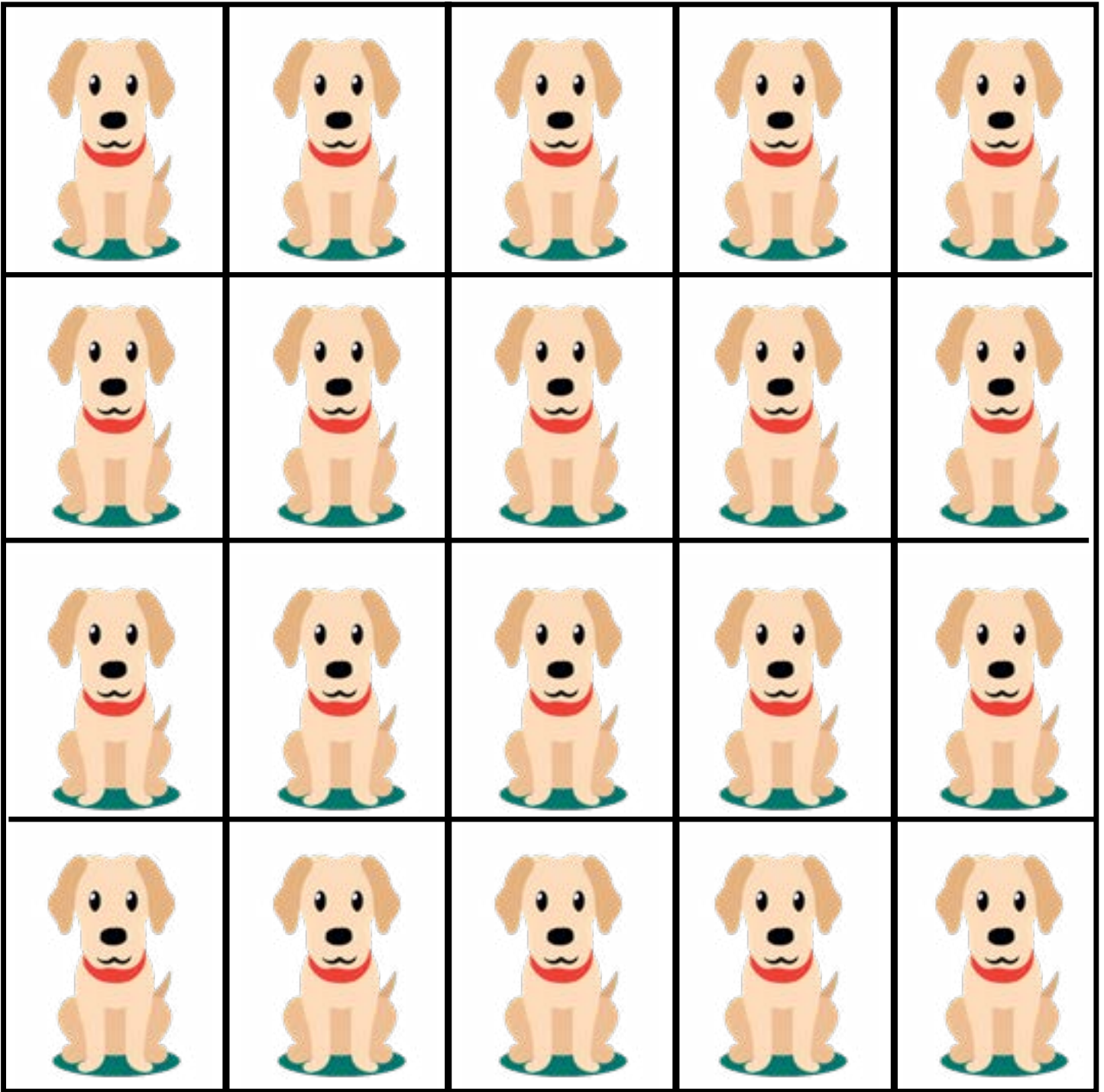
Answer:

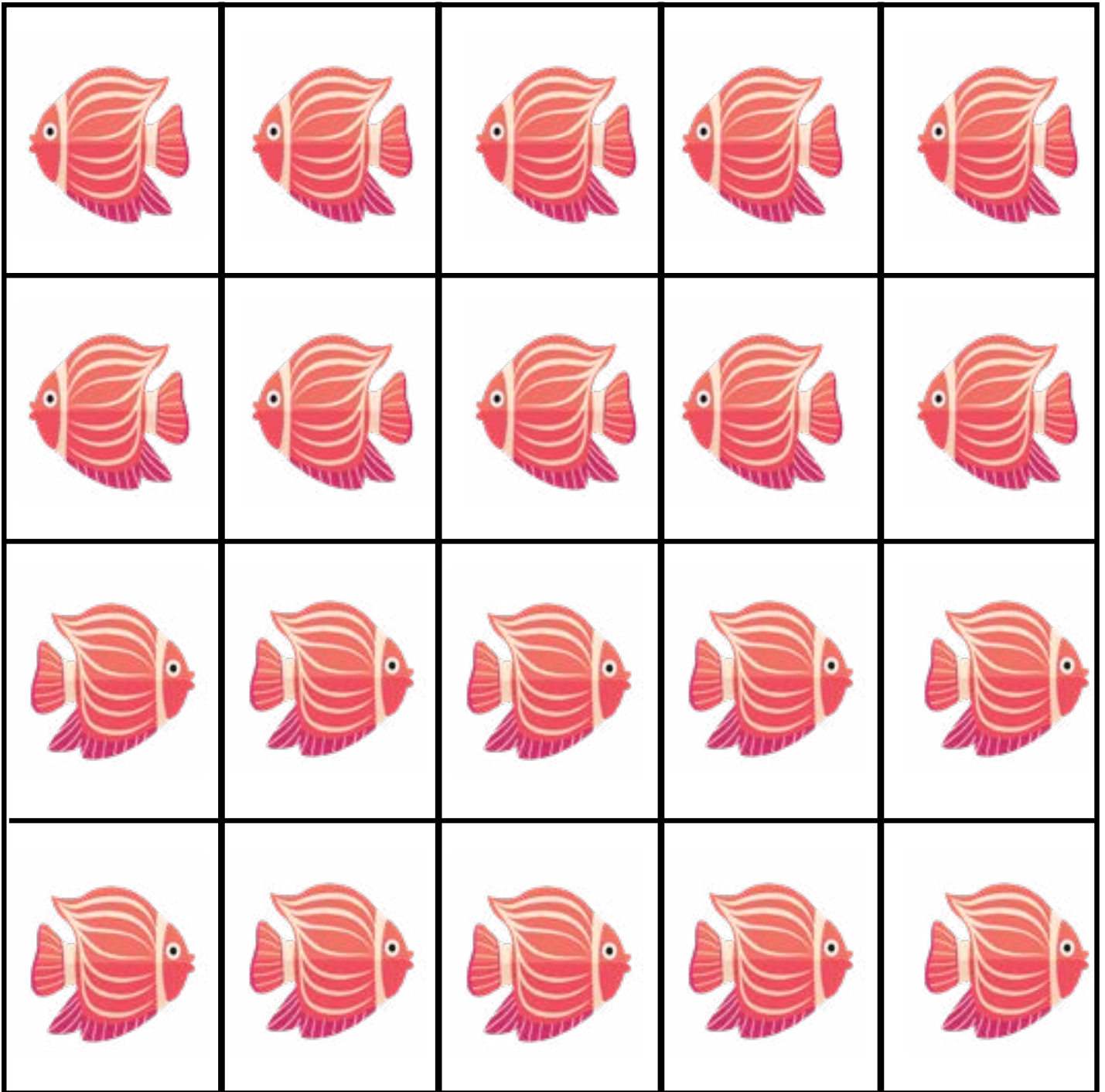
_____ **Balls**

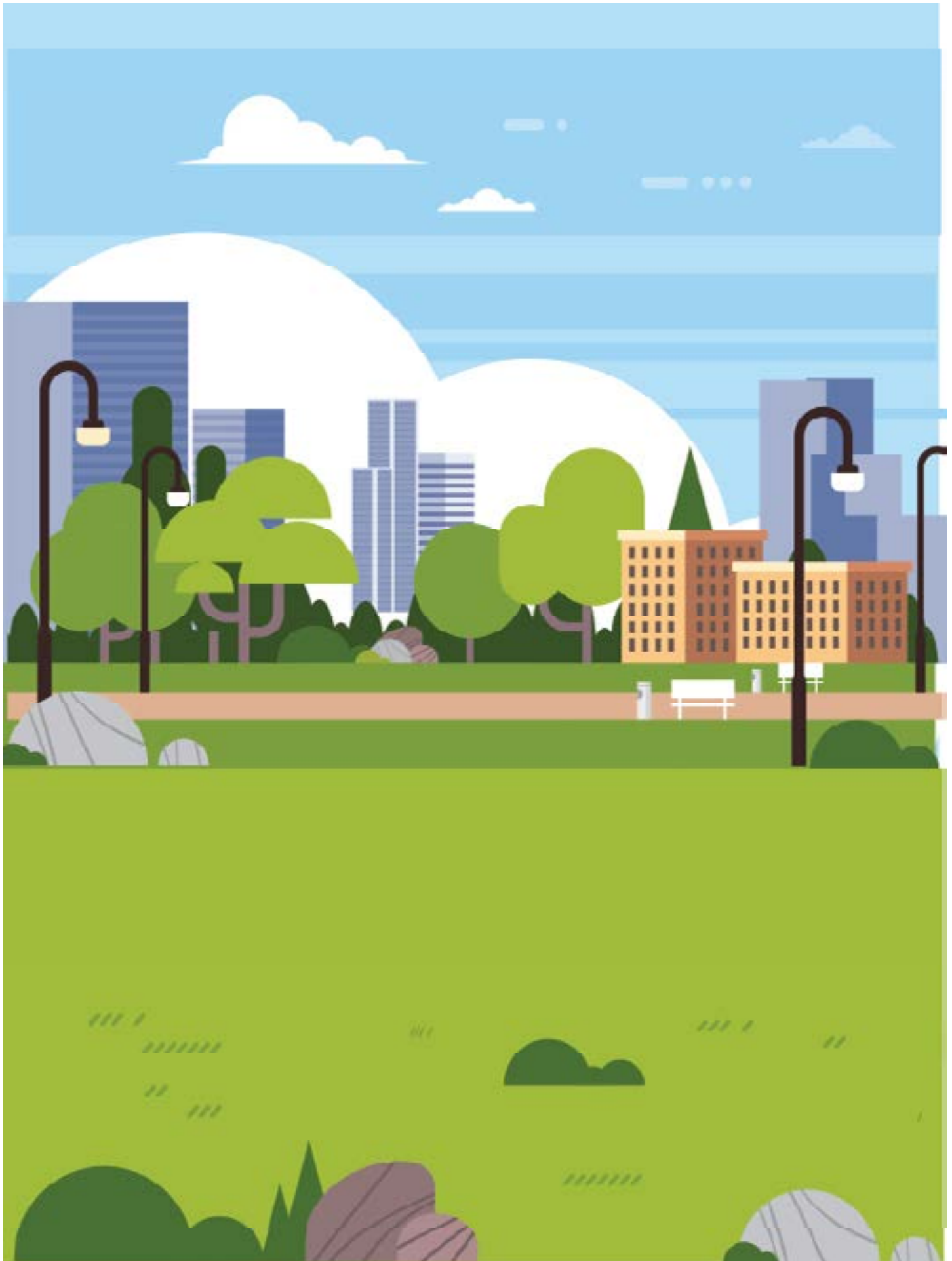
STORYTELLING MATS

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











SUBTRACTING WITHIN 20 FLASHCARDS

$11 - 4$

$11 - 9$

$14 - 8$

$12 - 5$

$17 - 8$

$15 - 6$

$13 - 8$

$11 - 5$

$16 - 7$

$14 - 6$

$12 - 7$

$17 - 9$

$15 - 9$

$13 - 9$

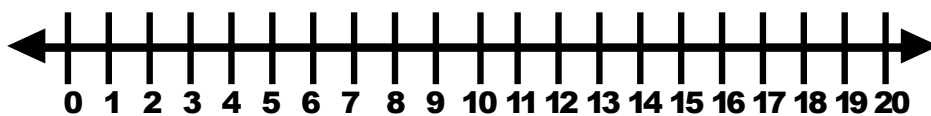
Draw a picture of your story.

Write your equation.

_____ - _____ = _____

Show it on the twenty frame.

Model it on the number line.



Draw a picture

Goal

Students focus on
Subtracting within 20.

Activity

Student will pick a card and draw a
picture.

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 the picture using circles or a
number line.

Activity 2

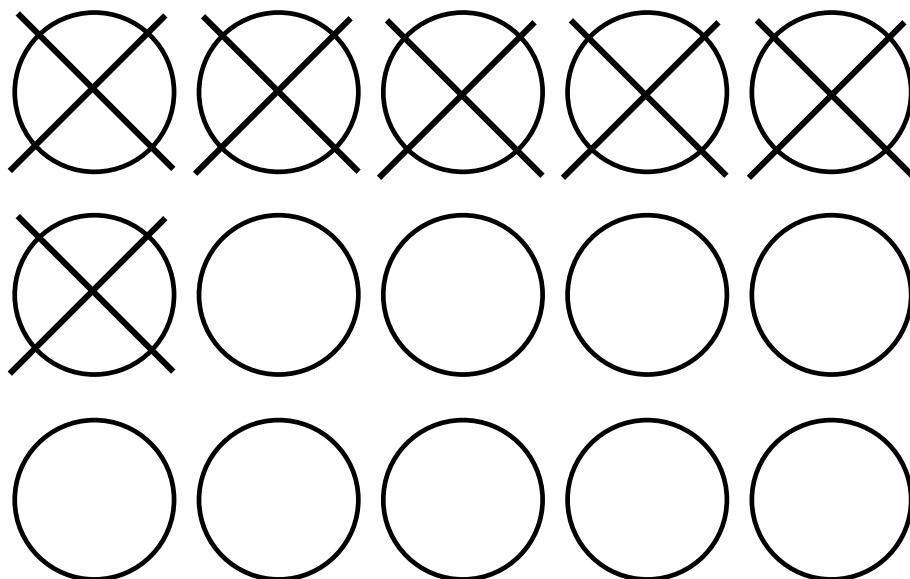
Pull a picture flashcard and say the
number
sentence to your partner. Explain
using your words below.

Use your math words:

My problem was __. I subtracted __ minus __.

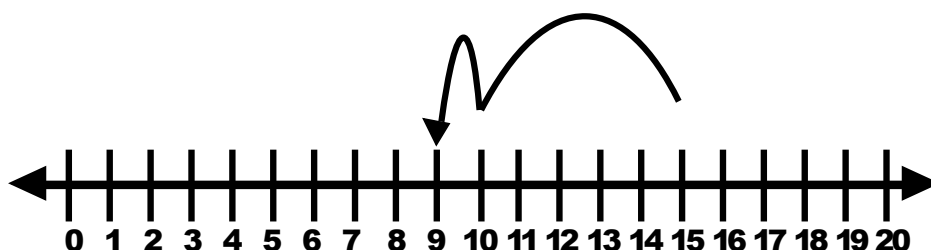
My difference is __.

Draw a picture



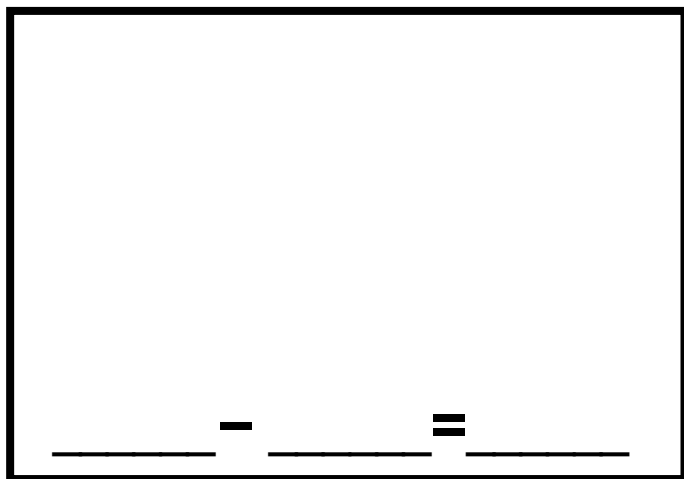
$$15 - 6 = ?$$

You can jump back on the number line

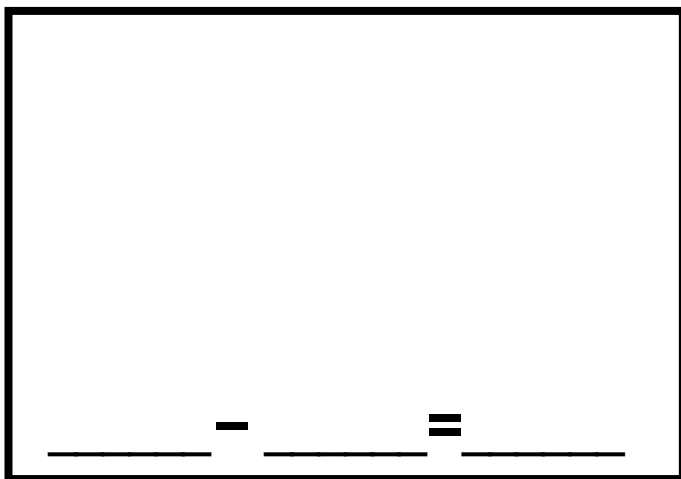


Picture Flashcards

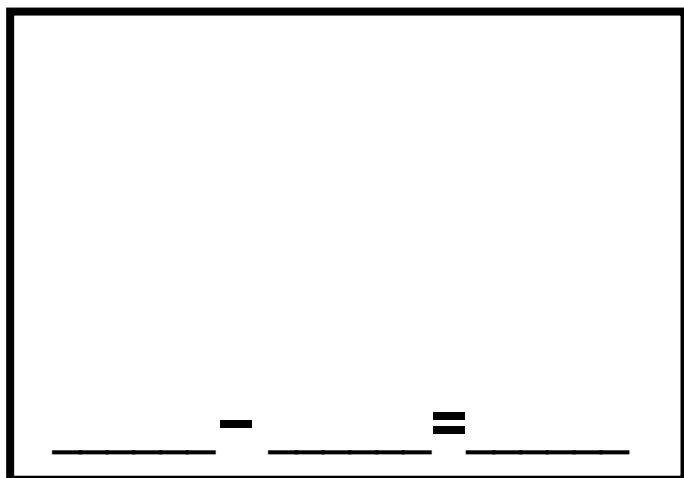
Pull a card. Illustrate the problem. Write the equation.



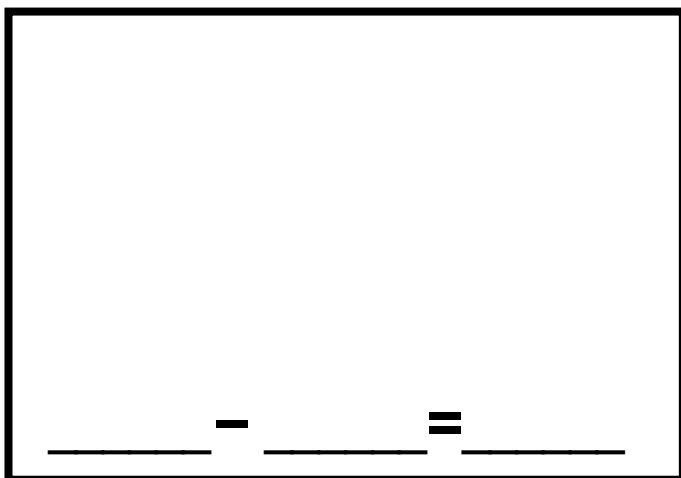
_____ - _____ = _____



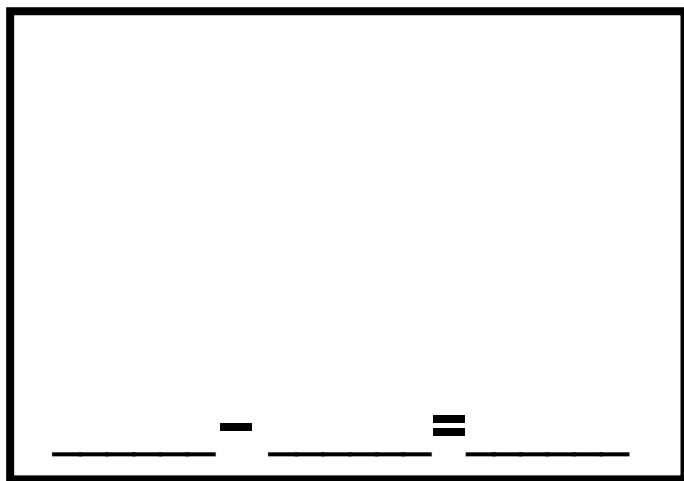
_____ - _____ = _____



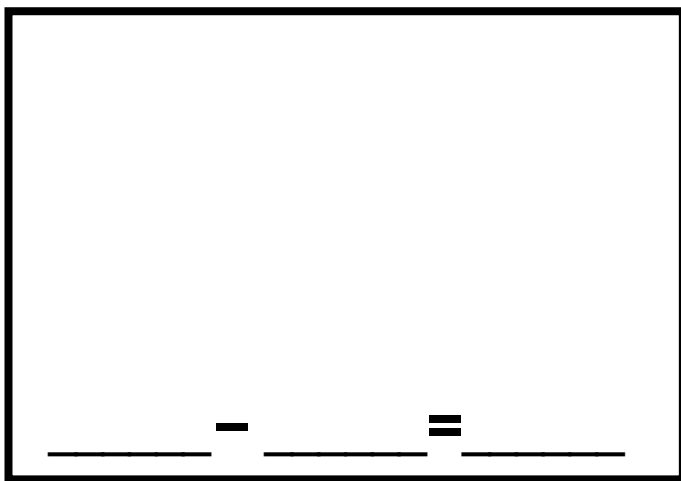
_____ - _____ = _____



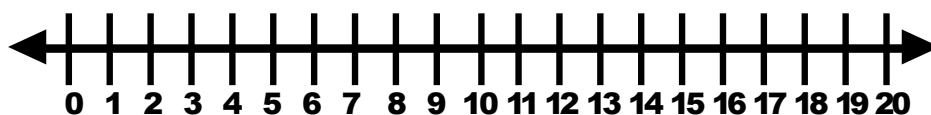
_____ - _____ = _____



_____ - _____ = _____

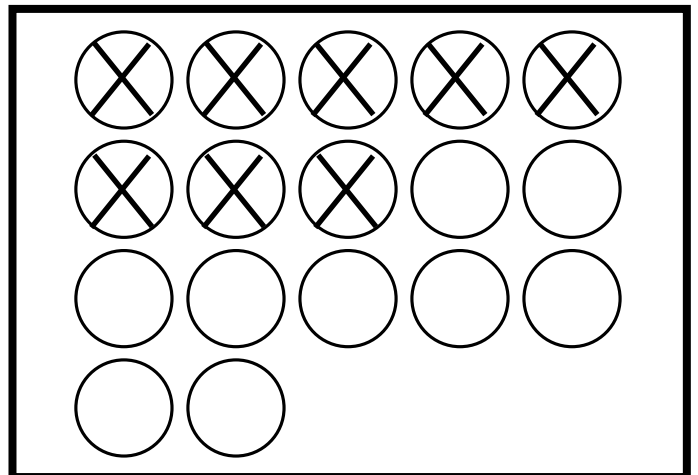
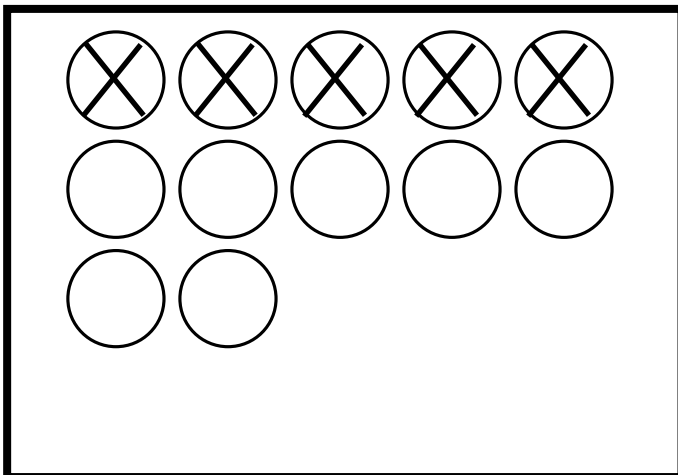
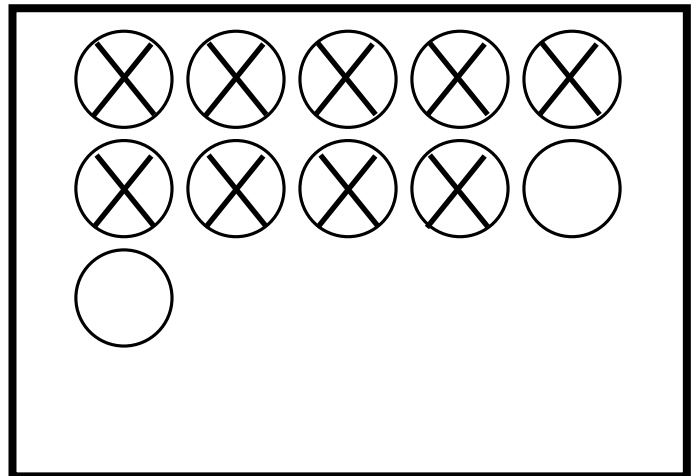
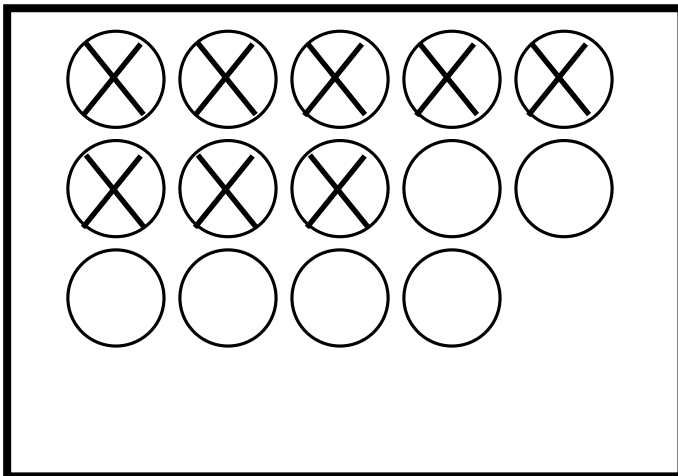
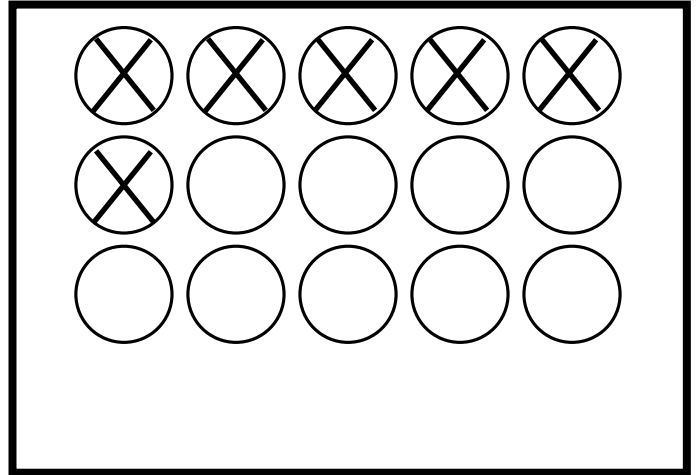
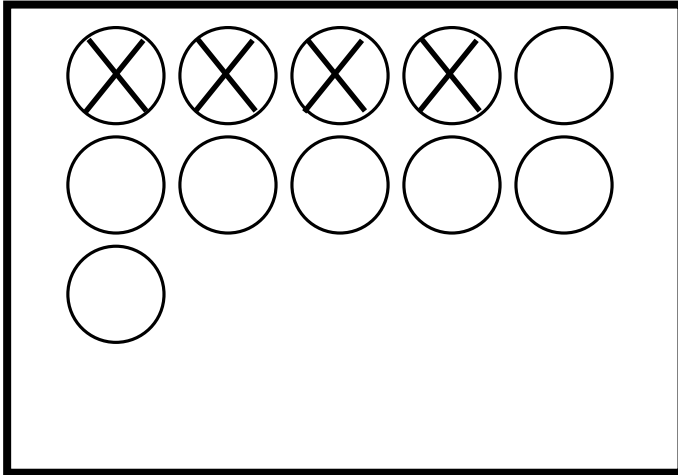


_____ - _____ = _____



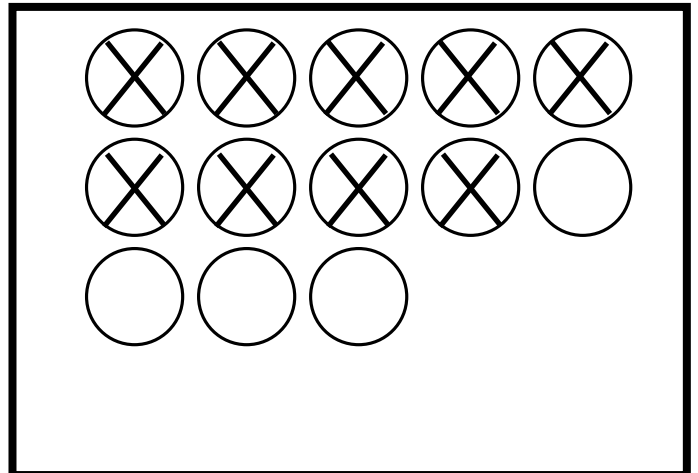
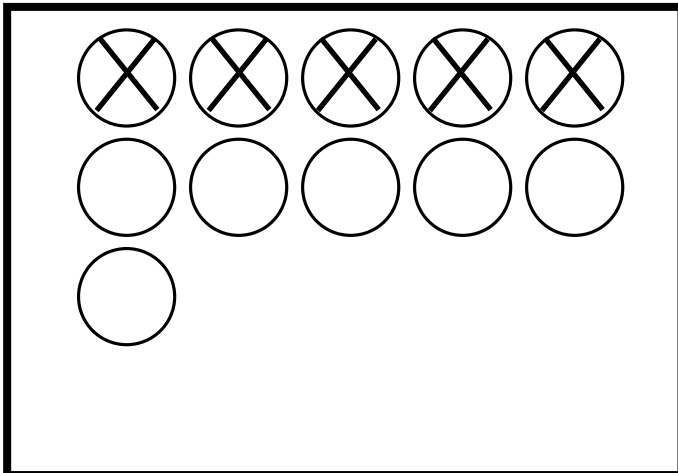
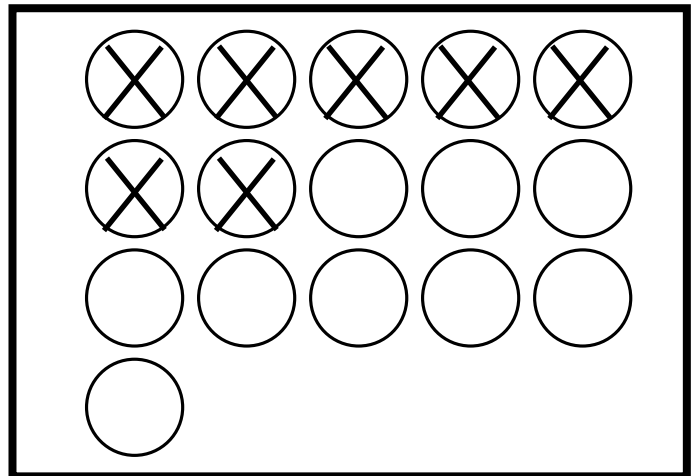
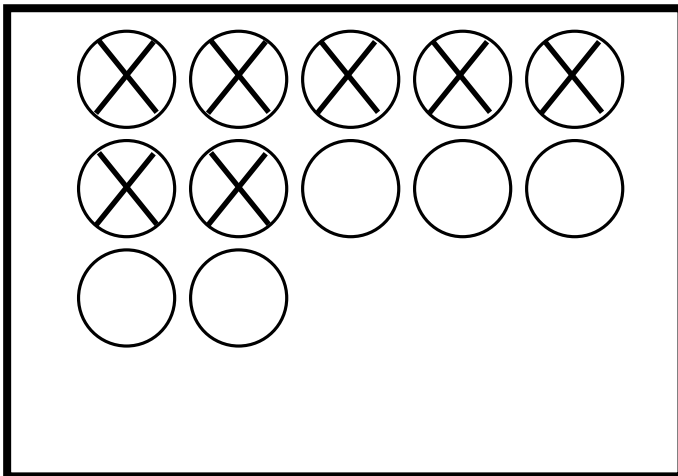
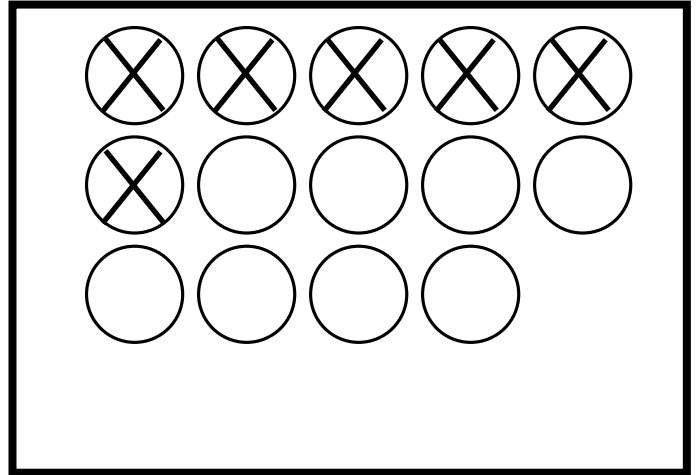
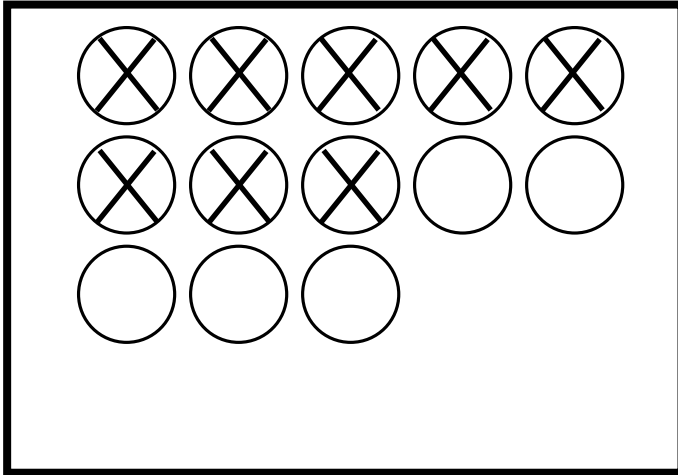
Picture Flashcards

Pull a flashcard and tell your partner the number sentence.



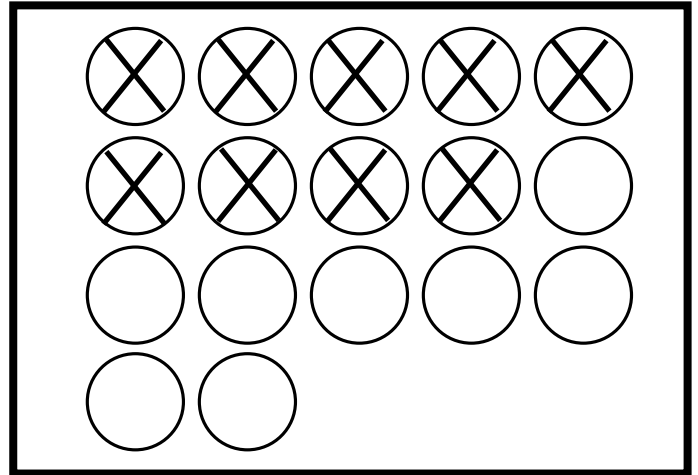
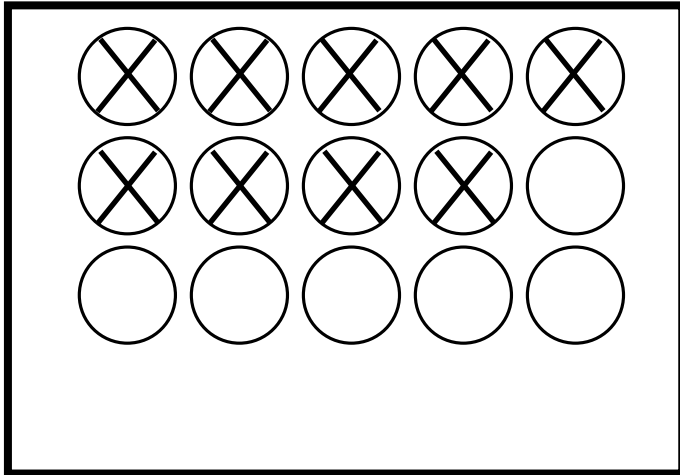
Picture Flashcards

Pull a flashcard and tell your partner the number sentence.



Picture Flashcards

Pull a flashcard and tell your partner the number sentence.



DIFFERENCE WITHIN 20 FLASHCARDS

$11 - 4$

$11 - 9$

$14 - 8$

$12 - 5$

$17 - 8$

$15 - 6$

$13 - 8$

$11 - 5$

$16 - 7$

$14 - 6$

$12 - 7$

$17 - 9$

$15 - 9$

$13 - 9$

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
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

**Draw a picture showing Subtract
within 20 fact!**

Write some Subtract within 20 Facts

Flashcards

Goal

Students focus on
Subtracting within 20.

Way to Play

Students place all cards face down.
They take turns turning over the
cards. Whoever has the largest
difference wins those cards. When all
the cards are gone, whoever has the
most cards wins. They can also model
using a ten frame or number line.

Materials

Flashcards

Scaffolding the Game

There are 2 sets of flashcards.
Set A: Regular Flashcards
Set B: Missing Number Flashcards

Directions

Activity 1

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

Activity 2

Students make up their own subtract
within 20 problems on the number
line.

Use your math words:

My problem was _____. I subtracted _____.

My difference is _____.

SET A

**Subtracting
within 20**

$$13 - 9 =$$

$$11 - 4 =$$

$$13 - 8 =$$

$$15 - 9 =$$

$$17 - 8 =$$

**Subtracting
within 20**

$$16 - 9 =$$

$$17 - 9 =$$

$$15 - 6 =$$

$$14 - 8 =$$

$$11 - 5 =$$

SET B

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

$$12 - \underline{\quad} = 7$$

$$16 - \underline{\quad} = 8$$

$$13 - \underline{\quad} = 5$$

$$13 - \underline{\quad} = 4$$

$$16 - \underline{\quad} = 7$$

$$9 = 16 - \underline{\quad}$$

$$7 = 12 - \underline{\quad}$$

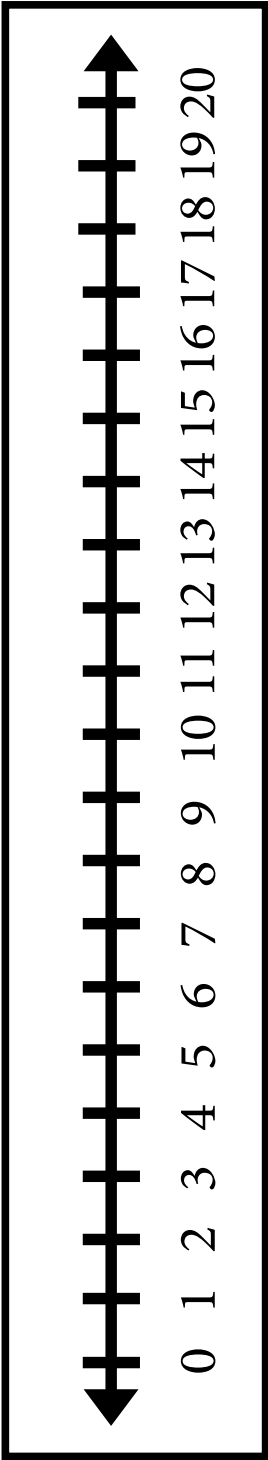
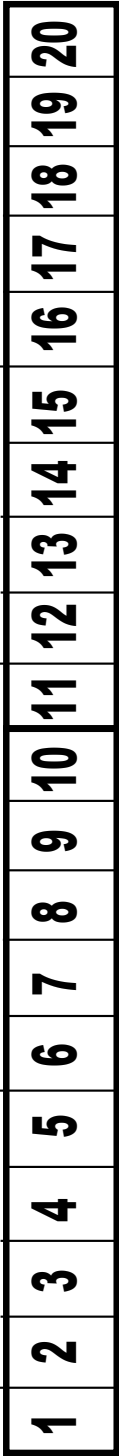
$$6 = 14 - \underline{\quad}$$

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

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

$$6 = \underline{\quad} - 8$$

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



GAMEBOARD

Superhero Subtracting within 20 Facts



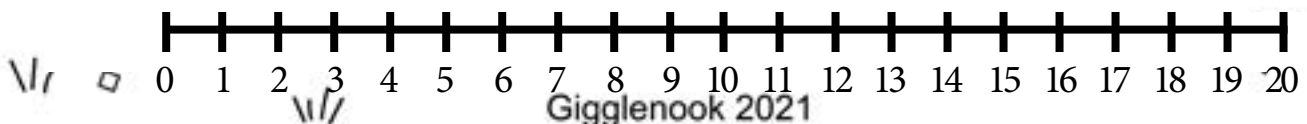
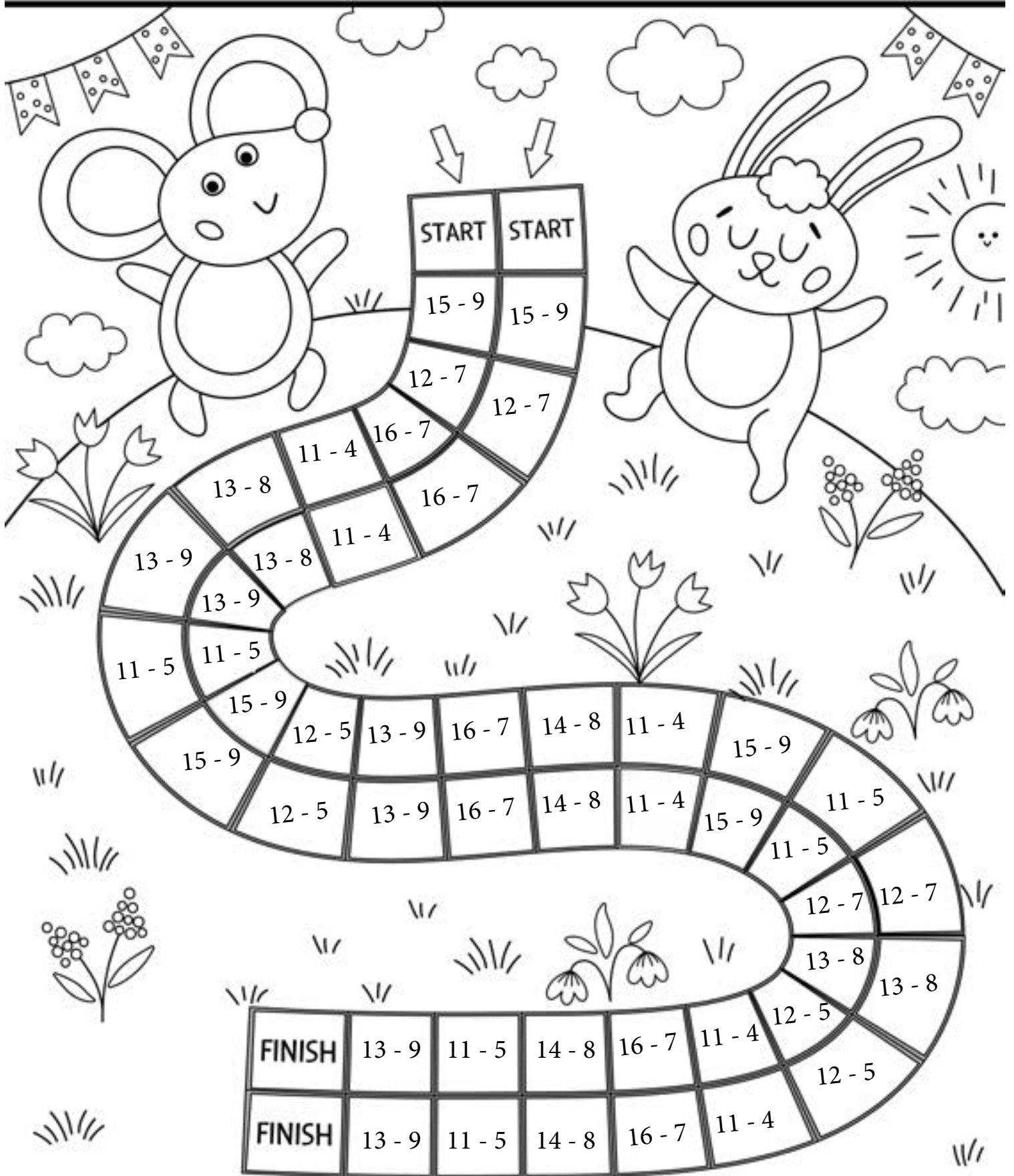
Directions: Pull a flashcard to see who goes first. Each player should have their own color marker to cover the spaces. The person with the highest number goes first. Pull a number card. See number cards below. You have the answer. Find an expression that matches that difference. Whoever gets 4 in a row wins.

11 - 4	13 - 8	16 - 7	13 - 9
13 - 8	12 - 5	11 - 5	11 - 4
16 - 7	17 - 9	12 - 5	20 - 10
13 - 9	15 - 9	14 - 8	16 - 7
16 - 7	13 - 9	12 - 17	16 - 7



DIFFERENCE CARDS

4	4
5	5
6	6
7	7
8	8
9	9
10	10



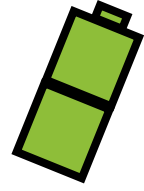
GAMEBOARD

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

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



BUMP GAME



Subtracting within 20

$11 - 4$

$16 - 9$

$14 - 8$

$15 - 6$

$12 - 5$

$17 - 8$

$11 - 5$

$13 - 9$

$13 - 8$

$17 - 9$

$17 - 8$

$11 - 4$

$12 - 7$

$15 - 9$

$15 - 6$

$11 - 5$

$12 - 5$

$12 - 5$

$13 - 9$

$13 - 9$

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 difference and covers it up. If player 2 pulls an expression for the same difference, 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.

DIFFERENCE CARDS

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

EXPRESSION CARDS

$11 - 4$

$16 - 9$

$17 - 9$

$14 - 6$

$15 - 9$

$14 - 8$

$13 - 9$

$13 - 8$

$12 - 5$

$15 - 6$

$11 - 5$

$17 - 8$

$12 - 7$

$16 - 7$

GAMEBOARD

Use the expression cards. Pull a card. Whoever has the largest difference goes first.
Take turns pulling an expression card and covering up the difference on your board.
Whoever covers up all the numbers on their side first wins.

4	Cover it up!	4
5		5
6		6
7		7
8		8
9		9
PLAYER 1		PLAYER 2

Subtracting within 20 Quiz

Match the expression and the difference!

13 - 8	6
15 - 6	7
17 - 9	8
16 - 9	9
15 - 9	5

Solve:

Dan had 17 candies. He gave away 9. How many does he have left?

Model a Subtracting within 20 fact

_____ - _____ = _____

Show 16 - 9

Make these equations true.

9 = 17 - ____

8 = 14 - ____

Performance Quiz and Oral Interview

1. What is subtraction?	2. Can you pick a flashcard and model one for me on the double ten frame?	3. Can you pick a flashcard and model one for me on the number path or number line?
4. Model this: Julie had 11 rings. She gave her sister 5. How many does she have left?	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 subtract within 20.

