



SPORTING SOME FUN WITH

# 10 FRAMES



Orthodontics Exclusively



Tim Shannon, DDS, MS, PC  
Mark Ravello, DDS, PC



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*Sporting Some Fun With Ten Frames* was adapted from a lesson developed by the K20 Center for the Oklahoma State Department of Education's (OSDE) Oklahoma Young Scholars Project (S206A170007), a U.S. Department of Education (USDE) Jacob K. **Javits** Gifted and Talented Students Education Grant.



## Think and Read

### Let's Play Soccer

Jamar and Larkin were getting ready to meet their coach for the first time. The coach was going to help them learn to play soccer.

When the boys arrived at practice, their coach had a giant bag of balls. There were at least 20 balls in the bag! The coach asked Jamar to take 10 of the soccer balls over to the field. But Jamar could only carry 7 soccer balls in his soccer bag. Jamar yelled for help, "Hey Larkin, come and help me carry the balls." The two kids took the balls out to the field. How many balls did Larkin need to carry to make sure the coach had 10?

#### ***What you will need:***

Crayons, markers, or colored pencils

Activity Sheets

Paper

A partner

In the box below draw a picture and add a number sentence to show how Larkin and Jamar solved the problem.

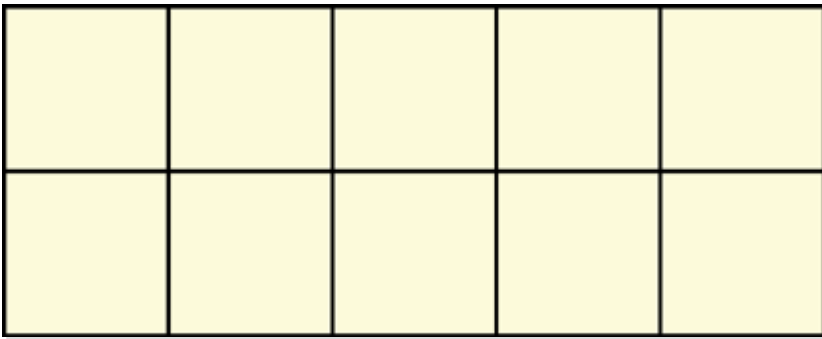


## Investigate

### Using a Ten Frame

You may have used a ten frame at school. So, why is it called a ten frame?

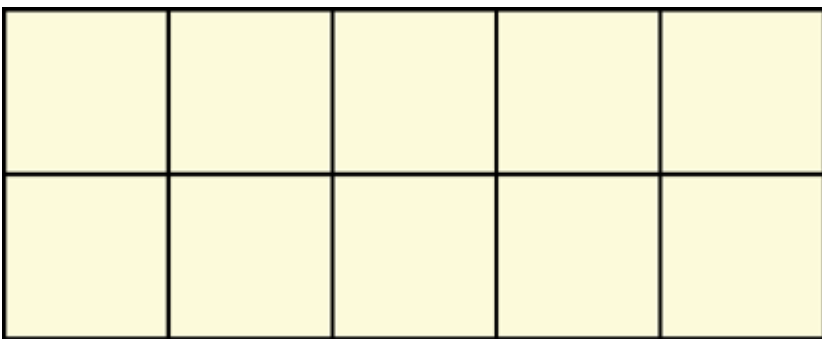
Let's find out: Count the number of boxes you see. Are there ten?



Now, look at this picture.



The square that is around the picture is called a frame. So, the math tool below has ten of these little boxes, or frames, and that is why it is called a TEN FRAME! If you only had five squares, it would be a FIVE FRAME.







## Problems to Solve

### Making Ten with the Coach

**Materials needed:**

A ten frame (You can make your own on a plain piece of paper.)

20 counters (You can use cereal, buttons, dried beans, coins, raisins, etc.)

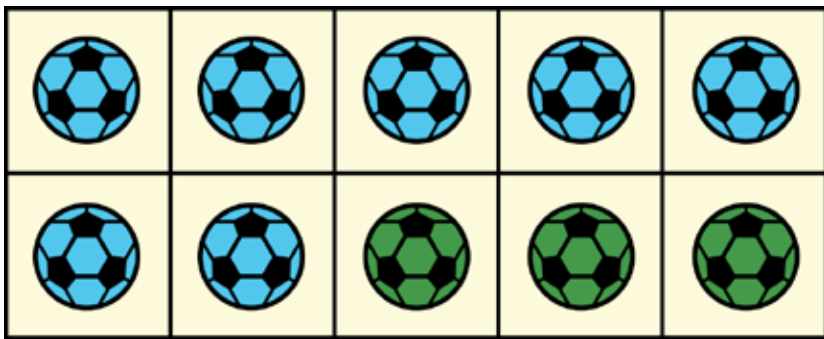
**Do this one with your partner.**

Look at the picture you drew to show how Jamar and Larkin carried the balls to the soccer field. For every ball that you can see, put a counter on your ten frame. Is the ten frame full?

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If it is, you have 10. If not, how many counters would you need to fill your ten frame?

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Number sentence:  $7+3 = 10$



## Problems to Solve

**Use Your Ten Frame and Counters to Make Ten with the Coach.**

1. The coach brings 6 basketballs. How many should you bring to make 10? \_\_\_\_\_

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

2. I have 4 baseballs. The coach needs to bring \_\_\_\_\_.

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

3. The coach buys 8 soccer balls. I will buy \_\_\_\_\_.

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

4. I took 5 golf balls to the playground. The coach brought \_\_\_\_\_.

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

5. I have 8 footballs. The coach will bring \_\_\_\_\_.

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

6. Jamar had 9 softballs. Larkin needs to bring \_\_\_\_\_.

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

7. The coach has 10 baseballs. Larkin needs to bring \_\_\_\_\_.

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





## Problems to Solve

Now fill out the charts to show all the ways you have made 10.

Ways to Make 10	
8+2	

More Ways to Make 10	
3+2+5	




























































## More Fun with Ten Frames

Here are some games you can play with ten frame cards.

**Cut out the ten frame cards. Only cut on the dotted lines.**





## More Fun with Ten Frames

Here are some games you can play with ten frame cards.

### ***Put your cards in a pile.***

#### *Game 1:*

Have your partner pick up one of the cards and show it to you. You tell them how many balls are on the card. Try to do this as quickly as you can.

When you have done all the cards, mix them up and get ready for Game 2.

#### *Game 2:*

Have your partner show you a card. Name the number that is **1** more than the number of balls on the card. Do all of the cards. Try to get quicker each time you practice.

#### *Game 3:*

Mix up the cards. Have your partner show you a card. Name the number that is **1** less than the number of balls on the card.

#### *Game 4:*

Mix up the cards. Have your partner show you a card. Now tell your partner how many more balls you need to make **10**.

#### *Game 5:*

Mix up the cards. Have your partner show you a card. Now tell your partner how many more balls you need to make **12**.

#### *Game 6:*

Mix up the cards. Have your partner show you a card. Now tell your partner what the double of that card would be.



## Write and Read

### Sparky Comes to Play

Jamar and Larkin had been learning to play soccer. The coach said they were doing just fine, but they should practice at home. They were having fun kicking the soccer ball and running. Just then Sparky, their big old dog, came to play. He was running all around pushing the ball with his big nose. They couldn't stop him.

Write the ending to the story, and draw a picture of what you think happened next!

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*What do you think would happen if we put 9 more soccer balls in the yard for Sparky to play with?*

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## **Parent Guide**

In this lesson, children are using ten frames to help them develop an understanding of numbers. Ten frames can be used to develop children's ability to quickly think of numbers less than 10 in relationship to 10. So, using ten frames and playing with number combinations that result in 10 gives children an opportunity to deepen their sense of numbers in several ways. For example, they discover combinations that equal 10 (such as  $7 + 3 = 10$ ,  $8 + 2 = 10$ ) and also combinations of more than two numbers that equal 10 (such as  $5 + 2 + 3 = 10$ ). It also helps them build a firm knowledge of basic addition and subtraction facts for 10.

This lesson starts with a "Think and Read" story called *Let's Play Soccer*. It is designed to capture the child's interest in counting and solving a real-life problem. After the story, your child discovers why a ten frame is called a ten frame. Sometimes children will know the word for a math tool but may not understand why it has that name. Next, your child will work with the ten-frame and counters to solve story problems with the coach. Then, you will play games using mini ten frame cards to give your child some extra practice at varying levels. We end the activity with another short story and an opportunity for your child to be creative with drawing and writing.

This guide will give you some tips to help facilitate your child's learning through these activities. It can be downloaded and printed so students can utilize the ten frame cards, solve the problems, and use the drawing activity sheets.

Your child may need help with all of the activities or maybe able to do them independently after you get them started. There are recommendations at the end of the Parent Guide for children's books about numbers. The reading level and activities are designed for grades K–2 but may also be appropriate for older children with learning challenges.



## Think and Read

The story introduces a math problem that could happen in the real world. Prior to reading the story, ask your child what kinds of games or sports they like to play or what they play at recess. Feel free to cross off Jamar and Larkin's names and put your child's name or their friends' names in their place. This can help make the story more engaging to your child. After reading the story with your child, have them draw a picture of the story and write a number sentence to show how Larkin and Jamar solved the ball problem. Sometimes in the younger grades the phrase "*number sentence*" is used instead of "*equation*." These terms mean the same thing. You may want to use the ten frame and counters with this story problem.

**Vocabulary** to introduce while reading and working with this lesson: *coach, soccer, practice, ten frame, number sentence, solved, problem, counters*





## Investigate

### Materials:

Counters: (You can use cereal, buttons, dried beans, coins, raisins, etc.)

A ten frame: (You can print the ten frame sheet included and cut it out, or you can make your own on a plain piece of paper.)

Ten frame cards: (These are included and can be cut out on the dotted lines, or you can make your own using index cards or paper rectangles.)

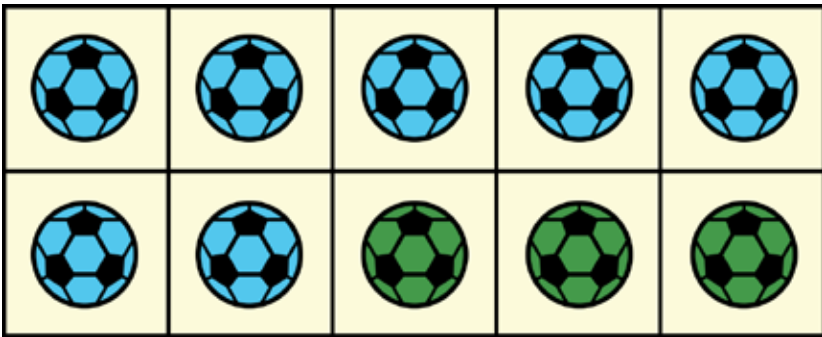
Paper and pencil

Crayons or markers for drawing

A partner

### Procedures:

The first part of the Investigate section of the lesson will help your child understand what a ten frame is and how to use one. If you have a very young child that is only working on the numbers 0–5, just cut the ten frame horizontally and use it as a “five frame.” The example shows what the ten frame would look like for the initial problem in the *Let’s Play Soccer* story, along with the number sentence that describes it.



Number sentence:  $7+3 = 10$

Your child does not need to draw the ten frame (they are doing the ten frame); just write the number sentence.



## Investigate

When your child is working on the problems for “Make 10 with the Coach,” they should place the counters on their ten frame to show how many balls were initially in the problem.

Explain to your child that only one counter is permitted in each section of the ten frame. Always fill the top row first, starting on the left, the same way you read. When the top row is full, place counters in the bottom row, also from left to right. This will give a structure for seeing a full row in the ten frame as 5. Eventually, your child will not have to count the top row and will just know it is 5.

### **Thinking Questions to ask your child:**

What can you tell me about the way the number looks on your ten frame?  
How does knowing that you have a full row help you find how many you still need?

### **“Ways To Make 10” (filling in the chart)**

There are many children’s books about number combinations that equal 10. This would be a great time to read one and fill in the chart as you read. If you don’t have a book, use the solutions from “Make 10 with the Coach” to help your child complete the chart.

Some examples of books you can use for learning about 10 are listed on the last page of this Parent Guide.

Record the combinations in the order in which your child suggests them. The order is not important at this time. **Your chart should look something like the chart below.** If your child is ready, have them build another chart for other numbers on a “More Ways to Make 10” chart. This chart would include combinations such as  $3 + 2 + 5$  or even  $11 - 1$ , among others.



## Investigate

Now fill out the charts to show all the ways you have made 10.

Ways to Make 10	
$10 + 0$	$0 + 10$
$9 + 1$	$1 + 9$
$8 + 2$	$2 + 8$
$7 + 3$	$3 + 7$
$6 + 4$	$4 + 6$
$5 + 5$	

More Ways to Make 10	
$3 + 2 + 5$	



## Discover

### **More Fun with Ten Frames:**

#### **Materials:**

You will need small ten frame cards. (These are included and can be cut out on the dotted lines, or you can make your own using index cards or paper rectangles.)

#### **Procedures:**

These games are designed to add practice, increase fluency with recognizing numbers in a pattern, and give children time to think about the number sequence. Using a hundreds chart may be helpful with these games.

*The games increase in difficulty. Don't get frustrated if your child is not ready for all of the games. Just practice getting faster and having fun with the ones they can do.*







## Extend

### Write and Read

This story gives your child the opportunity to have fun and create their own story ending. You might be surprised by what they come up with!

*Possible endings:*

The dog ate the ball; The dog broke the ball; The dog took off running down the street; The dog pushed the ball into the neighbor's yard; The dog became a great soccer dog; More dogs came to join in and play; and many more.

The lesson ends with another creative opportunity for your child. **Answers will vary** depending on what your child thinks could happen when nine more balls are added to the yard.



## **Resources**

### **Books about combinations of numbers:**

*Ten Friends* by Bruce Goldstone

*Ten Flashing Fireflies* by Philemon Sturges

*Ten Black Dots* by Donald Crews

*Ten For Me* by Barbara Mariconda

*What's New at The Zoo?* by Suzanne Slade

*12 Ways to Get to 11* by Eve Merriam

*How Many Legs?* by Kes Gray

This website is free and has children's books about math:

<https://www.getepic.com/>

## **Sources**

Creations Inc. (n.d.). *Instantly access 40,000 high-quality books for kids*. Retrieved from <https://www.getepic.com/>

Van de Walle, J. A. (2016). *Elementary and Middle School Mathematics: Teaching Developmentally*. Pearson Education Inc.



## Social Media

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*Learn more: [www.K20Center.ou.edu](http://www.K20Center.ou.edu)*



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