

Tools for Instruction

Make a Ten to Add Within 20

Objective Use a ten frame to solve $7 +$, $8 +$, and $9 +$ facts.

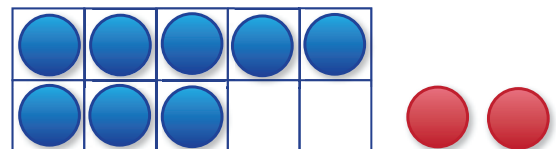
Materials Two-color counters, **Ten Frames** (page 3)

Recognizing and understanding ten allows students to make sense of the numeration system and to use pattern and structure as they calculate. Knowing different ways to make a ten, such as $1 + 9$, $2 + 8$, and $3 + 7$, can help students add and subtract quickly and reliably. In this activity, students make a ten to help them understand and solve basic addition facts. For example, when adding $9 + 6$, they will add $9 + 1$ to make a 10, and then add 5 more. Later, students will use this understanding to make tens while adding three numbers and while computing mentally. The idea of making a ten can also provide a basis for the subtraction strategy of breaking apart numbers to make tens in subtraction.

Step by Step 20–30 minutes

1 Make a ten.

- Give the student a blank **Ten Frame** (page 3).
- Have the student put 8 counters in the ten frame, as shown.
- Ask: *How do you show $8 + 2$ on the ten frame?* Guide the student to add two counters to fill in the two open spots.
- Explain that filling all of the ten spaces on the ten frame is “making a ten.”



Support English Learners Since the word *make* has multiple meanings, the phrase *make a ten* may be confusing. Remind the student that *making* something can mean putting parts together, like puzzle pieces or recipe ingredients. To *make a ten*, you look for two numbers that add to ten.

2 Model $8 + 3$.

- Ask: *What would happen if you tried to show $8 + 3$ on the ten frame?* Use counters to show that the ten frame would be filled, with one left over.
- Help the student verbalize that she “made a ten” and had one counter left over. Ask: *How do you write the number for 1 ten and 1 leftover one?* (11)
- Write the number sentence shown. Use counters to illustrate that when you add $8 + 3$, you can break the 3 into $2 + 1$, giving you $8 + 2 + 1$. Point out that you can add the 8 and 2 first to “make a ten,” and then add the 1 to find the answer.

$$\begin{array}{rcl} 8 + 3 = & 8 + 2 + 1 & \\ & \swarrow \quad \searrow & \\ & 10 + 1 & \\ & \swarrow \quad \searrow & \\ 8 + 3 = & 11 & \end{array}$$

3 Use the make-a-ten strategy to add other facts.

- Use this approach to teach other facts with 7, 8, and 9.
- Have the student use ten frames and counters. Record the corresponding number sentences, emphasizing to the student how to “make a ten” in each problem.
- As the student seems to be ready, challenge her to do more of the work, including describing how to make a ten. If possible, encourage the student to strive for doing the activity mentally without using the ten frame.

Check for Understanding

Provide a ten frame and ask the student to place counters in 8 spots. Then ask the student to use 7 counters with the frame and to describe how to make a ten to add $8 + 7$. ($8 + 7 = 8 + 2 + 5 = 10 + 5 = 15$)

For the student who struggles, use the chart below to help pinpoint where extra help may be needed.

If you observe...	the student may...	Then try...
the student has difficulty representing what is displayed in the ten frame as a number sentence	benefit from a modeling situation.	having the student describe the process she used with the counters and ten frame to make a ten as you record the corresponding numbers and symbols, correcting any errors she makes.
the student does not recognize that 10 and 5 is 15	not be sufficiently familiar with the teen numbers.	helping the student connect the number names with the numerals, focusing on the words for 11, 12, 13 and 15, where the number names are less obvious.

Name _____

Ten Frames

