



# English Learner Support Guide



### Weeks 16–20 Individual Oral Assessment

**Directions:** Read each question to the student, and record his or her oral responses. Some questions have teacher directions. Teacher directions are indicated in italics. Allow students to use pencil and paper to work their responses.

- 1. Is this a **plus sign**? *Draw a plus sign on a piece of paper*. **yes**
- 2. Is this a minus sign? Draw a minus sign on a piece of paper. yes
- 3. Does a plus sign mean "add"? yes
- 4. Does a minus sign mean "equal"? no
- 5. Does a minus sign mean "subtract"? yes
- What does an equal sign mean when it is between numbers? Draw an equal sign on a piece of paper. It means that the numbers are equal, or the same.
- 7. I will **count back** aloud. Continue counting when I stop. *Count back from 10 to 5*. 5, 4, 3, 2, 1

- 8. I will count back aloud. Continue counting when I stop. Count back from 20 to 10. 10, 9, 8, 7, 6, 5, 4, 3, 2, 1
- **9.** Is 4 + 6 **equal** to 11? **no**
- **10.** Is 5 3 **equal** to 2? **yes**
- **11.** Solve this **equation.** You may draw a picture. Write 2 + 3 = on a piece of paper. **5**
- **12.** Solve this **equation.** You may draw a picture. Write 5 - 1 = on a piece of paper. 4
- **13.** Solve this **equation.** You may draw a picture. Write 6 - 2 = on a piece of paper. 4

- **Beginning English Learners:** 0–3 of Questions 1–10 correct
- Intermediate English Learners: 4–7 of Questions 1–10 correct
- Advanced English Learners: 8–10 of Questions 1–10 correct
- If the student is able to answer Questions 11–13, then he or she can understand the mathematics taught in this unit but may still have difficulty with the academic vocabulary.

Use the Student Assessment Record, page 142, to record the assessment results.

### More Counting and Adding

### Week 16

#### Objective

Students can review the meanings of the terms *plus sign*, *minus sign*, *equal sign*, and *equation* while recognizing the number sequence by counting backward.

#### Vocabulary

- add To combine numbers or put together numbers
- altogether In all; total
- equal sign A symbol that means "having the same amount"
- equation A number story
- figure out To think about a problem and solve it; to find the answer
- plus sign A symbol that means "add"

#### Materials

**Program Materials** 

• Vocabulary Cards: add,

- Additional Materials index cards
- equal, subtractTwo-color counters

## **WARM UP**

Introduce each vocabulary word to students. Say the word aloud and have students repeat it.

Hold up the *add, equal,* and *subtract* **Vocabulary Cards.** Read each word aloud, and have students repeat the word.

- ► Count forward with me from 1 to 20.
- ► Count back with me from 20 to 1.

Count aloud from 1 to 10 and then from 1 to 20 as a group. Model the sequential counting by placing one counter on the table for each number. Distribute twenty counters to each student, and work together to model different number values with counters. Count aloud as you do so.

When you count back as a group, have students remove one counter each time they say a number.

- ► In this lesson, we are going to use the plus sign and the equal sign in equations.
- What is a sign? a letter, number, or picture that has special meaning or stands for something else
- What are some signs we see outside of class? What do they mean? Answers will vary.

### **2** ENGAGE

Distribute two index cards to each student. Ask students to draw a plus sign on one and an equal sign on the other. On a desk, make a pile of two counters, a pile of four counters, and a pile of six counters.

- ► I will use my plus sign and equal sign to make an equation with these counters.
- Where should I put my plus sign? between 2 and 4
- Where should I put my equal sign? between 4 and 6
- My plus sign and equal sign make this equation: 2 + 4 = 6. Is this correct? yes
- I will make different equations with counters on the desk. You will each have a turn to place your plus sign and equal sign on the desk to make an equation. Then you will read the equation aloud.

Create different equations with counters on the desk, and invite students to take turns creating and saying the equations. Ask the following questions for each equation.

- How did you figure that out?
- How many do you have altogether?

Teacher Note 🚺

Students may want to create their own equations once they are comfortable with this group game. Allow them to work in pairs to create an equation with piles of counters and equation symbols.

#### **Progress Monitoring**

**If...** students need an extra challenge,

Then... write addition equations on the board without the visual reference of counters.



- What number comes next when we count back 10, 9, 8?
- ► What do signs do?
- ▶ How do you know when to use an equal sign?

Encourage student discussion of these questions and answers.

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**If...** students need practice with a vocabulary word or particular sound,

Then... encourage them to find words that have similar sounds in both English and their primary language.

## **ASSESS**

#### **Informal Assessment**

Have students complete the activity below to make sure they understand the vocabulary. As students use each word:

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
  - Have students identify the plus sign and the equal sign and explain how they are used.
  - Have students define *altogether* in their own words and describe an addition equation using the word.

For each word, use the following rubric to assign a score.

The student can repeat the word when prompted. (1 point)

The student knows the word but does not know its meaning. (2 points)

The student has a vague idea of the word's meaning. (3 points)

### **Solving Equations**

### Week 17

#### Objective

Students can understand the meaning of the term *equal*, can compare and order numbers, and can use math symbols to add whole numbers.

#### Vocabulary

- add Behind; to come later
- before In front of; to come first
- between In the middle of two things
- equal sign A symbol that means "having the same amount"
- equation A number story
- figure out To think about a problem and solve it; to discover the answer
- plus sign A symbol that means "add"

#### Materials

**Program Materials** Vocabulary Cards: *add, equal, subtract* 

- Additional Materialsdot cubes
- tape to make hopscotch path

### WARM UP

Introduce each vocabulary word to students. Say the word aloud and have students repeat it.

After defining the vocabulary words, show students the *add, equal,* and *subtract* **Vocabulary Cards.** Say each word aloud.

As a group, play "What Number Am I?" Present students with mystery problems. Sample problems include the following.

- ► I come two numbers after 5. I come one number before 8. I am one more than 6. What number am I? 7
- I am more than 10. I am less than 15. The number right before me is 11. The number right after me is 13. What number am I? 12
- I am less than 20. I am more than 18. What number am I? 19
- ▶ I am one group of 10 and 4 ones. I am more than 12, and I am more than 13. I am less than 16, and I am less than 15. What number am I? 14

## **2** ENGAGE

With masking tape, create a hopscotch path labeled from 1 to 20 on the floor. Make sure students have a pencil and paper for this activity.

I will throw two dot cubes, and we will create an addition equation from those numbers. I will write the equation on the board while you write it on your paper.

Suppose you rolled three dots and five dots.

- How should we read this equation? 3 + 5 = 8
- What is the answer? 8
- Who would like to hop this equation on the hopscotch path?
- Where will you begin? on 3; accept "at the start"
- Where will you land when we have added both numbers? 8
- What number comes before your number? 7
- ► What number comes after your number? 9
- What numbers are you between? 7 and 9

As students grow comfortable with two-addend equations, advance to equations with three addends generated by three dot cubes. Remind students to write the equations as they play the game, and call on volunteers to read each problem aloud.

Teacher Note 🗊

It may help English learners to have a visual framework from which they answer the equations. Write \_\_\_\_\_\_ + \_\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_ on the board to provide a sentence frame for their answers.

**Progress Monitoring** 

 If... students need additional practice adding three-addend equations,
 Then... help them read the equations aloud and break them into pieces by adding the first two addends together and then adding the third addend for the total.

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- Why do we use a plus sign when we hop forward on the hopscotch path?
- How would you describe this game to someone new in our class?
- ▶ What number is between 10 and 12?
- How do you figure out equations with more than two numbers?

Encourage student discussion of these questions and answers.

#### **Progress Monitoring**

If students need	<b>Then</b> distribute dot
additional practice with	cubes and a number line
this activity or adding	on which students can
with three addends,	draw and solve equations.

## **ASSESS**

#### Informal Assessment

Have students complete the activity below to make sure they understand the vocabulary. As students use each word:

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
  - Show students a number line, and indicate two numbers. Have students identify numbers that come before the given numbers, numbers that come after the given numbers, and numbers between the given numbers.
  - Have students draw a plus sign and an equal sign and explain how each sign is used.

For each word, use the following rubric to assign a score.

The student can repeat the word when prompted. (1 point)

The student knows the word but does not know its meaning. (2 points)

The student has a vague idea of the word's meaning. (3 points)

### **Adding and Subtracting**

### Week 18

#### Objective

Students can use spatial terms to describe the number sequence and use addition and subtraction in successive operations.

#### Vocabulary

- add To combine numbers or put together numbers
- after Behind; coming later
- before In front of; coming first
- between In the middle of two things
- minus sign A symbol that means "take away"
- subtract To take away, as in one quantity from another

#### Materials

#### **Program Materials**

- Vocabulary Card: add, equal, subtract
- Number Cards (1–10), p. 129
- Number Cards (11–20), p. 130
- Grocery Store, p. 135
- Two-color counters

## **1** WARM UP

Introduce each vocabulary word to students. Say the word aloud and have students repeat it.

After defining the vocabulary words, show students the *add, equal,* and *subtract* **Vocabulary Cards** while saying each word aloud.

Use masking tape to create a hopscotch path from 1 to 20 on the floor. Invite students to draw a Number Card and hop to that number on the path.

- ▶ What numbers are you between?
- ▶ What number comes before you?
- ▶ What number is two spaces after you?

## 2 ENGAGE

Distribute ten counters and a copy of Grocery Store, p. 135, to each student. Tell students that they are going on a pretend grocery shopping trip to buy food, and they have ten counters to spend.

Students should decide which items they can buy and still have at least one counter left over. Have students take turns telling the group what they will buy, one purchase at a time, adding and subtracting when necessary.

Ask questions that lead children to explain the processes they applied to determine what they could purchase.

- Did you add together prices until you were close to the ten-counter limit and then subtract?
- ▶ Did you subtract each item from 10 as you chose it?

#### Teacher Note 😰

This activity usually is a popular one with students and provides substantial practice in addition and subtraction. You may find it useful to create a postersized version of the grocery guide to display in front of the class and to use as a focal point for whole-class discussions.

#### **Progress Monitoring**

**If...** you think students are comfortable articulating equations to 10,

Then... increase the number of counters they can use to "purchase" groceries.



- ► What does *before* mean?
- ► What does *subtract* mean?
- ▶ Describe a recent shopping trip you experienced.

Encourage student discussion of these questions and answers.

#### **Progress Monitoring**

**If...** students understand the math concepts but struggle with the English language component of the lesson, Then... pair them with partners who have more advanced English comprehension.

## **ASSESS**

#### **Informal Assessment**

Have students complete the activity below to make sure they understand the vocabulary. As students use each word:

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
  - Have students explain how they used addition and subtraction in the game. Encourage students to use lesson vocabulary in their explanations.
- Have students define *add* and *subtract* in their own words.

For each word, use the following rubric to assign a score.

The student can repeat the word when prompted. (1 point)

The student knows the word but does not know its meaning. (2 points)

The student has a vague idea of the word's meaning. (3 points)

### Subtracting

### Week 19

#### Objective

Students can reference the number sequence by counting backward and subtract small quantities from single- and double-digit numbers.

#### Vocabulary

- **count back** To begin with a number and count backward, subtracting one each time
- equal sign A symbol that means "having the same amount"
- minus sign A symbol that means "take away"
- number line A line with evenly spaced sequential numbers or units; a number line can be used to solve math problems
- solve To figure out; to find the answer
- subtract To take away, as in one quantity from another

#### Materials

#### **Program Materials**

- Vocabulary Card: *add*, *equal*, *subtract*
- Additional Materials

  tape for a hopscotch path or number line on the floor
- Number Lines (1–20), p. 136
- Two-color counters
- 20 magnets or self-sticking notes

## **WARM UP**

Introduce each vocabulary word to students. Say the word aloud and have students repeat it.

Display the *add, equal,* and *subtract* **Vocabulary Cards.** Say the words aloud.

Use masking tape to create a hopscotch path or number line labeled from 1 to 20 on the floor. Invite individual students to hop up and down the path as the class counts aloud from 1 to 20 and back from 20 to 1.

## **2** ENGAGE

Distribute a copy of Number Lines (1–20), p. 136, and twenty counters to each student. Draw a number line with points labeled from 1 to 20 on the board. Explain to students that they will use the number lines to solve subtraction equations.

#### We will work as a group to solve this first subtraction equation.

Write 12 - 6 =\_\_\_\_\_ on the board.

Who would like to read this equation aloud?

Place magnets or self-sticking notes above numbers 1 to 12.

I want to subtract 6 from 12, so I will take away six magnets.

Remove six magnets, counting aloud as you do so.

- ► How many magnets are left? six
- ▶ So my equation is 12 6 = 6.
- I will write another equation on the board, and you will use counters at your desks to solve the equation.

Write different subtraction equations for students to solve. Give each student an opportunity to model and say a subtraction equation aloud at the board.

Teacher Note

Some English learners may feel more confident displaying and articulating an equation in front of a small group instead of the entire class. If needed, encourage students to work in small groups on this activity.

#### **Progress Monitoring**

If... students can fluently count up and back in the number sequence, Ine. **Then...** challenge them to hop a subtraction equation on a number line.



- How can you check your answer when you subtract?
- What helps you determine an answer in subtraction?
- Can you think of other times at school or at home when you subtract?

Encourage student discussion of these questions and answers.

#### **Progress Monitoring**

<b>If</b> students struggle with subtraction from double-digit numbers,	Then practice subtracting 1 from higher numbers to create comfort with larger numbers and remind students that subtracting is like counting back.
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## **ASSESS**

#### Informal Assessment

Have students complete the activity below to make sure they understand the vocabulary. As students use each word:

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
  - Have students describe how to count back on a number line to solve a subtraction problem.

Remind students to use lesson vocabulary in their descriptions.

• Write a subtraction problem on the board. Have students use a number line to solve the problem.

For each word, use the following rubric to assign a score.

The student can repeat the word when prompted. (1 point)

The student knows the word but does not know its meaning. (2 points)

The student has a vague idea of the word's meaning. (3 points)

### Subtracting and Predicting

### Week 20

#### Objective

Students can understand different ways to say *subtract*, can add and subtract whole numbers, and continue recognizing and using math symbols.

#### Vocabulary

- add To combine numbers or put together numbers
- equal Having the same amount; identical in value or notation
- equal sign A symbol that means "having the same amount"
- equation A number story that includes an equal sign
- minus sign A symbol that means "take away"
- missing number The number needed to complete an equation
- plus sign A symbol that means "add"
- subtract To take away, as in one quantity from another

#### Materials

#### **Program Materials**

- Vocabulary Card: add, equal, subtract
- Number Lines (1–20), p. 136 (optional)

#### Additional Materials

index cardssmall ball (optional)



Introduce each vocabulary word to students. Say the word aloud and have students repeat it.

### Show students the *add, equal,* and *subtract* **Vocabulary Cards** while saying the words aloud.

The variety of words used to describe subtraction, such as *take away, minus, less, subtracted from,* and so on, may be puzzling for English learners. Help students brainstorm a list of words and phrases used to describe subtraction.

### **2** ENGAGE

Write these symbols and words on index cards: =, +, -, add, subtract, minus, equal, solve, and equation.

Explain to students that they will work as a group to win more points than the teacher by answering questions correctly.

- I will show you a card and call on one of you to tell me what card I have displayed. If you are correct, the students will earn a point. If you are incorrect, I will earn a point.
- Once we have played the game with cards, I will write equations on the board, and you will find the missing number. If you have the correct answer when I call on you, the students will earn a point.

Create various addition and subtraction equations with one- and two-digit numbers. Encourage students to work with pencil and paper to find the answers.

#### Teacher Note 🗊

English learners may need practice with the /s/ sound in *missing*. Encourage them to hiss like a snake or make the sound of air escaping a ball to create the *ss* sound. Help them generate a list of words that use the *ss* sound, such as *miss*, *kiss*, *hiss*, and so on.

#### Progress Monitoring

If... students need help T subtracting, o p

Then... distribute copies of Number Lines (1–20), p. 136, and help them map equations on the worksheet.



- ▶ What is another way to say minus?
- How can you check your answer in a subtraction equation?
- What do you like better, adding or subtracting? Why?

Encourage student discussion of these questions and answers.

#### **Progress Monitoring**

**If...** students can fluently identify and sequence numbers,

Then... have them skip count as they pass a math ball up or down the number line.

## **ASSESS**

#### Informal Assessment

Have students complete the activity below to make sure they understand the vocabulary. As students use each word:

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
- Have students describe a missing number and explain how they solve for a missing number in an addition problem.
- Have students describe how they solve for a missing number in a subtraction problem.

For each word, use the following rubric to assign a score.

The student can repeat the word when prompted. (1 point)

The student knows the word but does not know its meaning. (2 points)

The student has a vague idea of the word's meaning. (3 points)

The student knows the word and can use the word in context. (4 points)

#### **Final Oral Assessment**

Administer the appropriate Final Oral Assessment, pp. 74–75, to each student. Use the rubric to determine students' levels of vocabulary acquisition.

Use the Student Assessment Record, page 142, to record the assessment results.



Final Oral Assessment 1, p. 74

Weeks 16–20 Final Oral Assessment 1 (Beginning English Learners)				
<b>Directions:</b> Read each question to the student, and record his or her oral responses. Some questions have teacher directions. Teacher directions are indicated in italics. Allow students to use pencil and paper to work their responses.				
<ol> <li>I will count back. Did I count correctly? Count aloud from 20 to 1. yes</li> </ol>	<ol> <li>Is this a minus sign? Write a minus sign on a piece of paper. yes</li> </ol>			
<ol> <li>I will count back. Continue counting when I stop. Count aloud 10, 9, 8, 7. 6, 5, 4, 3, 2, 1</li> </ol>	<b>8.</b> Solve this equation. <i>Write</i> 8 + 5 = <i>on a piece of paper</i> . 13			
3. Does 14 come <b>before</b> 15? yes	<b>9.</b> Solve this equation. Write $3 + 1 + 5 = \_$ on a			
4. Does 18 come after 19? no	piece of paper. 9			
5. What number is <b>between</b> 5 and 7? 6	<b>10.</b> Solve this equation. Write $5 - 4 = $ on a piece of paper. 1			
6. Is this a plus sign? Write a plus sign on a piece of paper. yes				
<ul> <li>Minimal Understanding: 0–3 of Questions 1–10 correct</li> <li>Basic Understanding: 4–7 of Questions 1–10 correct</li> <li>Secure Understanding: 8–10 of Questions 1–10 correct</li> <li>Use the Student Assessment Record, page 142, to record the assessment results.</li> </ul>				

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#### Weeks 16–20 Final Oral Assessment 2 (Intermediate and Advanced English Learners)

**Directions:** Read each question to the student, and record his or her oral responses. Some questions have teacher directions. Teacher directions are indicated in italics. Allow students to use pencil and paper to work their responses.

- 1. What number comes **after** 14? Draw a number line labeled from 1 to 20 on a piece of paper. Circle 14. 15
- 2. Between what numbers is 8? Point to the number line again, and circle 8.7 and 9
- 3. If a carrot costs three counters and you have ten counters, how many counters will you have left after you buy a carrot? Do you add or subtract to solve the problem? Seven counters; subtract
- 4. How do you write and say the equation used for buying the carrot? Use math signs in your answer.
  10 3 = 7
- 5. What does this word say? Write solve on a piece of paper. solve

- 6. What does *solve* mean? to find the answer
- **7.** Find the **missing number**. *Write* 3 + \_\_\_\_\_ = 5 on a piece of paper. **2**
- **8.** Solve this equation. Write 7 2 =\_\_\_\_\_ on a piece of paper. **5**
- **9.** Solve this equation. *Write* 4 + 5 + 1 = \_\_\_\_\_ *on a piece of paper.* **10**
- **10.** Solve this equation. Write 17 7 =\_\_\_\_\_ on a piece of paper. 17 7 = 10

• Minimal Understanding: 0–3 of Questions 1–10 correct

- **Basic Understanding:** 4–7 of Questions 1–10 correct
- Secure Understanding: 8–10 of Questions 1–10 correct

Use the Student Assessment Record, page 142, to record the assessment results.

## Weeks 21–25

#### Section at a Glance

In this section, students will learn the vocabulary associated with **Number Worlds**, Level C, Weeks 21–25. Students are expected to compare and order numbers, add and subtract whole numbers, understand and use math symbols, create and solve word problems, and identify numbers to 100. Before beginning the section, assess students' general knowledge of math vocabulary using the Individual Oral Assessment on page 77.

#### **How Students Learn Vocabulary**

Repetition is a key element in English learners' comprehension of math vocabulary. The lessons in this unit repeat words from prior lessons such as *add*, *subtract, minus sign, plus sign, equal*, and *equation*. This repetition will help students find these words familiar and therefore develop confidence with their mathematical understanding.

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Academic Vocabulary Taught in Weeks 21–25		
Week 21		
<ul><li>add To combine numbers or put together numbers</li><li>compare To think about how things are alike and how they are different</li></ul>	<b>equal</b> Having the same amount; identical in value or notation <b>sum</b> The answer to an addition problem	
Week 22		
add To combine numbers or put together numbers equal Having the same amount; identical in value or notation equal sign A symbol that means "having the same amount" equation A number story minus sign A symbol that means "take away"	<b>pattern</b> Something that repeats the same way each time <b>subtract</b> To take away, as in one quantity from another <b>zero</b> None; the number that, when used as an addend, leaves any number unchanged	
Week 23		
<ul><li>add To combine numbers or put together numbers</li><li>equal Having the same amount; identical in value or notation</li><li>equal sign A symbol that means "having the same amount"</li></ul>	<ul> <li>minus sign A symbol that means "take away"</li> <li>missing number The number needed to complete an equation</li> <li>plus sign A symbol that means "put together"</li> <li>subtract To take away, as in one quantity from another</li> </ul>	
Week 24		
<b>missing number</b> The number needed to complete an equation <b>pattern</b> Something that repeats the same way each time	<b>position</b> Where something is; the location of something in relationship to other things	
Week 25		
<ul> <li>after Behind; coming later</li> <li>before In front of; coming first</li> <li>far Not close to; a long way away</li> <li>near Close to</li> </ul>	<ul><li>ones column The numeral on the far right of a number that tells how many ones are in the number</li><li>tens column The numeral to the left of the ones column that tells how many tens are in a number</li></ul>	





# English Learner Support Guide

Lessons, strategies, and resources to support English Learners in the Number Worlds program



