



English Learner Support Guide



Unit at a Glance

In this unit, students will learn the vocabulary associated with **Number Worlds**, Level E, Multiplication and Division. In this unit, students will understand vocabulary related to multiplication and division, including inverse operations. Before beginning the unit, assess students' general knowledge of math vocabulary using the Individual Oral Assessment on page 75.

How Students Learn Vocabulary

Creating visual representation of the vocabulary taught in this unit will be most helpful for English language learners. Also, repetition is key to students' overall confidence in producing automatic and fluent language. Provide ample opportunities for students to speak through partner work and small-group work.

1

$\mathbf{A} = \mathbf{A} + $	
Academic vocabulary laught in Unit 4	
Week 1	
× The operation symbol that means to multiply equal Identical in value or notation	repeated addition An addition problem that has the same addend several times
multiply To find the product of a number that is repeatedly added to itself $(4 + 4 + 4 = 3 \times 4 = 12)$	skip counting A method of counting by which each number stated increases by the same amount
Week 2	
array A set number of items organized and arranged in rows and columns	multiply To find the product of a number that is repeatedly added to itself $(4 + 4 + 4 = 3 \times 4 + 12)$
factors The numbers being multiplied	product The result of multiplication
multiplication sentence An equation that contains factors and a product	
Week 3	
array A set number of items organized and arranged in rows and columns	multiply To find the product of a number that is repeatedly added to itself $(4 + 4 + 4 = 3 \times 4 = 12)$
factors The numbers being multiplied	product The result of multiplying two or more numbers (factors)
Week 4	
divide To show how many times a number contains another number	product The result of multiplying two or more numbers (factors)
multiply To find the product of a number that is repeatedly added to itself $(4 + 4 + 4 = 3 \times 4 = 12)$	quotient The result of dividing a number by another number
Week 5	
divide To separate into parts or pieces; in mathematics, to	divisor The number that divides the dividend
divide two numbers to show how many times one number	quotient The answer to a division problem
dividend The number that is to be divided	remainder The number left over when a set of objects is shared equally or separated into equal groups
Week 6	
array A set number of items organized and arranged in rows and columns	inverse operation An operation that undoes the results of another operation; for example, addition and subtraction
divide To separate into parts or pieces; in mathematics, to divide two numbers to show how many times one number contains the other number	multiply To find the product of a number that is repeatedly added to itself $(4 + 4 + 4 = 3 \times 4 = 12)$

Unit 4 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. Are these **equal?** Show students one sets of 12 unit blocks and one set of 10 unit blocks. **no**
- 2. Are these equal? Show students a set of 2 rods and 3 unit blocks and a set of 23 unit blocks. yes
- **3.** Is this **repeated addition?** Write 6 + 6 + 6 = 18. yes
- **4.** Which shows **multiplication?** Write 6 + 6 + 6 = 18and $6 \times 3 = 18$. Students should indicate $6 \times 3 = 18$.
- **5.** What are the **factors?** Write $4 \times 7 = 28$. **4 and 7**
- 6. What is the product? 28
- 7. Which shows division? Write $72 \div 8 = 9$ and $8 \times 9 = 72$. Students should indicate $72 \div 8 = 9$.

- **8.** What is the **quotient?** Write $27 \div 3 = 9$. **9**
- 9. What is the dividend? 27
- **10.** Are these **inverse operations?** Write $56 \div 8 = 7$ and $8 \times 7 = 56$. **yes**
- **11.** What is the **product?** *Write* 6 × 8 = _____. **48**
- **12.** What is the **quotient?** *Write* 63 ÷ 9 = _____. **7**
- **13.** What is the **inverse** of $50 \div 10 = 5$? **5** × **10** = **50**

• 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 136, to record the assessment results.

Week 1

Objective

Students understand the meaning of the multiplication symbol and use repeated addition to set foundations of multiplication.

Vocabulary

- $\, imes \,$ The operation symbol that means to multiply
- equal Identical in value or notation
- multiply To find the product of a number that is repeatedly added to itself (4 + 4 + 4 = 3 × 4 = 12)
- repeated addition An addition problem that has the same addend several times
- skip counting A method of counting by which each number stated increases by the same amount

Materials

Program Materials Vocabulary Card: *multiply* Additional Materials loose, dry beans

1 WARM UP

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

Show students **Vocabulary Card** multiply while saying the word aloud. Explain that this unit will help them understand multiplication.

Remind students that *repeat* means "to say or do again." Give several examples of things that repeat. Tell students that *repeated addition* is when a number is added to itself again and again.

Set out 4 distinct groups of 2 beans each.

- ▶ Skip count these beans with me: 2, 4, 6, 8.
- ► We can also make the beans into a repeated addition sentence. Point to each group as you say, 2 + 2 + 2 + 2.
- How many total beans are on the table? 8
- ► So 2 + 2 + 2 + 2 equals 8.

Set out 4 distinct groups of 3 beans each.

- ▶ Skip count these beans with me: 3, 6, 9, 12.
- ► What is the repeated addition sentence for these beans? 3 + 3 + 3 + 3
- What is the solution to the repeated addition sentence? 12

Repeat this activity with differently numbered groups of beans. Keep the bean count small so students can count individual beans when needed.



Write the repeated addition sentence on the board: 3 + 3 + 3 = 12. Read the sentence aloud with students.

► How many *times* did we add the 3s? 4

Write 3 times 4 = 12. Read the sentence aloud with students. Repeat until firm.

Write a plus sign on the board.

What does this symbol mean? add

Write a minus sign on the board.

What does this symbol mean? subtract

Under 3 times 4 = 12, write $3 \times 4 = 12$. Point to the \times .

This symbol tells us to multiply. Say multiply and have students repeat. Write multiply on the board.

Refer to your 4 distinct groups of 3 beans each.

- ► How many groups? 4
- ► How many beans in each group? 3
- ► How many total beans? 12
- What is 3 multiplied 4 times? 12

Give each student 50 beans. Have students group their beans according to your directions. For example, say *Make 5 groups of 4*. After all students have correctly grouped their beans, have them report using this language:

- There are _____ groups.
- There are _____ beans in each group.
- There are _____ groups of _____ beans.
- There are _____ beans altogether.

Repetition of sentences such as these will not only help students verbalize mathematical relationships, it will also help with their general aural recognition.

Teacher Note 🗊

One way to help English learners determine the meaning of new words they encounter is to learn to recognize common prefixes. In this lesson students will work with foundations of multiplication. *Multi-* means "many." Multiplication is the repeated addition of groups of items. Students may also know the words *multiplex, multitude, multimillionaire,* and *multiple.* Remind students that knowing prefixes can help them decode new words.

Progress Monitoring

If... students feel comfortable identifying "groups of," Then... encourage them to write their own multiplication equations and read the sentence to the class.

3 REFLECT

Extended Response

- Are skip counting and repeated addition the same? How?
- Are repeated addition and multiplication the same? Explain.
- Where do you see repeated addition outside of class?

Encourage student discussion of these questions and answers.

Progress Monitoring

If... a student is overpowering the discussion,

Then... ask him or her to be the discussion leader and only speak when necessary to prompt other students.

4 ASSESS

Informal Assessment

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

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
- Set out 5 distinct groups of 4 beans each. Have students skip count the beans.
- Have students create an addition sentence to find the total number of beans.
- Have students create a multiplication sentence to find the total number of beans.

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)

Week 2

Objective

Students can understand the meaning of *multiplication sentence* and can create multiplication sentences with manipulatives.

Vocabulary

- array A set number of items organized and arranged in rows and columns
- factors The numbers being multiplied
- multiplication sentence An equation that contains factors and a product
- multiply To find the product of a number that is repeatedly added to itself (4 + 4 + 4 = 3 × 4 = 12)
- product The result of multiplication

Materials

Program Materials

- Vocabulary Card: multiply
- crayons or colored pencils

Additional Materials

- Multiplication, p. 132
- dry beans, buttons, or counters
- graph paper

WARM UP

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

Review the multiply Vocabulary Card.

Give each student at least 50 beans. Have students arrange the beans as you instruct; for example, have them make 4 groups of 6 beans. Demonstrate that the group of 6 beans is *multiplied* 4 times. After all students have correctly grouped their beans, have them report using this language:

- There are _____ groups.
- There are _____ beans in each group.
- There are _____ groups of _____ beans.
- The 6 beans are multiplied _____ times.
- There are _____ beans altogether.

After a few examples, have partners give and follow directions for creating groups. The student who creates the groups should do the reporting. Then switch roles and repeat.

2 ENGAGE

Show students an arrangement of 6 groups of 3 beans. Explain that the 3 beans are *multiplied* 6 times.

► How do I write 3 times 6? Allow a student to write the equation: $3 \times 6 = 18$.

Point to 18. Tell students that the answer to a multiplication problem is called the *product*. Say *product* and have students repeat. Write *product* on the board.

Point to 3 and 6. Tell students that the numbers that are multiplied in a multiplication problem are the *factors*. Say *factors* and have students repeat. Write *factors* on the board.

Repeat the activity with other sets of beans. Have students identify the factors and products in the resulting multiplication sentences.

Give each student a piece of graph paper and some beans. Have them use their beans to make an arrangement of 5 groups of 4 beans. Demonstrate on your own "graph paper" on the board so students can see that each "group" is in its own row. The result should be a rectangle with 5 rows and 4 beans in each row. Now have students remove each bean and color the box it was in. They should now have a colored 5-by-4 rectangle. Tell students that this is an *array*. Say *array* and have students repeat. Label your array on the board.

- How many groups? 5
- ► How many in each group? 4
- How many total? 20
- ▶ What is the multiplication sentence? 5 × 4 = 20

Repeat for other examples.

Draw 10 arrays of different sizes, each on a separate sheet of paper. Label the drawings A through G and tape them to desks around the room.

Organize students into pairs. Distribute a copy of the Multiplication worksheet to each pair of students. Have students travel around the room and write the multiplication sentence that accompanies each array.

When students have completed the worksheet, invite pairs to describe their multiplication sentences and explain how they found their answers.

- There are _____ rows.
- There are _____ in each row.
- The multiplication sentence is _____.
- The factors are _____ and _____.
- The product is _____

Teacher Note 🕼

Make sure English learners know the difference in pronouncing and spelling *multiply* and *multiple*. The fact that these words end with y and e can be confusing to an English learner who has seen them used in other words in which they sound different. For example, in the word *story*, the y sound sounds like a long e. In the word *multiple*, the e is silent, and in *multiply*, the y sounds like long i.

Progress Monitoring

If... students complete the multiplication arrays quickly,

Then... have them draw their own arrays on the back of the worksheet and then have a partners write the corresponding multiplication sentence below them.

3 REFLECT

Extended Response

- ► How is the act of grouping beans similar to creating an array?
- ► Describe an array.
- ► Describe an array for 5 × 3.

Encourage student discussion of these questions and answers.

Progress Monitoring

If you realize that	• Then using it in free
a student has	discussion will not be
misunderstood a new	productive. Help the
vocabulary word,	student with additional
	one-on-one practice.

Informal Assessment

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

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
- Have students model $5 \times 6 = 30$ using an array.
- Have students describe their array and explain how it relates to the multiplication sentence.
- Have students identify the factors and product.
- 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)

Week 3

Objective

Students understand the meanings of the terms *array, factor, multiply,* and *product* and gain facility with verbalizing multiplication facts.

Vocabulary

- array A set number of items organized and arranged in rows and columns
- factor A number you multiply to get a product
- multiply To find the product of a number that is repeatedly added to itself (4 + 4 + 4 = 3 × 4 = 12)
- product The result of multiplying two or more numbers (factors)

Materials

Program Materials

- Vocabulary Cards: factors, multiply, product
- Additional Materials

 crayons or colored pencils
- graph paper
- Multiplication Table, p. 133

1 WARM UP

Introduce each vocabulary word to students. Say the word aloud and have students repeat it. Show students **Vocabulary Cards** factors, multiply, and product. Write $5 \times 5 = 25$ on the board and have students identify the factors and product.

Distribute graph paper and colored pencils or crayons to each student. Have students color an array and then label it according to your instructions. After students have complete several arrays, check that they are correct. Then have students describe a random array on their page while a partner listens carefully. The partner should identify the correct array. Students may use the following sentence frames:

- It has _____ rows.
- There are _____ in each row.
- The multiplication sentence is ______
- There are _____ groups of _____

Switch roles and repeat several times for maximum speaking and listening practice.

2 ENGAGE

Give each student a Multiplication Table worksheet.

▶ Is this an array? yes

Show students how to find the product of a factor in the left column and a factor in the top row. Remember to tell them not to include the shaded row and column along the outside. This is for their reference only.

Have students use the multiplication table for practice verbalizing each multiplication fact. Demonstrate with one factor, for example 2s.

- Two times one is two.
- Two times two is four.
- Two times three is six.

Continue in this way, emphasizing the cadence of each sentence. Start slowly at first, and as students gain facility with saying each sentence, speed up a little at a time.

Teacher Note 🕞

English learners and their parents may have learned mathematics outside the United States. Some operations are done differently, and it is important to ask students and/or their parents to show you how they calculated their work. Use simple questions or instructions, such as *How did you do that? Show me*.

Progress Monitoring

If... students already know their multiplication facts,

Then... emphasize different ways to say them in English, such as Two times two equals four, Two times two is four, Two multiplied by two is/ equals four and so on.

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Extended Response

- How are factors like addends?
- Do you know your multiplication facts? How did you learn them?
- Explain memorize. Is it important to memorize multiplication facts? Why or why not?

Encourage student discussion of these questions and answers.

Progress Monitoring

If... students need some help answering the discussion questions,

Then... allow them to make a list and then give them a sentence frame to plug their answers into; for example *lt is not* important to memorize facts because _____.

4 ASSESS

Informal Assessment

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

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
- Have students locate 6 × 7 on a multiplication table.
- Have students say the multiplication sentence.
- Have them identify the factors and product.

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)

Week 4

Objective

Students can understand vocabulary related to multiplication and division.

Vocabulary

- divide To show how many times a number contains another number
- multiply To find the product of a number that is repeatedly added to itself (4 + 4 + 4 = 3 × 4 = 12)
- product The result of multiplying two or more numbers (factors)
- quotient The result of dividing a number by another number

Materials

Program Materials Vocabulary Cards: factors, multiply, product Additional Materials base-ten blocks



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

Show students the *factors, multiply,* and *product Vocabulary Cards.*

Have each student write a multiplication sentence on the board, say it, and then identify the factors and product.

- _____ times _____ is _____.
- The factors are _____ and _____.
- The product is _____

Write the number 657 on the board.

What is the expanded form of this number? 600 + 50 + 7 If students need a refresher for how to find the expanded form of a number, have them use base-ten blocks to show how many hundreds (flats), tens (rods), and ones (blocks) are in the number. Repeat for other two- and three-digit numbers.

2 ENGAGE

Write 3×20 on the board. Have students use base-ten blocks to show this quantity. If they need help,

- ► How many groups? 3
- ► How many in each group? 20
- ▶ How many total? 60
- What is the multiplication sentence? $3 \times 20 = 60$
- What are the factors? 3 and 20
- ► What is the product? 60
- How can you show 20 using the base-ten blocks? 2 rods or 20 blocks

Now write 20×3 on the board and have students use the blocks to show a new quantity. It is possible that they will make 20 groups with 3 blocks each. They may also rearrange their previous groups so that they still have 2 rods (representing 20) and 3 blocks. Point to both quantities written on the board.

- What is the same? the product
- ▶ What is the product? 60

Tell students that the order of the factors does not matter in multiplication.

Have students count out 60 unit blocks. Have them organize their blocks into 3 equal groups.

Tell students that when they separate a group into smaller but equal groups, they divide. Say *divide* and have students repeat. Write *divide* on the board.

How many blocks in each group? 20

Tell students that the result of dividing a group into smaller but equal groups is called the *quotient*. Say *quotient* and have students repeat.

Give students different numbers of unit blocks and have them organize the set into smaller groups. Make sure the groups can be divided evenly. Review the terms *divide* and *quotient* for each example.

Teacher Note

Whenever possible and as far as students' levels of English allow, have students answer in complete sentences. Frequent practice will help build automaticity and fluency.

Progress Monitoring

If... students understand the concept of division without modeling it with blocks, Then... have them help another student sort their blocks to show equal groups. Encourage them to extend their language by verbalizing the process; for example, We need to divide ______ blocks into ______ equal groups. What is the quotient? The quotient is _____.

3 REFLECT

Extended Response

- How are multiplication and division related?
- ▶ When do you use multiplication at a store?
- How do you use division at home?

Encourage student discussion of these questions and answers.

Progress Monitoring

Then... brainstorm answers as a group; for example, dividing computer time among 3 brothers or dividing 8 cat treats between 2 cats. **4** ASSESS

Informal Assessment

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

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
- Write the multiplication sentence $8 \times 5 = 40$ on the board. Have students identify the factors and the product.
- Write the division sentence $40 \div 8 = 5$ on the board. Have students identify the quotient.

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)

Week 5

Objective

Students can understand the meanings of the terms *dividend, divisor, quotient,* and *remainder*.

Vocabulary

- divide To separate into parts or pieces; in mathematics, to divide two numbers to show how many times one number contains the other number
- dividend The number that is to be divided
- divisor The number that divides the dividend
- quotient The answer to a division problem
- remainder The number left over when a set of objects is shared equally or separated into equal groups

Materials

Program Materials

Additional Materials

- Vocabulary Cards: *divide* and *quotient*
- paper clips
- Multiplication Table, p. 133
- Division Stories, p. 134

WARM UP

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

Show students **Vocabulary Cards** divide and quotient while saying each word.

2 ENGAGE

Write $9 \times 5 = 45$ on the board.

What are the factors? 9 and 5

Erase 9.

What number is missing? 9

Below the original equation, write $45 \div 5 =$ ______. Tell students they will now work on division problems. They should know the answer to this problem, because it is related to the multiplication problem but written in a different way. Explain that the 45 is the number that is divided and is called the *dividend*. Say *dividend*, and have students repeat the word. Write *dividend* on the board.

Point to the 5, and tell students the number that divides the dividend is called the *divisor*. Say *divisor*, and have students repeat the word. Write *divisor* on the board.

What is the answer to the problem? 9

Tell students the answer to a division problem is called the *quotient*. Say *quotient*, and have students repeat the word. Write *quotient* on the board.

Organize students into groups of three. Distribute exactly 46 paper clips to each group. Tell students to make five equal groups with the paper clips. Let them know they may have some paper clips left over.

How many paper clips are in each equal group? 9

▶ Do you have extra paper clips? How many? yes; 1

Tell students that the one leftover paper clip is called the *remainder*. Say *remainder*, and have students repeat the word. Write *remainder* on the board.

Elicit from students what they should call the quotient. If no one knows, tell them that this quotient should be read 9 remainder 1. Have students repeat until they are comfortable with saying the quotient with a remainder. Write 9 remainder 1 on the board. Tell students that we use the symbol *R* for the word remainder when we write division sentences. Erase remainder, and replace with *R*.

Distribute a copy of the Division Stories worksheet to each student. Organize students into groups of three or four. Before beginning the activity, preteach any vocabulary that may be unfamiliar to students, such as gym, teams, marching band, and squads. Have students complete the worksheet as a group. If students need help visualizing the problems, distribute seventy-two paper clips to each group. Have students use paper clips to discover the answer. When students have completed the activity, review the worksheet as a class.

Teacher Note 🕼

Show students the different ways a division problem is written; for example, $46 \div 5$, $5)\overline{46}$, or $\frac{46}{5}$. All of these are read the same way: *forty-six divided by 5*. Have students practice how to say division problems that you write on the board. Challenge students further by having them solve and then give the entire division sentence, including the quotient.

Progress Monitoring

If... students have trouble finding quotients,

Then... provide a copy of the Multiplication Table for help with basic multiplication facts.



Extended Response

- How do you use division? When might you divide items into equal groups?
- When would you divide a number of people into groups?
- ▶ Why would you divide food?
- ► Do we divide clothes? How?
- Does this lesson remind you of another lesson? Which one? Why?

Encourage student discussion of these questions and answers.

Progress Monitoring

If... students are unsure of their answers,

Then... have them use multiplication to check.

Informal Assessment

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

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
- Write $32 \div 8 = 4$ on the board. Have students identify the dividend, the divisor, the quotient, and a remainder, if applicable.
- Repeat with another division sentence.
- 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)

Week 6

Objective

Students can understand vocabulary related to inverse operations.

Vocabulary

- array A set number of items organized and arranged in rows and columns
- **divide** To separate into parts or pieces; in mathematics, to divide two numbers to show how many times one number contains the other number
- inverse operation An operation that undoes the results of another operation; for example, addition and subtraction
- multiply To find the product of a number that is repeatedly added to itself (4 + 4 + 4 = 3 × 4 = 12)

Materials

Program Materials Vocabulary Cards: *add*, *divide*, *multiply*, *subtract* Additional Materials index cards



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

Have a volunteer describe *inverse operations*. Make sure students remember that an inverse operation is one that undoes another operation. Give an example of tying and untying shoes.

- ► Is that an inverse operation? yes
- What are some other inverse operations? dressing and undressing, writing and erasing

Have students brainstorm other things they do every day and tell whether they are inverse operations.

2 ENGAGE

Write the following on the board:

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16 + 14 = 30
```

30 - 14 = 16

Are these inverse operations? yes

Remind students that addition and subtraction are inverse operations.

Write the following on the board:

 $4 \times 4 = 16$

 $16 \div 4 = 4$

► Are these inverse operations? yes

Tell students that multiplication and division are inverse operations.

Show students the *add*, *divide*, *multiply*, and *subtract* **Vocabulary Cards.** Have write the operations on their own index cards. Then have partners work together. Each turn, students should draw two cards and then describe the inverse relationship between them, using the following example language:

- Addition and subtraction are inverse operations.
- Addition and multiplication are not inverse operations.

Have students prepare paper and pencil. Tell them to write the equation you dictate. Then have them write an inverse equation.

Teacher Note 😰

Because this lesson has many word problems, students may become frustrated by the unknown general vocabulary and lose focus of the math concepts. Therefore, it will be helpful to read through the word problems before the math lesson and introduce or reinforce the meanings for students. Ideally, review them once more just before students will see them in the written text.

Using Student Worksheets

After students complete the activity, help them to complete the appropriate Practice for their levels of English development.

Beginning, p. 88 Intermediate, p. 89 Advanced, p. 90

3 REFLECT

Extended Response

- ► Give an example of an inverse operation.
- ▶ Is taking a bath an inverse operation? Why or why not?
- ▶ Why is it helpful to understand about inverse operations?

Encourage student discussion of these questions and answers.

4 ASSESS

Informal Assessment

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

- 1. Check understanding.
- 2. Correct errors.
- 3. Recheck for understanding.
- Dictate the following multiplication sentence and have students write it on paper: $4 \times 9 = 36$.
- Have students tell what the inverse operation is.
- Have students write the inverse equation.

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 Assessment

Distribute a copy of the Final Assessment, p. 91, to each student. Use the following rubric to determine each student's level of English development.

Name Final Assessment	Date	(unr 4
Use a term from the box to compl about the equations.	ete each sentence	
7 × 6 = 42		
1. A(n) is 6		
2. The is 42	2.	
3. This is a(n)	equation.	
		247 : 6 - 7

Final Assessment, p. 91

- Beginning English Learners: 0–3 of Questions 1–8 correct
- Intermediate English Learners: 4–6 of Questions 1–8 correct
- Advanced English Learners: 7–8 of Questions 1–8 correct

Use the Student Assessment Record, page 136, to record the assessment results.

	A Name Practice 1	Beginning	Date
Writ	te equal or not equal.		
			equal or not equal?
1.	16	9 + 7	
2.	***	****	
3.	000000000		
4.	4 × 6	6 × 4	
	0:ÖÖ	000	
5.	¢¢¢¢	* * *	снруй о WGw нИ Гао
6.	33 + 21	21 + 33	ian, Premiosian is gra
7.	15 ÷ 5	15 ÷ 3	
8.	75 + 25	100	
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	actice 2 interneolate	· · · · ·
Lo	ok at the array. Answer the questions.	
1.	What is the multiplication sentence?	
2.	What are the factors?	
3.	What is the product?	
4.	What is the inverse operation?	
Lo	ok at the equation. Answer the questions.	
6)	54	
5.	What is the division sentence?	
6.	What is the dividend?	
7.	What is the quotient?	

Practice 2, Intermediate, p. 89

Name Date				
Figure 5 Advanced				
Look at the example. Then read the sentences below and follow the directions carefully.				
54 ÷ 6 = 9				
1. If 54 is the dividend, color the array.				
2. If 6 is a factor, write <i>factor</i> to the right of the array.				
3. Write the quotient to the left of the array.				
4. If there is no remainder, write no remainder under the quotient.				
5. Write the divisor below the array.				
6. Write an inverse equation above the array.				
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UNIT

Practice 2 Intermediate

Look at the array. Answer the questions.

- 1. What is the multiplication sentence?
- 2. What are the factors?
- **3.** What is the product?
- 4. What is the inverse operation?

Look at the equation. Answer the questions.

6)54

- 5. What is the division sentence?
- **6.** What is the dividend?
- 7. What is the quotient?
- 8. What is the remainder?



Look at the example. Then read the sentences below and follow the directions carefully.

 $54 \div 6 = 9$



- **1.** If 54 is the dividend, color the array.
- **2.** If 6 is a factor, write *factor* to the right of the array.
- **3.** Write the quotient to the left of the array.
- 4. If there is no remainder, write no remainder under the quotient.
- **5.** Write the divisor below the array.
- **6.** Write an inverse equation above the array.

Date _____

Name		Date		
Final Assessmen	t			
Use a term from the bo about the equations.	x to complete	each sentend	ce	
7 × 6 = 42				
1. A(n)	is 6.			
2. The	is 42.			
3. This is a(n)	e	equation.		
4. A(n)			is 42	$2\div 6=7.$
$40 \div 10 = 4$				
5. This is a(n)	e	equation.		
6. The	is 40.			
7. The	is 10.			
8. The	is 4.			
addition	divisor		product	
difference	factor		quotient	
dividend	inverse ope	eration	subtraction	
division	multiplicat	ion	sum	

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English Learner Support Guide

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



