LEVEL I

Number Worlds™

Accelerate Math Success

English Learner Support Guide

Mc Graw Hill Education

Unit 3
Algebra

Unit at a Glance

In this unit, students will learn the vocabulary associated with ***Number Worlds,*** Level I, Algebra. Students will explore algebraic expressions and equations and be able to name variables, constants, and coefficients. They will also learn about inequalities. Before beginning the unit, assess students' general knowledge of math vocabulary using the Individual Oral Assessment on page 57.

How Students Learn Vocabulary

Using visuals has an immediate impact on learning language. For this unit, it will be helpful to have magnetic number lines and counters on hand so students can visualize the reality of the operations they will be conducting. Whenever possible, have students work in pairs or small groups to maximize fluency practice. Encourage them to incorporate the new vocabulary in their pairwork.

Academic Vocabulary Taught in Unit 3

Week 1

algebraic expression A group of symbols, such as numbers, operation signs, variables, and grouping symbols, that represents a number

coefficient A number in front of a variable. For example, in the expression $3x + 2$, 3 is a coefficient

constant A value that remains the same, such as 3 in the expression $3 + x$

equivalent Equal in value, but in a different form

evaluate To calculate; to determine the value of

variable A symbol that represents a quantity

Week 2

coefficient A number in front of a variable. For example, in the expression $3x + 2$, 3 is a coefficient

constant A value that remains the same, such as 3 in the expression $3 + x$

equation A mathematical sentence that states the equality of two expressions

equivalent Equal in value, but in a different form

expression A group of mathematical symbols (numbers, operations signs, variables, grouping symbols) that represents a number

variable A symbol that represents a quantity

Week 3

coefficient A number in front of a variable. For example, in the expression $3x + 2$, 3 is a coefficient

constant A value that remains the same, such as 3 in the expression $3 + x$

equation A mathematical sentence that states the equality of two expressions

equivalent Equal in value, but in a different form

expression A group of mathematical symbols (numbers, operations signs, variables, grouping symbols) that represents a number

inverse operation An operation that undoes the results of another operation

isolate To separate from others

variable A symbol that represents a quantity

Week 4

inverse operation An operation that undoes the results of another operation

Week 5

greater than (>) Larger in number or measure

inequality A number sentence stating that two quantities are not equal. Relation symbols for inequalities include $<$ (is less than), $>$ (is greater than), and $\neq$ (is not equal to)

less than (<) Smaller in number or measure

not equal to ($\neq$) Not having the same value

Week 6

inequality A number sentence stating that two quantities are not equal. Relation symbols for inequalities include $<$ (is less than), $>$ (is greater than), and $\neq$ (is not equal to).

Unit 3 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 an **equation** or an **expression?** *Write* $3x + 4$ *on the board.* **expression**
2. Is this an **equation** or an **expression?** *Write* $3x + 4 = 16$ *on the board.* **equation**
3. Is $3x + 14$ **equivalent** to 16? **yes**
4. What is a **constant** in the equation? *Point to the equation on the board.* **4 or 16**
5. What is the **variable?** ***x***
6. What is the **coefficient?** **3**
7. What is the **inverse operation** of addition? **subtraction**
8. Is this an **equation** or an **inequality?** *Write* $5y - 13 < 17$. **inequality**
9. Is $5y$ an **equation** or an **expression?** **expression**
10. Is $5y - 13$ **greater than** or **less than** 17? **less than**
11. What does this **symbol** mean? *Write* $\neq$ *on the board.* **not equal**
12. **Solve** for x. *Write* $x - 3 = 15$. $x = 18$
13. **Solve** for y. *Write* $16 < 2y$. $8 < y$

- **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 141, to record the assessment results.

Week 1

Objective

Students can understand the meanings of the terms *equivalent* and *algebraic expression*.

Vocabulary

- **algebraic expression** A group of symbols, such as numbers, operation signs, variables, and grouping symbols, that represents a number
- **coefficient** A number in front of a variable. For example, in the expression $3x + 2$, 3 is a coefficient
- **constant** A value that remains the same, such as 3 in the expression $3 + x$
- **equivalent** Equal in value, but in a different form
- **evaluate** To calculate; to determine the value of
- **variable** A symbol that represents a quantity

Materials

Program Materials

- Vocabulary Cards: *constant, expression, equation, variable*
- Expressions and Equations, p. 135

1 WARM UP

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

Write $9x + 3 = y$ on the board. Show the *constant* and *variable* ***Vocabulary Cards.*** Have students identify the vocabulary in the equation on the board.

- ▶ **What is this called?** an equation
- ▶ **Which values are variables?** *x* and *y*
- ▶ **Which values are constants?** 9 and 3
- ▶ **What does the equal sign mean?** that both sides are equal

Tell students that when an equal sign is present, the values on either side of the equal sign are *equivalent*. Say *equivalent,* and have students repeat the word. Write *equivalent* on the board.

2 ENGAGE

Write *8*, $4 + 4$, $\frac{32}{4}$, *and* 2×4 on the board.

- ▶ **Which of these are equivalent?** all of them

Now change the expressions on the board as follows: *8*, $x + 4$, $\frac{32}{x}$, *and* $2x$.

- ▶ **Are these still equivalent?**

Tell students that these are four different *algebraic expressions* for the same number. An expression is a group of mathematical symbols that represents a number. Say *algebraic expression,* and have students repeat the term. Write *algebraic expression* on the board.

- ▶ **If all these expressions are equivalent, who knows what *x* equals?** 4

Point to the expression $2x$.

- ▶ **Is this an expression?** yes
- ▶ **If $x = 1$, what does $2x$ equal?** 2

Repeat for $x = 2, 3, 4,$ and 5. Tell student that when they *evaluate* an expression, they figure out its value. In this case, they are using a value for *x* to evaluate the expression. Say *evaluate* and have students repeat. Write *evaluate* on the board.

Tell students that the value of *x* can change.

- ▶ **What do we call a value that can change?** a variable

Return to the expression 2x.

- ▶ **Is the number 2 a variable?** no
- ▶ **How do you know?** because its value does not change
- ▶ **What do we call a value that does not change?** a constant
- ▶ **Do we multiply it with a variable?** yes

Tell students that a number in front a variable is called a *coefficient*. Say *coefficient,* and have students repeat. Write *coefficient* on the board.

Distribute a copy of Expressions and Equations to each student. Have students complete the worksheet and review their work with a partner.

Teacher Note

English learners may already understand the mathematical concepts being taught but lack the English vocabulary to express them. Use this to your advantage when introducing words by allowing students to describe a process in their native tongue before they describe the process in English.

Progress Monitoring	
If… students seem to understand the mathematical idea, but are having trouble with appropriate use of vocabulary,	**Then…** review the vocabulary with students individually.

3 REFLECT

Extended Response

- **What does *express* mean?**
- **What does this sentence mean? *He had a confused expression on his face.***
- **How is an algebraic expression different from an equation?**
- **What is a variable?**
- **Can a decimal be a constant? Why or why not?**

Encourage student discussion of these questions and answers.

Progress Monitoring	
If… students have mastered the vocabulary,	**Then…** have partners create and evaluate their own equations that consist of constant, variables, and expressions.

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 define *equivalent* in their own words.
- Have students define *algebraic expression* and give an example of an algebraic expression.
- Supply a value for the variable in students' expressions and have students evaluate it.

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)

Week 2

Objective

Students can understand the meanings of the terms *equivalent, expression, variable,* and *constant*.

Vocabulary

- **coefficient** A number in front of a variable. For example, in the expression $3x + 2$, 3 is a coefficient
- **constant** A value that remains the same, such as 3 in the expression $3 + x$
- **equation** A mathematical sentence that states the equality of two expressions
- **equivalent** Equal in value, but in a different form
- **expression** A group of mathematical symbols (numbers, operations signs, variables, grouping symbols) that represents a number
- **variable** A symbol that represents a quantity

Materials

Program Materials
Vocabulary Cards: *coefficient, constant, equation, equivalent, expression, variable*

Additional Materials
balance scales

1 WARM UP

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

After students have had some practice listening to the words, show them the *coefficient, constant, expression, equation,* and *variable* ***Vocabulary Cards.***

Show students a *balance scale*. Say *balance scale*, and have students repeat the term. Demonstrate balance by putting identical objects on each side of the scale. Then show students what happens when you put objects of different weights on the scale.

Organize students into groups. Distribute a balance scale to each group. Allow students to experiment with the scales. Encourage students to find objects that are different but have equal weights. Tell students that although the items may be different, they are *equivalent* in weight. Say *equivalent,* and have students repeat the word. Write *equivalent* on the board.

2 ENGAGE

Write *10*, $5 + 5$, $\frac{50}{5}$, and 2×5 on the board. Have students identify the variables and constants.

- ► **Are these expressions?** yes
- ► **Which of these are equivalent?** all of them

Now change the expressions on the board as follows: *10*, $x + 5$, $\frac{50}{x}$, and $2x$.

- ► **Are these still expressions?** yes
- ► **If all these expressions are equivalent, what does *x* equal?** 5

Write several expressions on the board: $x + 6$, $8x$, $12 - x$, $3(x + 5)$. For each expression, identify the coefficients, constants, and variables.

Then have partners evaluate each expression for $x = 2$, 3, 4, and 5. For each value of *x*, are there any equivalent expressions? Encourage them to use the following communication guide:

- If $x =$ _____, then $x + 6 =$ _____.
- If $x =$ _____, then $8x =$ _____.
- If $x =$ _____, then $12 - x =$ _____.
- If $x =$ _____, then $3(x + 5) =$ _____.
- The expressions _____ and _____ [are/aren't] equivalent when $x =$ _____.

Teacher Note

Review the meaning of *order*. Have students tell the *order* of steps when brushing their teeth. Students may have differing responses.
Then remind students that in math, there is a special order they must follow for solving algebraic equations. Review the meanings of *parentheses, exponent, multiplication, division, addition,* and *subtraction*. Then write the acronym, PEMDAS, on the board. Tell student that if they can remember these letters, they should be able to remember the correct order of operations when solving math problems.

Progress Monitoring

If… students struggle with pronunciation of some of the vocabulary,	**Then…** spend a little extra time modeling and having them repeat.

3 REFLECT

Extended Response

- **What does *equal* mean?**
- **What do you notice about the following words: *equal, equation, equivalent*?**
- **Explain what a variable is.**
- **Can a fraction be a constant? Why or why not?**
- **Can a coefficient be a variable? How do you know?**

Encourage student discussion of these questions and answers.

Progress Monitoring	
If… some students tend to monopolize the discussion,	**Then…** have those students be the "teacher" and guide the discussion. Have them prompt their "students" but not give any answers away.

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 expression $4x - 6$ on the board. Have students identify the variable, the constant, and the coefficient.
- Have students determine the value of x to make the expression equivalent to 10.

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)

Week 3

Objective

Students review terms related to algebraic expressions, including *isolating the variable.*

Vocabulary

- **coefficient** A number in front of a variable. For example, in the expression $3x + 2$, 3 is a coefficient
- **constant** A value that remains the same, such as 3 in the expression $3 + x$
- **equation** A mathematical sentence that states the equality of two expressions
- **equivalent** Equal in value, but in a different form
- **expression** A group of mathematical symbols (numbers, operations signs, variables, grouping symbols) that represents a number
- **inverse operation** An operation that undoes the results of another operation
- **isolate** To separate from others
- **variable** A symbol that represents a quantity

Materials

Program Materials
Vocabulary Cards: *coefficient, constant, equation, equivalent, expression, variable*

Additional Materials
- index cards
- manipulatives, such as magnets
- sticky notes

1 WARM UP

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

Create a cluster of magnets on the board. Then put a lone magnet far from the others. Draw a box around the single magnet. Tell students that this magnet is isolated from the rest of the group. It is separated from it. Say *isolate* and have students repeat. Write *isolate* on the board.

Give students other manipulatives so they can model this concept on their own. Alternatively, have them depict *isolate* in a drawing.

2 ENGAGE

Write *5 apples* × *5¢* = *25¢* on the board. Cover the number 5.

- **If I have twenty-five cents and each apple costs five cents, how many apples can I buy?** 5
- **How do you know?** divide 25¢ by 5¢

Tell students that they have just performed an *inverse operation*. Using division to undo a multiplication operation is performing an inverse operation. Say *inverse operation,* and have students repeat the term. Write *inverse operation* on the board.

Write *x apples* × *5¢* = *45¢*.

- **What is the variable?** *x*
- **If I have forty-five cents and each apple costs five cents, how many apples can I buy?** 9
- **How do you know?** divide 45¢ by 5¢

Change the equation on the board so it looks like this:

x apples × *5¢* ÷ *5¢* = *45¢* ÷ *5¢*.

- **Did you just use an inverse operation?** yes

Show students how the inverse operation isolated the variable on the left side:

x apples = *45¢* ÷ *5¢*.

- **Did we isolate the variable?** yes
- **What does *x* equal?** 9

Give each student five index cards. Have them write the following words, each to its own card, in large lettering: *coefficient, constant, variable, expression, equation*. Write an equation on the board; for example $3x + 9 = 18$. As you underline a component of the equation (or the whole equation), have students hold up the appropriate card. Turn this activity into a competition between two teams of players. Encourage language such as *3 is a coefficient, 3x is an expression,* and so on.

Teacher Note

Inverse operations are important in the study of algebra. Division is the inverse of multiplication. Subtraction is the inverse of addition. Cognates take advantage of what students and their families may know in their home language in order to accelerate the acquisition of math concepts in English. Spanish cognates include inverse/inverso, operation/operación, division/división, multiplication/multiplicación, subtraction/sustracción, and addition/adición.

Progress Monitoring

If…	Then…
students have the mathematical idea but struggle with the language,	allow them to answer with thumb-up/down or one word, but continue to model simple but complete sentences as answers.

3 REFLECT

Extended Response

- **Define *isolated*.**
- **Give an example of something that is isolated.**
- **Do you think algebra is easy or difficult? Why?**

Encourage student discussion of these questions and answers.

Progress Monitoring

If…	Then…
students think algebra is easy,	challenge them to create a story problem for the equation $2x + y = 35$.

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 following equation on the board: $4x + 29 = 49$.
- Have students identify the variable, constants, and coefficient.
- Have students tell which inverse operations are necessary to isolate the variable.
- Have students solve for x.

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)

Week 4

Objective

Students will learn some language associated with the problem-solving skill *working backward.*

Vocabulary

- **inverse operation** An operation that undoes the results of another operation

Materials

Program Materials
Vocabulary Card: *inverse operations*

Additional Materials
- analog clock with moveable hands
- play money

1 WARM UP

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

Show students the *inverse operations* ***Vocabulary Card.*** Have volunteers tell the inverse operation of each: addition, subtraction, multiplication, and division. Then have another volunteer give a mathematical example.

Tell that *inverse* means *opposite.* Have students name opposites in non-mathematical contexts, such as putting on and taking off a pair of shoes or turning on and turning off a light. How many can they come up with?

2 ENGAGE

Demonstrate the meaning of *backward*. Make time move backward on a manipulative analog clock. Walk backward. Pretend to read a book from end to beginning.

▶ **Did I do these things from beginning to end or from end to beginning?** end to beginning

Discuss what it means to work backward to solve a problem. Tell students that this involves starting from the end of the problem and working towards the beginning.

Show students $12 in play money. On the board, write:

$???

−$30 gas
−$ 3 lunch
$12

▶ **I have $12 now. How much did I have this morning?** Students should not know how much you had this morning, but they can work backward to find out.

Tell student that to work backward, they need to do the opposite of what they would usually do. Since they subtracted the money they paid for gas and lunch, they should now do the opposite, or add, in order to work backward.

▶ **What is the inverse operation for subtraction?** addition

▶ **Let's add $3 to $12. What is the sum?** $15

▶ **Now let's add $30 to $15. What is the sum?** $45

▶ **How much did I have this morning?** $45

▶ **Did we work from the end to the beginning?** yes

▶ **Did we work backward?** yes

Repeat with other examples.

Teacher Note

Explain that the prefix *un-* means "not." Discuss the meanings of words with the prefix *un-*, such as *unlaced, unmasked, unplugged,* and *unorganized*. In mathematics, an *unknown* represents a quantity that is not known. An unknown is represented by a variable. To *undo* an operation is to do the inverse operation.

Progress Monitoring

If… students could use more practice with the concept of working backward,

Then… continue with the money theme, and have them solve the mystery, "Where did I spend my money?" Give them an ending amount and the prices of several items they have "bought" today. Have them discover their starting amount.

3 REFLECT

Extended Response

- **Define *undo*.**
- **What are some things we undo?**
- **How is working backward helpful?**

Encourage student discussion of these questions and answers.

Progress Monitoring	
If… students hesitate to speak but it is obvious they know an answer,	**Then…** have them use gestures or pictures to convey their 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.

- Write $4x = 28$. Ask students to identify the inverse operation that will isolate the variable.
- Have students solve for x.

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)

Week 5

Objective

Students can understand the meanings and symbols of the terms *inequality, greater than, less than,* and *not equal to.*

Vocabulary

- **greater than (>)** Larger in number or measure
- **inequality** A number sentence stating that two quantities are not equal; relation symbols for inequalities include <, (is less than), > (is greater than), and ≠ (is not equal to)
- **less than (<)** Smaller in number or measure
- **not equal to (≠)** Not having the same value

Materials

Additional Materials

- balance scales
- magnetic number lines and chips

1 WARM UP

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

Show students a balance scale.

► **What is this called?** a balance scale

► **What does it tell us?** if items are equivalent, or equal, to each other

Have students brainstorm a list of classroom objects that are not equivalent.

2 ENGAGE

Put a book on one side of the scale and a pencil on the other.

► **Are these things equal?** no

Write *inequality* on the board, and have students talk about what its definition must be. They may point out that while it includes the word *equal,* the prefix *in-* means "not." Say *inequality,* and have students repeat the word. Draw the inequality symbol (≠) on the board.

Return to the example of inequality using the book and pencil. Write *book* > *pencil* on the board. Tell students that the > symbol means "greater than." Say *the weight of the book is greater than the weight of the pencil,* and have students repeat the sentence.

Repeat the activity for *pencil* < *book*.

Organize students into pairs. Distribute a magnetic number line to each pair and one magnetic chip to each student. Tell students that one of them will put their chip on the number line, and partners will make inequality statements about the placement of the chip. For example, if Student A marks the number line at 27, Student B might say "27 is greater than zero" or "the number 3 is less than 27."

Teacher Note

If students master inequality statements with numbers, challenge them to create algebraic statements containing inequalities. For additional vocabulary practice, have students write story problems to illustrate the algebraic statements.

3 REFLECT

Extended Response

- **What does *inequality* mean?**
- **Is it fair if things are not equal?**
- **Give an example of inequality. Write an example on the board. Use symbols.**
- **What does *greater than or equal to* mean?**

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.

- Point out an integer on a number line, and have students make up an inequality statement using that integer.
- Have students discuss how *not equal to* is related to *greater than* and *less than*.

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)

Week 6

Objective

Students will practice comparing rational numbers and will learn the term *inequality.*

Vocabulary

inequality A number sentence stating that two quantities are not equal. Relation symbols for inequalities include < (is less than), > (is greater than), and ≠ (is not equal to).

Materials

Program Materials

Vocabulary Cards: *integer, fraction, decimal, positive number, negative number, variable, coefficient, constant*

Additional Materials

- container
- small sticky notes

1 WARM UP

Write an expression on the board; for example $4x = y$. Show students the *variable, coefficient, constant, expression,* and *equation* ***Vocabulary Cards.*** Have volunteers identify each one on the board.

- ► **What if $x = 7$? What does y equal?** 28
- ► **How do you know?** Tell students that when they replace a variable with a value, they *substitute* the value. Say *substitute* and have students repeat. Write *substitute* on the board. Repeat for other values of *x*.

2 ENGAGE

Show students ***Vocabulary Cards:*** *integer, fraction, decimal, positive number, negative number.* Have students say the words, and have volunteers give examples.

Draw a number line on the board. Label the number line from −10 to 10 with zero in the center. Write the numbers 1 through 10 and −1 through −10 on sticky notes. Also write five fractions and five decimals—some positive, some negative. Place all sticky notes in a container. Have the first student draw a sticky note and show it to the class.

- ► **Is this number a positive number or a negative number? Is this an integer, fraction, or decimal?**

Have the student mark the number line in the correct place with the sticky note for that number. If the number is a fraction or decimal, have the student move the note to the approximate place on the number line. Continue this activity until all the numbers have been used.

Review the meaning of the symbols for *greater than* and *less than:* > and <. Write *3.44 O 4.33* on the board. Point to both sides of the circle.

- ► **Are these sides equal?** no

Tell students that this is an example of an *inequality*. Say *inequality* and have students repeat. Write *inequality* on the board. Have students select the proper symbol to put in the circle (<).

Write $3x < y$ on the board. Point to both sides of the <.

- ► **Are these sides equal?** no **Is this an inequality?** yes
- ► **Substitute 3 for *x*. What is the inequality now?** $9 < y$
- ► **Are 9 and *y* equal?** no
- ► **Is 9 greater than *y*?** no **Is 9 less than *y*?** yes

Write the symbols ≥ and ≤ on the board. Introduce and model: *greater than or equal to* and *less than or equal to.* Have students repeat. Point out the little line under the symbols and tell students to think of that little line as part of an equal sign.

Teacher Note

When doing an activity that involves one student at a time (as in the first Engage activity), maximize speaking time for the rest of the students by allowing them to "assist" the first student in performing a task. Students in the audience will have to practice using clear and concise language, while the student who is performing the task will need to practice good listening skills.

Progress Monitoring

If… students can use more practice verbalizing inequalities,	**Then…** use a set of playing cards. Turn over two cards at a time and have students describe the relationship as *greater than, less than,* or *equal to.*

Using Student Worksheets

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

Beginning, p. 70

Intermediate, p. 71

Advanced, p. 72

3 REFLECT

Extended Response

- ▶ **What does *inequality* mean?**
- ▶ **Why is it useful to understand inequality?**
- ▶ **Write an example of an inequality on the board. Describe it.**

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.

- Write $\frac{6}{7}$ O $\frac{2}{7}$. Have students insert the proper symbol: $>$ or $<$. Then have them say the sentence to describe the inequality using *greater than* or *less than*.
- Write $b + 2 \geq 18$. Have students express this inequality in words.

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

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

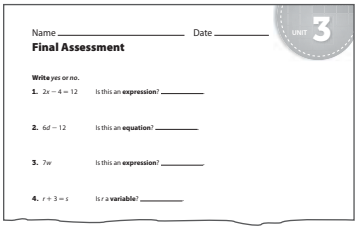
The student knows the word but does not know its meaning. (2 points)

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

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

Final Assessment

Distribute a copy of the Final Assessment, p. 73, to each student. Use the following rubric to determine each student's level of English development.


Name _____ Date _____
UNIT 3
Final Assessment

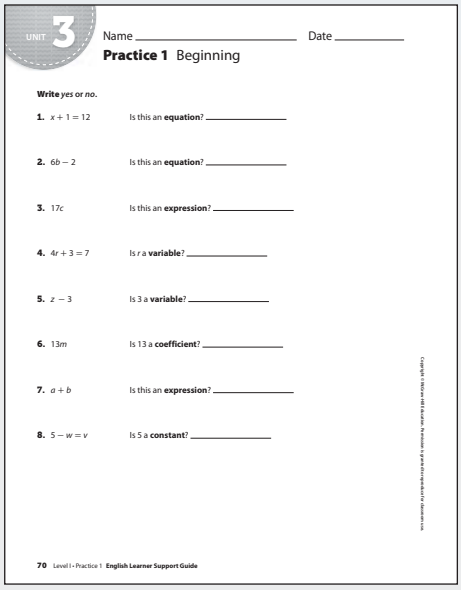
Write *yes* or *no*.

1. $2x - 4 = 12$ Is this an **expression**? _____
2. $6d - 12$ Is this an **equation**? _____
3. $7w$ Is this an **expression**? _____
4. $r + 3 = s$ Is r a **variable**? _____

Final Assessment, p. 73

- **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 141, to record the assessment results.

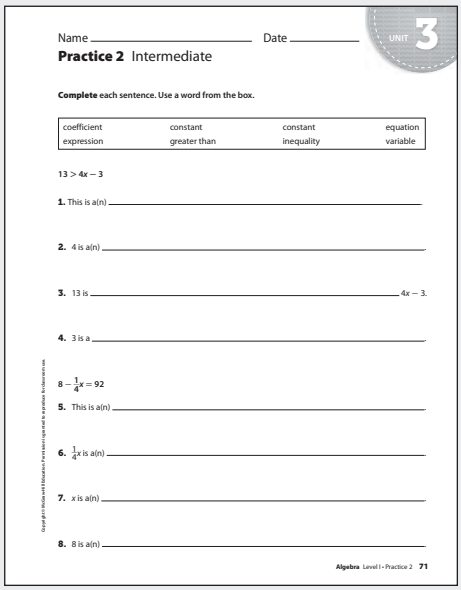

UNIT 3
Name _____ Date _____
Practice 1 Beginning

Write *yes* or *no*.

1. $x + 1 = 12$ Is this an **equation**? _____
2. $6b - 2$ Is this an **equation**? _____
3. $17c$ Is this an **expression**? _____
4. $4r + 3 = 7$ Is r a **variable**? _____
5. $z - 3$ Is 3 a **variable**? _____
6. $13m$ Is 13 a **coefficient**? _____
7. $a + b$ Is this an **expression**? _____
8. $5 - w = v$ Is 5 a **constant**? _____

70 Level I • Practice 1 **English Learner Support Guide**

Practice 1, Beginning, p. 70


Name _____ Date _____
UNIT 3
Practice 2 Intermediate

Complete each sentence. Use a word from the box.

coefficient	constant	constant	equation
expression	greater than	inequality	variable

$13 > 4x - 3$

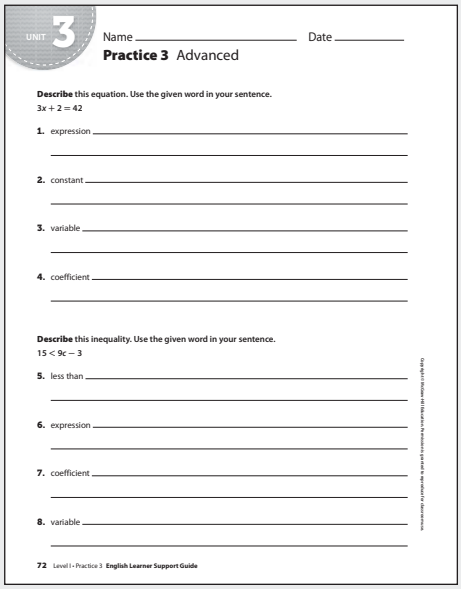
1. This is a(n) _____
2. 4 is a(n) _____
3. 13 is _____ $4x - 3$.
4. 3 is a _____

$8 - \frac{1}{4}x = 92$

5. This is a(n) _____
6. $\frac{1}{4}x$ is a(n) _____
7. x is a(n) _____
8. 8 is a(n) _____

Algebra Level I • Practice 2 **71**

Practice 2, Intermediate, p. 71


UNIT 3
Name _____ Date _____
Practice 3 Advanced

Describe this equation. Use the given word in your sentence.
$3x + 2 = 42$

1. expression _____
2. constant _____
3. variable _____
4. coefficient _____

Describe this inequality. Use the given word in your sentence.
$15 < 9c - 3$

5. less than _____
6. expression _____
7. coefficient _____
8. variable _____

72 Level I • Practice 3 **English Learner Support Guide**

Practice 3, Advanced, p. 72

UNIT 3

Name _____ Date _____

Practice 1 Beginning

Write *yes* or *no*.

1. $x + 1 = 12$ Is this an **equation**? _____

2. $6b - 2$ Is this an **equation**? _____

3. $17c$ Is this an **expression**? _____

4. $4r + 3 = 7$ Is r a **variable**? _____

5. $z - 3$ Is 3 a **variable**? _____

6. $13m$ Is 13 a **coefficient**? _____

7. $a + b$ Is this an **expression**? _____

8. $5 - w = v$ Is 5 a **constant**? _____

Name _____ Date _____

UNIT 3

Practice 2 Intermediate

Complete each sentence. Use a word from the box.

coefficient	constant	constant	equation
expression	greater than	inequality	variable

$13 > 4x - 3$

1. This is a(n) _____.

2. 4 is a(n) _____.

3. 13 is _____ $4x - 3$.

4. 3 is a _____.

$8 - \frac{1}{4}x = 92$

5. This is a(n) _____.

6. $\frac{1}{4}x$ is a(n) _____.

7. x is a(n) _____.

8. 8 is a(n) _____.

UNIT 3

Name _____ Date _____

Practice 3 Advanced

Describe this equation. Use the given word in your sentence.

$3x + 2 = 42$

1. expression _____

_____

2. constant _____

_____

3. variable _____

_____

4. coefficient _____

_____

Describe this inequality. Use the given word in your sentence.

$15 < 9c - 3$

5. less than _____

_____

6. expression _____

_____

7. coefficient _____

_____

8. variable _____

_____

Name _____ Date _____

UNIT 3

Final Assessment

Write *yes* or *no*.

1. $2x - 4 = 12$ Is this an **expression**? _____.

2. $6d - 12$ Is this an **equation**? _____.

3. $7w$ Is this an **expression**? _____.

4. $r + 3 = s$ Is r a **variable**? _____.

Choose the correct word to complete the sentence.

$23 > 4x - 5$

5. This is a(n) _____. inequality equation

6. $4x$ is a(n) _____. equation expression

7. x is a(n) _____. constant variable

8. 5 is a(n) _____. constant coefficient

LEVEL I

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