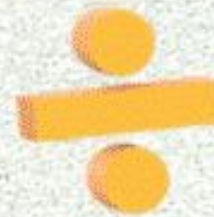


To Infinity and Beyond! Boost Your ELL Learners' Academic Vocabulary



Finding Equals

Grades
3–5
Lesson

Preparation Note: Prior to the lesson, copy and cut out the *Fraction Word Pyramid Cards*, one set per student.

Unit of Study

Equivalent Fractions

Standards

Speaking and Listening Standard:

Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion)

Content Standard: Recognize and generate simple equivalent fractions (e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$). Explain why the fractions are equivalent

Procedure

1. Discuss the concept of equivalent fractions with the class. Visually demonstrate how $\frac{1}{2}$ is equivalent to $\frac{2}{4}$ by drawing three rectangles on the board. Divide one rectangle into halves and shade one half. Divide the other rectangle into fourths and shade in two of the quarters. Have students help you create another equivalent fraction to $\frac{1}{2}$ by dividing the last rectangle into sixths and shading in three of the pieces.
2. Distribute a set of *Fraction Word Pyramid Cards* to each student.
3. Tell students that they will create lists of fractions, five for each card, which contain fractions that are equivalent to the fraction noted at the top of the card. For example:

Category: Fractions Equivalent to $\frac{1}{2}$

List of Related Terms/Words:

- $\frac{2}{4}$
- $\frac{3}{6}$
- $\frac{5}{10}$
- $\frac{10}{20}$
- $\frac{12}{24}$

Materials

- *Fraction Word Pyramid Cards* (pages 49–51)
- markers, crayons, or colored pencils

1. When students have completed brainstorming and writing their fractions on each card, divide the class into groups of 3 to 4 students. Assign one student per group to be the caller.

Finding Equals *(cont.)*

- Using the *Fraction Word Pyramid Cards* students created, have the first caller of each group select one template, and say to the group, "These are fractions that are equivalent to _____." The caller then describes each of the fractions on his or her list using words and gestures, and the other group members try to guess the word. For example, for the fraction $\frac{1}{2}$, the caller might say "This fraction has a denominator that is an even number less than five." The group keeps guessing until they guess the fraction $\frac{1}{2}$. Once the group has guessed all of the fractions on the caller's card, the next group member shares his or her first *Fraction Word Pyramid Card*.
- Continue to rotate the caller until all of the cards have been played.

Differentiation

The following are some suggestions for differentiation within the classroom:

Advanced English Language Learners

After a *Word Pyramid* card has been completed, challenge the group to come up with additional equivalent fractions and use them in a complete sentence.

Intermediate English Language Learners

In order to get credit for guessing the word on the *Word Pyramid* card, have students use it in a logical sentence. For example, "Three is one half of six."

Beginning English Language Learners

Have students work in pairs to create their *Word Pyramid* cards. Have each pair play as a team against another pair of students.

Fraction Word Pyramid Cards *(cont.)*

Category: $\frac{1}{4}$

List of Related Terms/Words:

Category: $\frac{1}{5}$

List of Related Terms/Words:

Mystery Bags

Standards

Grades 1–2 (McREL Language Arts Standard 8.5)

Grades 3–5 (McREL Language Arts Standard 8.6)

Grades 6–8 (McREL Language Arts Standard 8.5)

Background Information

What Is It?

The Mystery Bags strategy (Yopp, Yopp, and Bishop 2009) helps students develop oral language skills by sparking conversations about a topic. The teacher fills a paper bag with objects that relate to an upcoming lesson or unit. As the teacher pulls each object from the bag, students identify and discuss it. They are encouraged to draw upon their experiences with or knowledge about the object. For example, if a thermometer is drawn from the bag, students would name the object and discuss its use. This process is repeated with a second object in the bag. Then students try to figure out how the two objects are related and why both items are in the same bag. This process continues with all of the objects in the bag.

When Do I Use It? Why Do I Use It?

The Mystery Bags strategy should be used at the beginning of a unit to activate prior knowledge and build background knowledge. Real objects, not just pictures, are used so that students can see and touch them. This hands-on, kinesthetic activity is excellent for English language learners because it provides them with objects to connect to the words they are learning. The mystery about the objects in the bag, the opportunity to see and touch the items, and the time given to discuss them generates great interest in a new topic.

Materials

- paper bag filled with items related to an upcoming unit of study

Directions for the Teacher

1. Read the strategy steps for your grade span (grades 1–2, grades 3–5, or grades 6–8).
2. Refer to the example provided for your grade span. You may also refer to the examples from other grade spans to see how the strategy can be used with different vocabulary words, at different grade levels, and for various units of study.
3. Choose the general academic and/or specialized content words you want to focus on in your mathematics lesson. You can refer to your content standards or textbook as a guide. Or, refer to the appendices for lists of suggested specialized content and general academic words to help you plan your lessons.
4. Teach the strategy as outlined, using the words you have chosen. Refer to the Differentiation section for strategies for meeting the needs of all learners.

Grades 3–5

Unit of Study: Money

McREL Mathematics Standard 3.8

Strategy in Action: How Does It Work?

- To prepare for this lesson, decide on the topic of focus for the mystery bag. Gather objects related to the topic and place these items in a bag. Make a list of vocabulary words that you want students to know, based on the topic. These can be specialized content (SC) and/or general academic (GA) words.

In this sample lesson, the teacher is introducing a unit on money and selects the following specialized content (SC) words:

SC	cent	dollar	decimal point	dollar sign
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- To begin the lesson, gather students so they can all easily see the mystery bag. Don't tell students the new topic of study. This is what keeps the "mystery" and keeps it exciting!
In this sample lesson, the teacher has placed the following items inside the mystery bag: a quarter; a dollar bill; and an index card with \$1.25 written on it.
- Pull one object from the bag. Ask students to identify the object. Then encourage students to describe the object and explain what they know about it. Students should draw upon their experiences with and/or knowledge about the object. Pass the object around so that all students can see and touch it.
In this sample lesson, the teacher pulls the first object (a quarter) from the bag and passes it around the class. Then the teacher calls on several students to identify and describe the object—what it is, how it is used, how much it is worth, who uses it. When students seem to run out of ideas, the teacher uses prompting questions to help them share more of their background knowledge.
- Remove a second object from the bag and pass it around the class. Ask students to identify the object. Then encourage students to describe the object. This time, ask students to try to explain how the two objects are related.
In this sample lesson, the teacher pulls the second object (a dollar bill) from the bag and passes it around the class. The students tell what they know about it (e.g., is money, is made from paper, is used to buy things). Then students explain how the two objects are related (e.g., different types of money).

5. Continue this discussion until all of the objects have been pulled from the bag, passed around, named, and discussed. Be sure to encourage students to ask questions about the objects, too. Record the list of questions on the board.
In this sample lesson, students' questions include the following: What are different types of money? How many quarters equal a dollar? What other coins can be used to add up to a dollar?
6. Ask students to try to name the new topic of study, based on the collection of objects. Once the topic has been identified, write this topic on the board. Then review each object in the bag and name the academic vocabulary word(s) associated with it.
In this sample lesson, students determine that the new topic of study is money, which the teacher writes on the board before discussing the academic vocabulary words related to the objects in the bag.
7. Finally, ask students to brainstorm other vocabulary words associated with this topic, using the objects from the bag for ideas. Write the words students come up with on the board and use the list as a reference throughout the unit.
In this sample lesson, students come up with a list of the following words: *currency*, *profit*, *addition*, *income*, *computation*, and *word problems*.

Example

- a quarter (*cents*)
- a dollar bill (*dollars*)
- an index card with \$1.25 written on it (*decimal point*, *dollar sign*)

Differentiation

Above-Level Learners

Ask students to sort and classify the objects into subgroups and then explain their reasoning for sorting this way. Ask students what other objects could be added to the bag and to describe why these additional items make good connections.

English Language Learners

Pass around the objects from the bag. As each student holds an object, say the name of the object. Ask students to repeat the name of the objects. Then use the name of each object in a sentence and ask students to repeat after you.

Below-Level Learners

Work with a small group of students to provide additional background information about the unit of study. Read a book with strong picture connections to explain the topic.

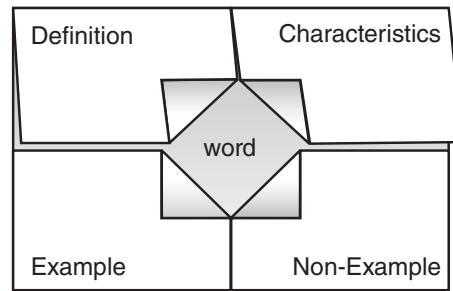
Frayer Model Lesson Framework (cont.)

Materials

- 8.5" × 11" paper of different colors
- markers
- scissors
- stapler or glue plus small scraps of colored paper for book binding
- each student's interactive notebook

Procedures

1. Distribute 3–5 sheets of different colored paper to each student. Students will need one sheet of paper for each vocabulary word that you wish to teach in the lesson.
2. Have students fold the paper in a horizontal fold.
3. Have students open the paper back up to 8.5" × 11" size and hold the paper in landscape layout. Fold in each side of the paper to the creased fold to create a "shutter doors" fold.
4. While the "shutter doors" are still folded inward, instruct students to cut both of the shutter doors in half to create four flaps. While still folded, have students flip up, or dog ear, the four center corners of each flap to create a diamond-shaped window in the center of the paper. Then, have students write one of the assigned vocabulary words in the window.
5. With the flaps folded down, students should write on the top of the four "shutter door" flaps the following:
 - Top left flap: *Definition*
 - Top right flap: *Characteristics*
 - Bottom left flap: *Example*
 - Bottom right flap: *Non-Example*
6. Under each flap, students should write the following:
 - *Definition*: Students create their own definition of the vocabulary word.
 - *Characteristics*: Students write adjectives that describe the vocabulary word. For primary grades, you may ask for synonyms under this flap.
 - *Example*: Students write examples of the vocabulary word. This could include illustrations, pictures, or statements.



Frayer Model Lesson Framework *(cont.)*

- *Non-Example:* Students write non-examples that demonstrate what the vocabulary word is not. Remind students that a non-example should be meaningful and not random. One way to come up with a non-example is to think of the opposite of the example. You may need to model this for students.
7. Repeat Steps 2–6 for each of the vocabulary words.
 8. Have students fold each of the Frayer Model booklets back over the horizontal fold that they made in Step 2, and then lay the books out in alphabetical order of the vocabulary words. Students will number the booklets from left to right.
 9. Students should then stack the booklets one on top of the other so all the folds are on the left and all of the open ends are on the right. Booklet #1 should be on top, then booklet #2, #3, and so on for all of the booklets that students have created.
 10. Direct each student to attach the booklets together either with glue or staples. To glue the booklets together, create a binding for the booklet using the scraps of paper.
 11. Students can then create a title for the book and write it on the front cover of the stacked booklets. The title should be the common topic for all the vocabulary words. You may wish to provide students with sample titles or brainstorm ideas together.
 12. Have each student then attach the booklet to the next blank Lesson Input page of their interactive notebook.

Assessment

For primary students, ask them to look at the words included in their Frayer Model booklet. Direct students to the Student Output page of their interactive notebook for this lesson where they will write one thing they have learned about the content taught. Then, students should review their booklet with a partner. As the partners talk to one another, listen for the correct use of the new vocabulary in the students' dialogue.

For older students, have them turn to the Student Output page of the notebook for this lesson. They should then write a summary of the topic using the vocabulary words in the Frayer Model booklet. Assess students by checking their understanding of the topic through the correct explanation and usage of the vocabulary words in their examples.

Shapes Are Everywhere!

Grades K–2

Standards

- Understands basic properties of simple geometric shapes and similarities and differences between simple geometric shapes (McREL 5.1)
- Students will use English to obtain, process, construct, and provide subject matter information in spoken and written form (TESOL 2.2)

Materials

- *Shapes Cutout* (page 91); one copy per student
- *Frayer Model Template* (pages 89–90); several copies per student
- 8.5" × 11" colored paper; five sheets per student
- markers
- scissors
- stapler or glue plus small scraps of colored paper for book binding
- each student's interactive notebook

Procedures

1. Distribute a *Shapes Cutout* (page 91) handout to each student. Have students color and cut out the triangle. Then, have them choose four additional shapes from the handout and then color and cut them out. Each student should have five shapes total.
2. Distribute five sheets of different colored paper to each student. Each student will need one sheet of paper for each vocabulary word.
3. Distribute the *Frayer Model Template* (pages 89–90) to each student. While the “shutter doors” are still folded inward, instruct students to cut both of the shutter doors in half to create 4 flaps. You may need to monitor students closely as they complete this step to ensure that they make this cut correctly.
4. While still folded, have students flip up, or dog ear, the four center corners of the four flaps to create a diamond-shaped window in the center of the paper. Have students write the word *triangle* in the window.

Shapes Are Everywhere! (cont.)

5. Use the vocabulary term *triangle* to model for students how to complete the Frayer Model. Under each flap write the following:
- **Definition:** Think aloud the process for developing your own definition for this vocabulary term. In this flap, write the following definition for a triangle: *A shape with three sides.*
 - **Characteristics:** Explain to students that they will write adjectives that describe a triangle in this flap. Model for students how to do so by writing the following characteristics of a triangle: *Straight sides, no curves, closed shape.*
 - **Example:** Direct students to glue the shape of the triangle under the *Example* flap. Students can also draw a picture of a real-life object that is shaped like a triangle.
 - **Non-Example:** Have students draw or glue a picture of a shape that is not a triangle to demonstrate what the vocabulary word is not. Model for students how to consider why another shape is not a triangle. For example, draw a square in this flap as a non-example. Explain to students that this is a non-example of a triangle because it is a shape with four sides, not three.
6. Repeat Steps 3–5 for each of the remaining shapes that students cut out. Based on students' readiness, this can be completed as guided practice or independently.
- Differentiation Tip

For each vocabulary term in this lesson, you can have the definition, characteristics, example, and non-example pre-printed and cut into strips for students. You can distribute these to certain students who will then glue the strips under the correct flap rather than write them in.
7. Have students fold each Frayer Model booklet back over the horizontal fold that they made in Step 3, and then guide students in laying the books out in alphabetical order of the vocabulary words. Next, have students number the booklets from left to right, 1–5.
8. Show students how to stack the booklets one on top of the other so all the folds are on the left and all of the open ends are on the right. Booklet #1 should be on top, then booklet #2, #3, #4, and #5.

Shapes Are Everywhere! *(cont.)*

9. Direct students to attach the booklets together either with glue or staples. To glue the booklet together, create a binding for the booklet using the scraps of paper.
10. Have students write the title for the book, *Shapes*, on the front cover of the stacked booklets. Students can then attach the booklet to the next blank Lesson Input of their interactive notebooks.

Assessment

Ask students to look at the shape words in their Frayer Model book. Direct students to the Student Output page of their interactive notebook for this lesson, where they will write one real-world connection that they can make to one of the shapes that they learned about. For example, if a student recognized the triangle as a yield sign, then they can draw a yield sign on the facing page. Then, have students review their booklet and real-world connection with a partner. As partners are talking to one another, listen for the correct use of the content-area and academic vocabulary in the students' dialogue as they discuss the shapes, its characteristics, examples, etc. The key is for students to be able to use their own words to talk about the different shapes and relate some of those shapes to the real world.

Name: _____ Date: _____

Frayer Model Template

Directions: Cut along the dotted lines to create your template.

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Frayer Model Template *(cont.)*

Definition	Characteristics
Non-Example	Example

Name: _____ Date: _____

Shapes Cutout

Directions: Color and cut out the shapes below.

