

Ordering Fractions, Decimals, and Percents

Strand:	Number and Number Sense
Topic:	Ordering fractions, decimals, and percents
Primary SOL:	7.1 The student will c) compare and order rational numbers.
Related SOL:	7.2, 7.3

Materials

- Fractions, Decimals, and Percents Chart (attached)
- Activity Sheets 1–5 (attached)
- Glue sticks
- Scissors

Vocabulary

decimal, fraction, greatest, least, percent (earlier grades)
rational numbers (7.1)

Student/Teacher Actions: What should students be doing? What should teachers be doing?

1. Place students in pairs. Review converting among fractions, decimals, and percents. The Fractions, Decimals, and Percents Chart will be useful for this review.
2. Distribute Activity Sheet 1. Ask students to cut out their squares. They should then arrange the squares in ascending order. Have students paste the squares in the proper order on their sheet. Circulate around the room and check in on each group, giving assistance as required.
3. Lead a group discussion on how each group approached their task.
4. Distribute Activity Sheet 2. Ask students to cut out their squares and then arrange the squares in descending order. Have students paste the squares in the proper order on their sheet. Circulate around the room and check in on each group, giving assistance as required.
5. Lead a group discussion on how each group approached their task. Ask, “*Was this sort more difficult? Why?*” “*Did you convert the numbers to the same form?*” “*Did you convert all to percents?*” “*Did you convert all to fractions?*” “*Did you convert all to decimals?*” “*Did you use benchmark fractions for comparison?*”
6. Distribute Activity Sheets 3–5 based upon student readiness. Students should follow the same procedures as before, with a group discussion at the conclusion of the tasks.

Assessment

- **Questions**
 - How are fractions, decimals, and percents related?
 - Do you have to convert all of your numbers to the same form before ordering them? Why, or why not?

- **Journal/Writing Prompts**

- Explain to another student how to order numbers written as fractions, decimals, or percents.
- Explain which sorting activity was the easiest.
- Give examples of when you might use fractions, decimals, and percents in real-life situations.

- **Other**

- Students can create lists of three fractions, decimals, and percents, and ask a partner to place them in ascending or descending order.

Extensions and Connections (for all students)

- Give students an activity sheet with 10 fractions, decimals, and percents to correctly order.
- Students can work individually or in groups to create a deck of equivalent fraction, decimal, and percent cards. Students can use the deck of cards to play War.
- Give each student a card with a rational number on it, and have students create a human number line.

Strategies for Differentiation

- Give students a number line written in tenths, with the numbers labeled in decimal, fraction, and percent form.
- Begin the class with a brainstorming vocabulary activity. Place students in small groups, and have groups brainstorm to identify terms associated with fractions. One person from each group will write a word on the board. The class will discuss whether that word is a pertinent word for fraction and decide whether to accept the word. If it is accepted, each student adds it to their list of words.
- Before this lesson, students will create equivalency cards. Using a sheet of colored paper, label it as 1, $\frac{1}{1}$, and 100%. Use another color, fold the paper in half, and cut on the line. Label each section with the fraction, decimal, and percent. Continue to create equivalencies for one-fourth, one-sixteenth, etc.
- Use grid paper for activity sheets. Students can be encouraged to select a form of conversion to consistently use for comparison.
- On the Fractions, Decimals, and Percents Chart, start with only two columns.
- Provide worked examples of converting among fractions, decimals, and percents with guiding explanations for certain students to use as a reference.

Note: The following pages are intended for classroom use for students as a visual aid to learning.

Fractions, Decimals, and Percents Chart

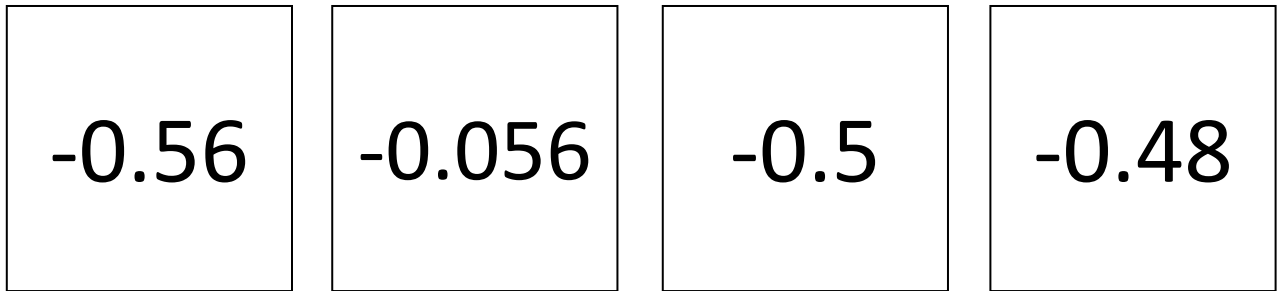
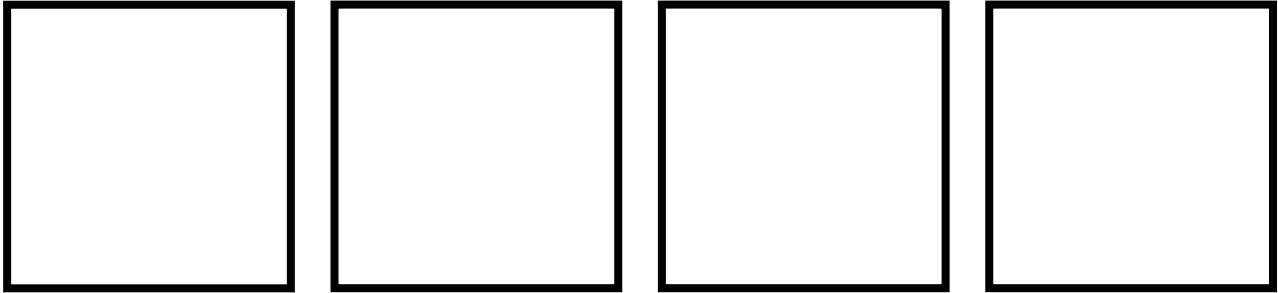
Name _____ Date _____

Fraction	Decimal	Percent
$\frac{7}{28}$		
	0.007	
		125%
$\frac{3}{2}$		
		0.5%

Activity Sheet 1

Name _____ Date _____

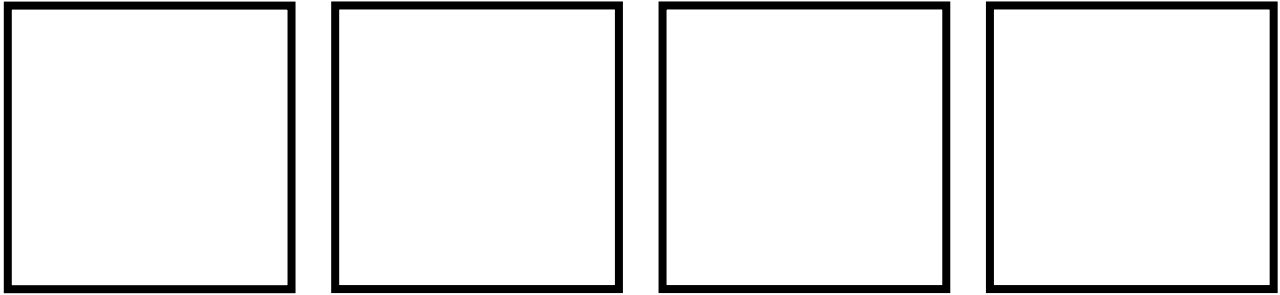
Cut out the squares at the bottom of this sheet. Glue them in the boxes in **ascending** order.



Activity Sheet 2

Name _____ Date _____

Cut out the squares at the bottom of this sheet. Glue them in the boxes in **descending** order.



$$2\frac{4}{7}$$

$$.25\%$$

$$\frac{2}{5}$$

$$\frac{5}{2}$$

Activity Sheet 3

Name _____ Date _____

Cut out the squares at the bottom of this sheet. Glue them in the boxes in **ascending** order.

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$$2\frac{1}{3}$$

$$2.3$$

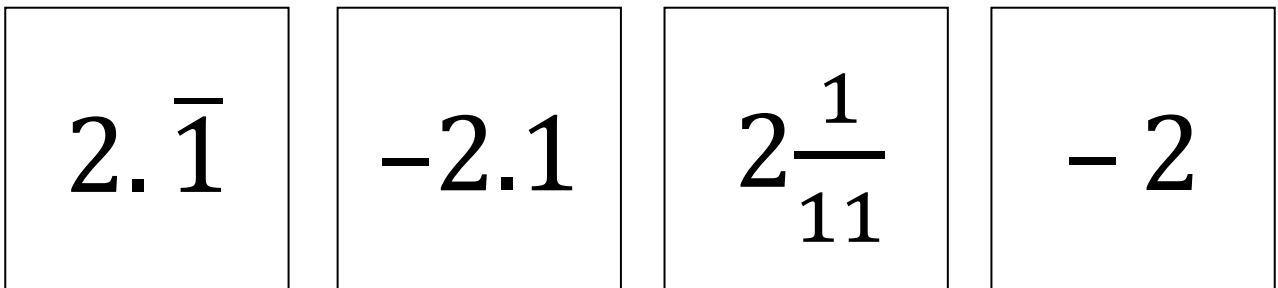
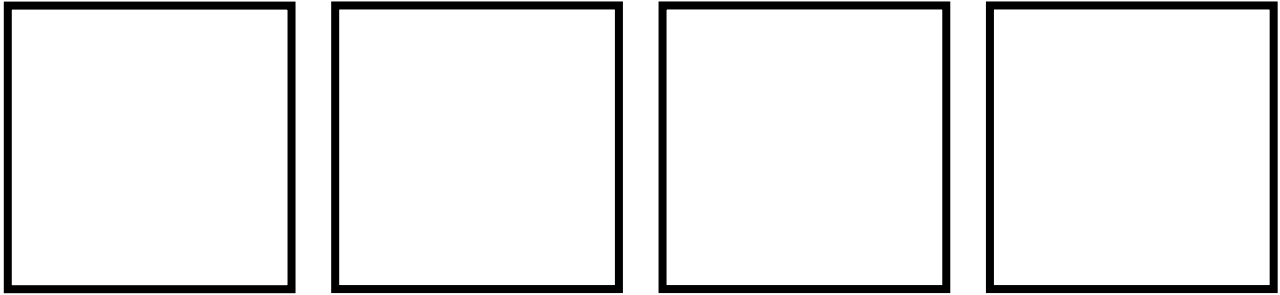
$$23.5\%$$

$$\frac{25}{9}$$

Activity Sheet 4

Name _____ Date _____

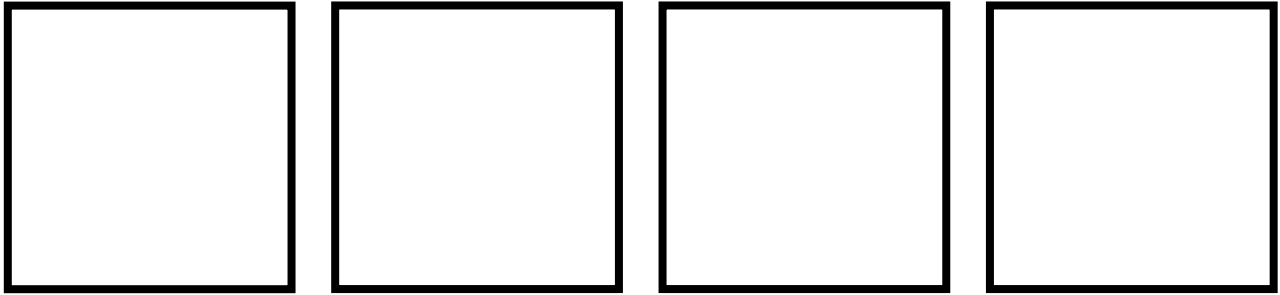
Cut out the squares at the bottom of this sheet. Glue them in the boxes in **descending** order.



Activity Sheet 5

Name _____ Date _____

Cut out the squares at the bottom of this sheet. Glue them in the boxes in **descending** order.



$$\sqrt{25}$$

$$500\%$$

$$-6\frac{3}{8}$$

$$-\frac{25}{4}$$