STAAR® Edition

Closing the Distance

Grade 7 Mathematics

SAMPLE

Teacher Edition

region 4®

Closing the Distance:

Grade 7

Teacher Edition

Product ID:
407- 1878

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Region 4 Education Service Center supports student achievement by providing educational products and services that focus on excellence, service, and children.

Published by
Region 4 Education Service Center
7145 West Tidwell Road
Houston, Texas 77092-2096
www.esc4.net

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ISBN-13: 978-1-945615-37-5

Printed in the United States of America

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Acknowledgments
Region 4 Education Service Center would like to acknowledge the talent and expertise of those who contributed to the development of this book. Their dedication to our core values of excellence in service for children made possible the creation of this resource to assist educators in providing quality, effective instruction for all students.

Authors
Sana Brennan
Sherry Olivares
Yvette Henry
Patti Nicodemo
Kim Seymour
Shelley Bolen-Abbott
Sharon Benson, Ed.D.

Design Team
Dave Martinez

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1. A resource that serves as an intervention for students who are close to success on the State of Texas Assessments of Academic Readiness (STAAR®)

2. A resource that integrates related TEKS to provide a review of mathematics concepts and skills, paired with opportunities for rigorous mathematical discourse

3. A resource of classroom-ready 5E activities that keeps students engaged in a positive, productive manner through strategies, including modeling, card sorts, matching, cooperative learning, and analysis of student work

4. A resource that provides an opportunity for students to track their progress with an analysis of strengths and areas to improve within each lesson

5. A resource that includes a pre-assessment to provide teachers and students quick and timely information on student readiness for the activities in the lesson and identifies students that may benefit from a small-group intervention setting

6. A resource that includes teacher-led interventions for students who may struggle with specific content

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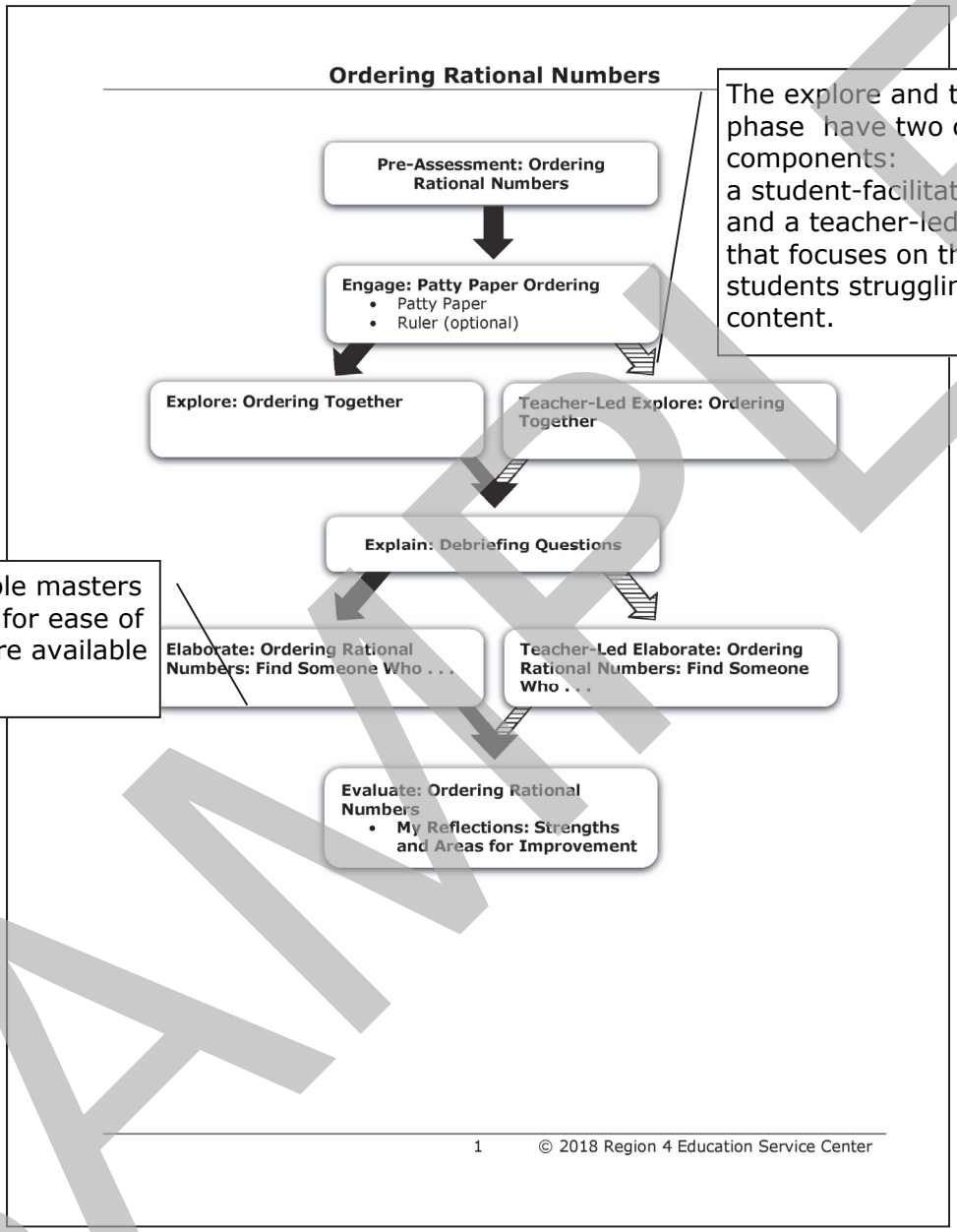
What is in a lesson found in *Closing the Distance*?



The explore and the elaborate phase have two concurrent components:
a student-facilitated activity and a teacher-led intervention that focuses on the needs of students struggling with the content.

Titles of reproducible masters are printed in bold for ease of reference. These are available in digital format.

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Each lesson supports multiple student expectations with a focus on the STAAR® readiness standards. Student expectations are listed at the beginning of each lesson.

Materials for each phase are summarized on one page for ease in preparation.

Ordering Rational Numbers

Phase	Activity Title	TEKS	Additional Materials	Instructional Grouping
Pre-Assessment	**Pre-Assessment: Ordering Rational Numbers**	6(2)(C) 6(2)(D) 6(4)(G)		Individual
Engage	**Patty Paper Ordering**	6(2)(C) 6(2)(D)	• Patty Paper • Ruler (optional)	Individual
Explore Explain	**Ordering Together**	6(2)(C) 6(2)(D) 6(4)(G)		Groups of 2-3 Whole Group
Elaborate	**Ordering Rational Numbers: Find Someone Who . . .**	6(2)(C) 6(2)(D) 6(4)(G)		Groups of 2
Evaluate	**Evaluate: Ordering Rational Numbers**	6(2)(D) 6(4)(G)	• **My Reflections: Strengths and Areas for Improvement**	Individual

Grouping strategies for each phase are summarized to assist in the arrangement of the classroom.

Bold items are reproducible masters.
Italicized items require advanced preparation.

Pre-Assessment: Ordering Rational Numbers

The purpose of this activity is to formatively assess students' understanding of how to compare fractions and decimals and order positive and negative rational numbers using a number line.

The identified activities are recommended for small-group, teacher-led interventions for students who may struggle with the specific content in **Pre-Assessment: Ordering Rational Numbers.**

Content	Teacher-Led Intervention
Comparing and ordering positive rational numbers	**Patty Paper Ordering**
Comparing and ordering negative rational numbers	**Patty Paper Ordering**
Comparing and ordering rational numbers	**Patty Paper Ordering** **Ordering Together**
Comparing and ordering rational numbers in mathematical and real-world contexts	**Ordering Rational Numbers: Find Someone Who . . .**

A focused pre-assessment is provided for each lesson. Tier I intervention activities are identified for use with students who may struggle with the identified content.

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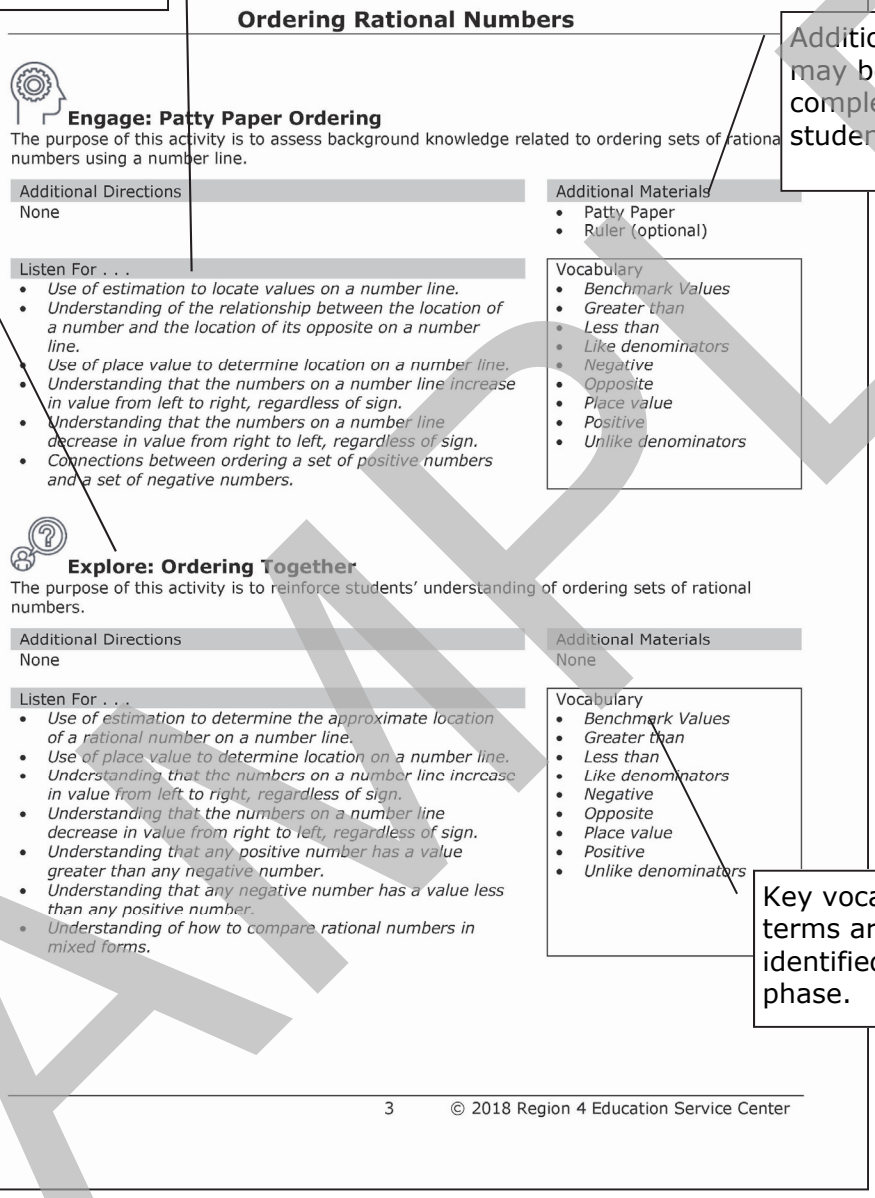
What is in a lesson found in *Closing the Distance*?

Key ideas and concepts to listen for as students complete each phase are listed.

Additional materials may be needed to complement the student pages.

Complete directions are included on each student page. Additional directions are provided for teacher-facilitated aspects of an activity.

Key vocabulary terms are identified for each phase.



Ordering Rational Numbers

Engage: Patty Paper Ordering

The purpose of this activity is to assess background knowledge related to ordering sets of rational numbers using a number line.

Additional Directions	Additional Materials
None	• Patty Paper • Ruler (optional)

Listen For . . .	Vocabulary
• *Use of estimation to locate values on a number line.* • *Understanding of the relationship between the location of a number and the location of its opposite on a number line.* • *Use of place value to determine location on a number line.* • *Understanding that the numbers on a number line increase in value from left to right, regardless of sign.* • *Understanding that the numbers on a number line decrease in value from right to left, regardless of sign.* • *Connections between ordering a set of positive numbers and a set of negative numbers.*	• *Benchmark Values* • *Greater than* • *Less than* • *Like denominators* • *Negative* • *Opposite* • *Place value* • *Positive* • *Unlike denominators*

Explore: Ordering Together

The purpose of this activity is to reinforce students' understanding of ordering sets of rational numbers.

Additional Directions	Additional Materials
None	None

Listen For . . .	Vocabulary
• *Use of estimation to determine the approximate location of a rational number on a number line.* • *Use of place value to determine location on a number line.* • *Understanding that the numbers on a number line increase in value from left to right, regardless of sign.* • *Understanding that the numbers on a number line decrease in value from right to left, regardless of sign.* • *Understanding that any positive number has a value greater than any negative number.* • *Understanding that any negative number has a value less than any positive number.* • *Understanding of how to compare rational numbers in mixed forms.*	• *Benchmark Values* • *Greater than* • *Less than* • *Like denominators* • *Negative* • *Opposite* • *Place value* • *Positive* • *Unlike denominators*

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The explain phase includes debriefing questions to guide class discussion for key understandings and skills found in the activities.

Ordering Rational Numbers

Explain: Debriefing Questions

The purpose of this activity is to highlight key understandings and skills applied in the Explore phase of this lesson.

- How can you determine which benchmark values may be beneficial when using a number line to order a set of rational numbers?
- How did you estimate the placement of values on a number line?
- When you compare two positive values, how can you use a number line to determine the larger value?
- When you compare two negative values, how can you use a number line to determine the larger value?
- When you compare a positive value to a negative value, how can you determine the larger value?

Elaborate: Ordering Rational Numbers: Find Someone Who . . .

The purpose of this activity is to reinforce students' understanding of ordering rational numbers from mathematical and real-world contexts.

Additional Directions
None

Additional Materials
None

Listen For . . .
- *Understanding that numbers may be ordered from least to greatest or from greatest to least.*
- *Use of appropriate benchmark fractions or decimals to determine placement of given numbers on a number line.*
- *Use of equivalent fractions to compare fractions with unlike denominators and to determine placement of given numbers on a number line.*
- *Use of place value to compare decimals and to determine appropriate placement of given numbers on a number line.*
- *Connections between ordering a set of positive numbers and a set of negative numbers.*

Vocabulary
- *Benchmark values*
- *Greater than*
- *Less than*
- *Like denominators*
- *Negative*
- *Place value*
- *Positive*
- *Unlike denominators*

Evaluate: Ordering Rational Numbers

The purpose of this activity is to assess students' understanding of how to convert between fractions and decimals and order a set of rational numbers.

Question	TEKS	Correct Answer
1	6(4)(G)	0.4
2	6(2)(D)	D
3	6(2)(D)	B
4	6(2)(D)	C

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Each selected-response item is labeled with the content student expectation.

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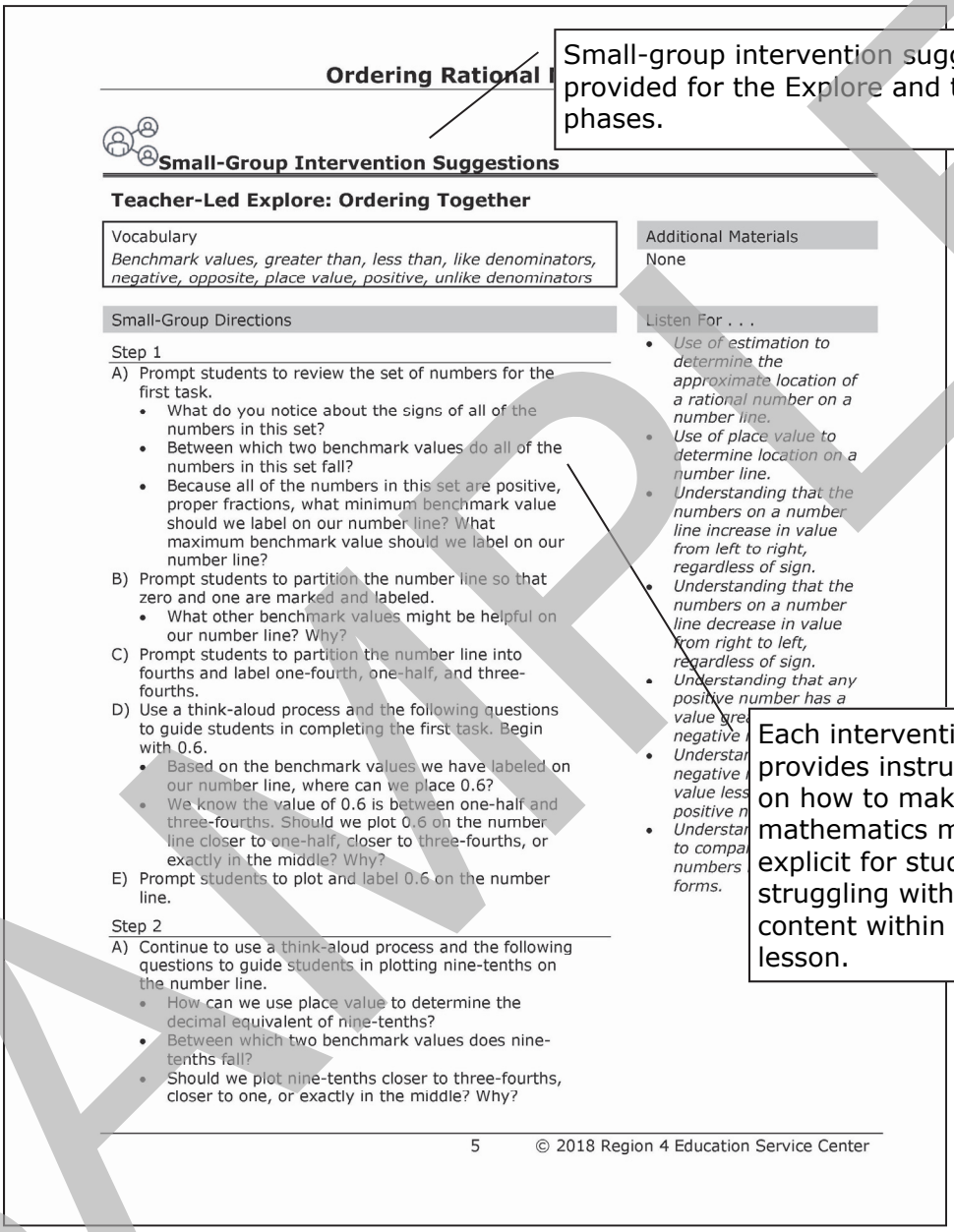

Ordering Rational

Small-Group Intervention Suggestions

Teacher-Led Explore: Ordering Together

Vocabulary
Benchmark values, greater than, less than, like denominators, negative, opposite, place value, positive, unlike denominators

Additional Materials
None

Small-Group Directions

Step 1

A) Prompt students to review the set of numbers for the first task.
- What do you notice about the signs of all of the numbers in this set?
- Between which two benchmark values do all of the numbers in this set fall?
- Because all of the numbers in this set are positive, proper fractions, what minimum benchmark value should we label on our number line? What maximum benchmark value should we label on our number line?

B) Prompt students to partition the number line so that zero and one are marked and labeled.
- What other benchmark values might be helpful on our number line? Why?

C) Prompt students to partition the number line into fourths and label one-fourth, one-half, and three-fourths.

D) Use a think-aloud process and the following questions to guide students in completing the first task. Begin with 0.6.
- Based on the benchmark values we have labeled on our number line, where can we place 0.6?
- We know the value of 0.6 is between one-half and three-fourths. Should we plot 0.6 on the number line closer to one-half, closer to three-fourths, or exactly in the middle? Why?

E) Prompt students to plot and label 0.6 on the number line.

Step 2

A) Continue to use a think-aloud process and the following questions to guide students in plotting nine-tenths on the number line.
- How can we use place value to determine the decimal equivalent of nine-tenths?
- Between which two benchmark values does nine-tenths fall?
- Should we plot nine-tenths closer to three-fourths, closer to one, or exactly in the middle? Why?

Listen For . . .
- *Use of estimation to determine the approximate location of a rational number on a number line.*
- *Use of place value to determine location on a number line.*
- *Understanding that the numbers on a number line increase in value from left to right, regardless of sign.*
- *Understanding that the numbers on a number line decrease in value from right to left, regardless of sign.*
- *Understanding that any positive number has a value gre… negative …*
- *Understan… negative … value less… positive n…*
- *Understan… to compa… numbers … forms.*

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Small-group intervention suggestions are provided for the Explore and the Elaborate phases.

Each intervention provides instructions on how to make the mathematics more explicit for students struggling with the content within the lesson.

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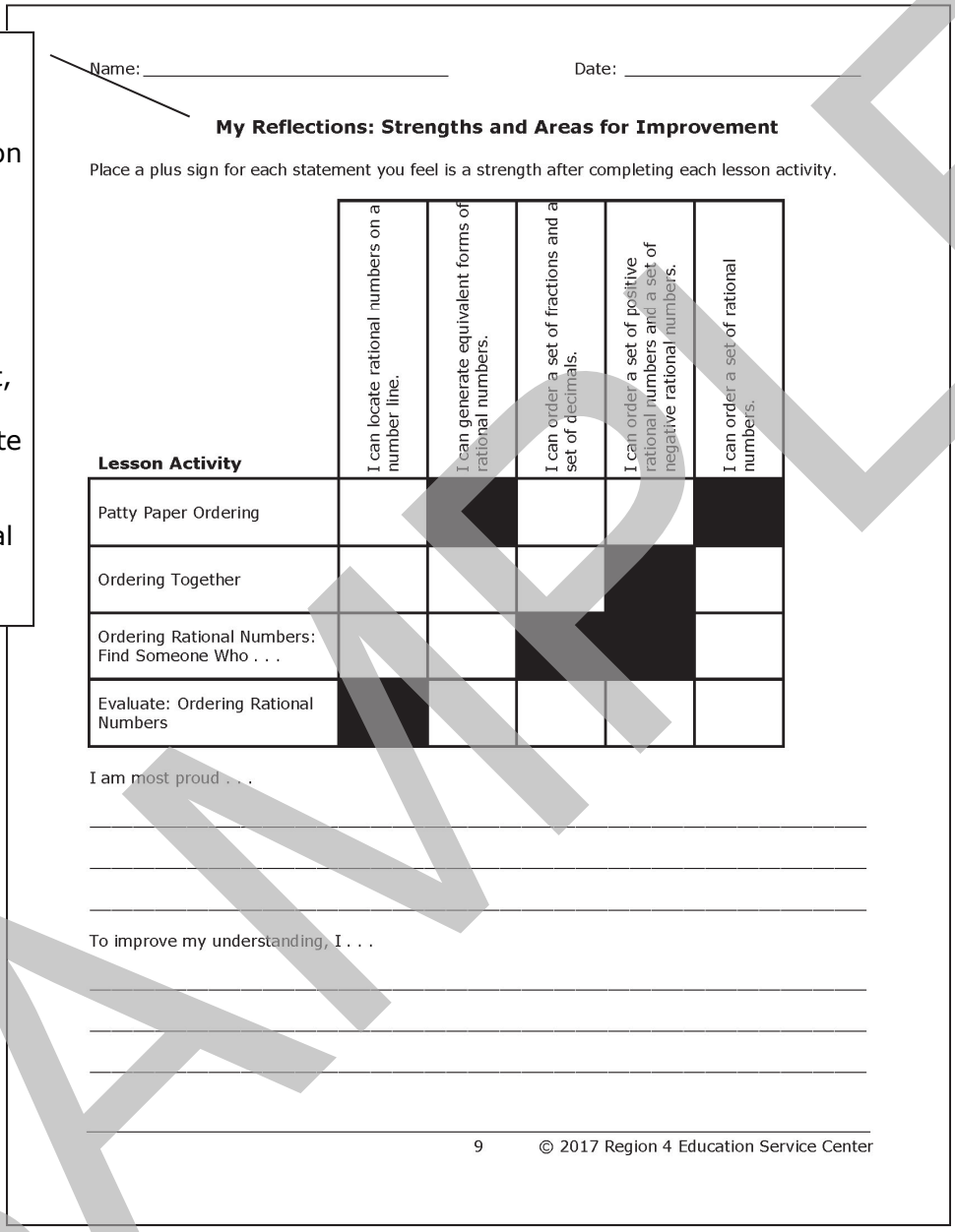
What is in a lesson found in *Closing the Distance*?

Each lesson provides an opportunity for student reflection as the student self-assesses strengths for each phase of the lesson. Following this self-assessment, students are prompted to note what they are most proud of and to set a goal to improve understanding.



Name: _____ Date: _____

My Reflections: Strengths and Areas for Improvement

Place a plus sign for each statement you feel is a strength after completing each lesson activity.

Lesson Activity	I can locate rational numbers on a number line.	I can generate equivalent forms of rational numbers.	I can order a set of fractions and a set of decimals.	I can order a set of positive rational numbers and a set of negative rational numbers.	I can order a set of rational numbers.
Patty Paper Ordering					
Ordering Together					
Ordering Rational Numbers: Find Someone Who . . .					
Evaluate: Ordering Rational Numbers					

I am most proud . . .

_____

_____

_____

To improve my understanding, I . . .

_____

_____

_____

_____

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