



MISSISSIPPI

# EXEMPLAR

Units & Lessons

MATHEMATICS

Grade 4

Grant funded by:



## Lesson 5: Hurdling Through Centers

**Focus Standard(s):** 4.NF.6, 4.NF.7

**Additional Standard(s):** 4.MD.2

**Standards for Mathematical Practice:** SMP.1, SMP.2, SMP.4, SMP.6

**Estimated Time:** 90 minutes (2 days)

**Resources and Materials:**

- Base Ten Blocks
- Copies of Country Flags
- Hundredths Grid on Legal Paper
- Money (dollars, dimes, pennies)
- Number Lines
- Handout 5.1: In the News
- Handout 5.2: Go for the Gold
- Scooter Quest Place Value: <http://www.sheppardsoftware.com/mathgames/decimals/scooterQuestDecimal.htm>
- Order Decimals: <https://www.ixl.com/math/grade-3/order-decimals>
- Number Line Mine: [https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega\\_math\\_9780153663963\\_/megamathcd6/cm/launch.html?strActivityName=g36\\_3\\_2\\_N&strAssignID=1](https://www-k6.thinkcentral.com/content/hsp/math/hspmath/ca/common/mega_math_9780153663963_/megamathcd6/cm/launch.html?strActivityName=g36_3_2_N&strAssignID=1)

**Lesson Target(s):**

- Students will use number grids to display decimal fractions and fractions.
- Students will utilize tools and manipulatives to answer questions about the Summer Olympics.
- Students will convert fractions to decimal fractions.
- Students will justify comparisons of two decimals to the tenths or hundredths place.

**Guiding Question(s):**

- How can you use your understanding of place value to compare decimals?
- How can you use your understanding of fractions to compare decimals?

- How does your understanding of decimal fractions expand your understanding of numbers?

### Vocabulary

#### Academic Vocabulary:

- Decimal fractions
- Decimal number
- Equivalent
- Hundredths
- Tenths

#### Instructional Strategies for Academic Vocabulary:

- Model how to use the words in discussion
- Discuss the meaning of word in a mathematical context
- Create pictures/symbols to represent words
- Write/discuss using the words

**Note:** Vocabulary instruction should be embedded into the lesson each day using the strategies suggested above.

#### Symbol

#### Type of Text and Interpretation of Symbol



Instructional support and/or extension suggestions for students who are EL, have disabilities, or perform well below the grade level and/or for students who perform well above grade level

✓

Assessment (Pre-assessment, Formative, Self, or Summative)

### Instructional Plan

#### Understanding Lesson Purpose and Student Outcomes:

Students will rotate through centers to practice modeling and writing decimal fractions and decimal numbers, compare decimals and fractions, and solve word problems involving the Summer Olympics.

#### Anticipatory Set/Introduction to the Lesson:

Introduce students to each of the centers for the day and review the center rotation chart and center norms. Students will rotate through the centers with their county. Let them know that at times, some students will be called to meet with the teacher at the teacher table.

**Note:** Using the data from the unit’s formative assessments, provide individualized instruction to students who share the same misconceptions. This may be done as a 5-10 minute mini-lesson at the teacher table.

✓ **Center 1: Fraction Flags**

Provide students with a hundredths grid printed on legal sized paper and a photo of their country’s flag. (France, Germany, Italy, Denmark, Belgium, Austria, Ireland). Have students work together to color in their own flag on the grid and then create a table depicting the decimal fraction and decimal notation for each color (SMP.1 and SMP.6):

Color	Decimal Fraction	Decimal Number

**Extensions for students with high interest or working above grade level:**

- Have students add the decimal numbers and/or decimal fractions to check that they equal 1.

✓ **Center 2: Technology**

Depending on the technology available in your classroom, choose one of the following options:

1. Create a folder on student desktop computers containing each of these games and allow students to practice and play individually or with a group partner.
2. Display one of these games on the classroom’s interactive whiteboard for the country to play together.

Choose one of the following:

[Ordering Decimals](#)

[Number Line Mine](#)

### Scooter Quest Place Value

#### ✓ **Center 3: In the News**

Select a variety of texts for students to read from [Newsela: Olympics and Olympians](#). Instruct students to read the entire passage first. Then, have them count the words until they reach 100. Have them place a bracket after the hundredth word in the text. Students should count the number of nouns, verbs, adjectives, and adverbs and complete **Handout 5.1: In the News**.

**Note:** Newsela has an option to adjust the reading level for each passage.

#### **For students who are EL, have disabilities, or perform well below grade level:**

- Provide student dictionaries or an online dictionary for students to check the part of speech.

#### ✓ **Center 4: Go for the Gold**

Provide students with one piece of chart paper per group, student created place value mats from the hundreds place to the hundredths place, money, base ten blocks, and scratch paper for number lines. Copies of **Handout 5.2: Go for the Gold** will be needed for each group as well (SMP.2 and SMP.4). Students will work together to solve as many problems as they can in the allotted time. For each correct answer, the team will receive a gold medal. Have students write the problem numbers and answers on the chart paper. Once time is called, fold the chart paper in half, and tape it to the wall to check later. This will keep other teams from trying to see the work.

#### ✓ **Teacher Table:**

During each rotation, call students to the teacher table to reteach any misconceptions that have appeared on previous formative assessments.

**Reflection and Closing:**

✓ On the board, write the following: Do you feel this unit has helped you understand decimal fractions and fractions better?

1 ring- strongly disagree

2 rings- disagree

3 rings- neutral

4 rings- agree

5 rings- strongly agree

Provide students with a notecard. Ask them to draw the number of Olympic rings that correspond with how they feel about decimal fractions and fractions.

**Note:** This should be done at the end of Day 2 of this lesson.

**Homework**

No homework assigned.

**Handout 5.1: In the News**

	Decimal Form	Fraction Form	Word Form
Nouns			
Adjectives			
Verbs			
Adverbs			

Plot these numbers on the number line to determine the order from least to greatest. Label the line appropriately.



## Handout 5.2: Go for the Gold

1. German Sanchez and Aisen Chen were the top two divers on the 10 M platform dive in the 2016 Summer Olympics. Sanchez scored 532.70 on his 10 M platform dive and Chen scored 585.30. Which diver won gold?

Justify your answer.



2. In the men's pole vault, Team Brazil, Team USA, and Team France received the highest scores. Team Brazil jumped 6.03 meters, Team USA jumped 5.85 meters, and Team France scored 5.98. Who won each of the three medals?

Use a number line to justify your answer.



3. Team USA scored 14.71 in the women's triple jump. Team Kazakhstan scored 14.74, Team Venezuela scored 14.98, and Team Columbia scored 15.17. Did Team USA receive a medal?

Justify your answer.



4. During the women's long jump, Tianna jumped 7.17 meters. Her teammate, Brittney jumped 7.15 meters. Which teammate made the longest jump? Write both decimals as fractions.

Justify your answer.





5. In women's gymnastics, Simone Biles scored 15.97 on the vault. Maria Paseka scored 15.25. Which gymnast received the higher score?

Justify your answer.



6. In the men's individual all-around for gymnastics, Team Japan scored 92.37. Team Great Britain scored 90.64 and Team Ukraine scored 92.27. Rank these teams from highest to lowest scores.

Justify your answer.



7. Madison Kocian of Team USA scored 15.83 on the uneven bars. Sophie Schieder from Team Germany scored 15.57. Which gymnast scored higher? Which place value determines this?

Justify your answer.



8. Jeff Henderson won gold by jumping 8.38 meters in the 2016 Rio Olympics. During the 2012 London Olympics, Greg Rutherford scored 8.31 meters. Which Olympian jumped further?

Justify your answer.



For training or questions regarding this unit,  
please contact one of the following:

Devin Boone, Special Education  
Professional Development Coordinator  
[devin.boone@mdek12.org](mailto:devin.boone@mdek12.org)

Elise Brown, Secondary Mathematics  
Professional Development Coordinator  
[elise.brown@mdek12.org](mailto:elise.brown@mdek12.org)

Celeste Maugh, Elementary Mathematics  
Professional Development Coordinator  
[celeste.maugh@mdek12.org](mailto:celeste.maugh@mdek12.org)

