Compare Fraction Strategies

STRAND: Number and Number Sense

STRAND CONCEPT: Rational Numbers Compare and Order

SOL: 4.2a

Remediation Plan Summary

Students use fraction manipulatives to help build strategies for comparing fractions.

Common Errors and Misconceptions

- Some students think the fraction with the larger denominator is always the largest fraction.
- Some students can verbally say which fraction is largest but confuse the greater and less than symbol.
- Some students believe you cannot take half of an odd number.

Materials

Fraction manipulatives, Would You Rather Introductory Activity handout, Comparing Fractions Practice handout

Introductory Activity

Hand each student a Would You Rather Introductory Activity handout and have students work independently. Once finished, have students share their answer with a partner then discuss whole group.

Plan for Instruction

- Put students into groups, and give each group a set of fraction circles or other fraction manipulatives.
- Have students pick out two different fraction pieces and have them describe each piece. Ask, *"What do you notice about the size of each piece?", "How would you compare them?"*
- Have students write an inequality statement for the two fraction pieces they selected. Have them justify why their inequality statement is true.
- Students should then share their statements with each other and be encouraged to discuss how each of the fractions in the inequailities has the same numerator. Ask, *"Would this work for comparing other fractions with the same numerator?* Have students try several other fractions and then come up with a generalization that if fractions have same numerator, the denominators show the piece size (larger denominators, smaller pieces).
- Conduct a whole class discussion about student generalizations.
- Pose the question, *"Would your generalization work if the denominators were the same and the numerators were different?"*

- Have groups create several fractions with the same denominator and compare them. Once students see it does not work, have them come up with a generalization for like denominators.

- Next have student groups build $\frac{3}{4}$ and $\frac{2}{3}$ and ask them which is bigger. Encourage a discussion about how they can compare these fractions. Have groups build $\frac{5}{6}$ and $\frac{8}{9}$ and discuss the comparison. If the idea that each fraction is one away from a whole doesn't surface, introduce it and have students discuss this strategy.

- Have student groups build and compare $\frac{2}{5}$ and $\frac{3}{4}$ then have them build and compare $\frac{3}{7}$ and $\frac{5}{8}$. Ask, *"What strategy could you use to compare these two sets of fractions."* If student groups don't come up with – *one is less than ½ and one is greater than* $\frac{1}{2}$ introduce this strategy and have a discussion. Give several more fraction pairs that students can use to practice this strategy.

- Either with a partner or individually, have students complete the Comparing Fractions Handout to practice using the strategies discovered in this lesson.

***Pulling It All Together (Reflection).***

Which strategy would you use to compare $\frac{2}{9}$ and $\frac{3}{5}$? Explain your thinking. Will this strategy work to compare $\frac{5}{6}$ and $\frac{7}{8}$? Why or why not.

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

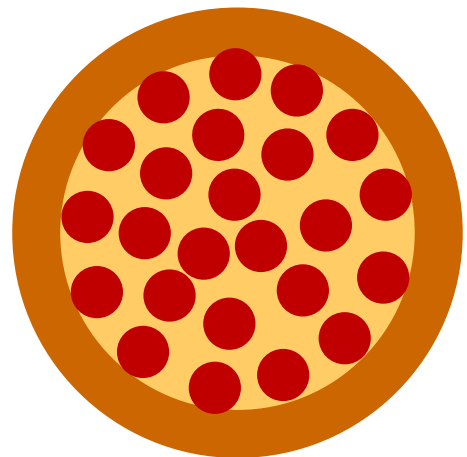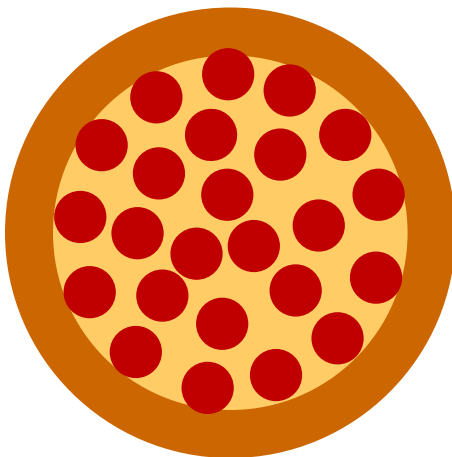Virginia Department of Education 2018

Would You Rather Introductory Activity

Would you rather have $\frac{1}{4}$ of a pizza or $\frac{3}{5}$ of a pizza? Use the picture, numbers and words to justify your answer.
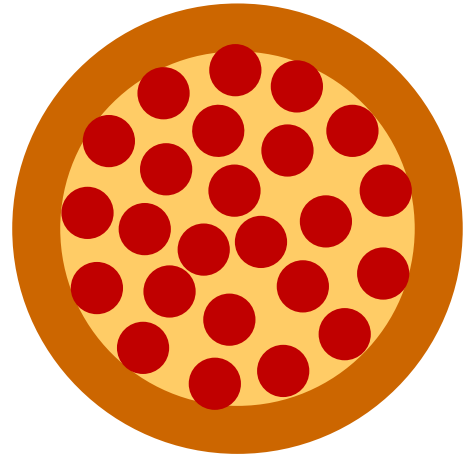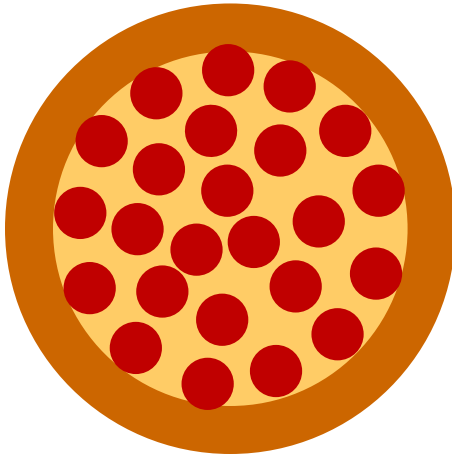
Would You Rather Introductory Activity

Would you rather have $\frac{1}{4}$ of a pizza or $\frac{3}{5}$ of a pizza? Use the picture, numbers and words to justify your answer.

Comparing Fractions Practice

Compare the following fractions using the symbols <, >, =. Next to the inequality, write which strategy you used.

1) $\dfrac{2}{5}$ ___ $\dfrac{3}{5}$

_____

2) $\dfrac{1}{9}$ ___ $\dfrac{1}{10}$

_____

3) $\dfrac{5}{7}$ ___ $\dfrac{4}{7}$

_____

4) $\dfrac{2}{3}$ ___ $\dfrac{4}{10}$

_____

5) $\dfrac{6}{7}$ ___ $\dfrac{8}{9}$

_____

6) $\dfrac{10}{12}$ ___ $\dfrac{10}{11}$

_____

7) $\dfrac{5}{6}$ ___ $\dfrac{4}{5}$

_____

8) $\dfrac{8}{11}$ ___ $\dfrac{4}{12}$

_____