LESSON MAKER PRO

Fraction Size Detectives

Compare equal numerators by thinking about part size.

GRADE 4 · 4.NS.3.b

4.NS.3.b "Compare and order no more than four fractions (proper or improper), and/or mixed numbers, with like numerators and unlike denominators by comparing the size of the parts using fractions with denominators of 12 or less …. Justify comparisons orally, in writing, or with a model.*"

NAME _____ DATE _____

SAME NUMBER OF PARTS COUNTED

When fractions have the same numerator, the fraction with the smaller denominator is greater. A smaller denominator means each part is larger. For mixed numbers with the same whole number and fractional numerator, compare the denominators of the fractional parts.

WORKED EXAMPLE

Compare 8/11 and 8/9. Write <, >, or =.

1. Both fractions have 8 parts counted.
2. Ninths are larger pieces than elevenths.
3. So 8/9 is greater than 8/11.

Answer: 8/11 < 8/9

PRACTICE 6 problems

1 Compare 3/4 and 3/10. Write <, >, or =. Then tell why.

ANSWER _____

2 Order 5/6, 5/12, and 5/8 from least to greatest.

ANSWER _____

3 Compare 7/9 and 7/12. Write <, >, or =.

ANSWER _____

4 Order 1 2/3, 1 2/11, and 1 2/5 from greatest to least.

ANSWER _____

5 Compare 10/7 and 10/9. Write <, >, or =.

ANSWER _____

6 Compare 2 4/5 and 2 4/7. Write <, >, or =. Then tell why.

ANSWER _____

APPLY IT Show your work

1 Mia and Omar each have the same length of ribbon for art club. Mia uses 3/5 of her ribbon. Omar uses 3/8 of his ribbon. Who uses more ribbon? Explain how you know.

WORK SPACE

ANSWER _____

2 Three players finish parts of the same-length game challenge. Asha finishes 6/12, Ben finishes 6/8, and Carlos finishes 6/7. Order their amounts from least to greatest.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Order 3 7/12, 3 7/8, 3 7/9, and 3 7/10 from least to greatest. Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Fraction Size Detectives

GRADE 4 · 4.NS.3.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Compare 3/4 and 3/10. Write <, >, or =. Then tell why.	**3/4 > 3/10 because fourths are larger parts than tenths.**
2	Order 5/6, 5/12, and 5/8 from least to greatest.	**5/12 < 5/8 < 5/6**
3	Compare 7/9 and 7/12. Write <, >, or =.	**7/9 > 7/12**
4	Order 1 2/3, 1 2/11, and 1 2/5 from greatest to least.	**1 2/3 > 1 2/5 > 1 2/11**
5	Compare 10/7 and 10/9. Write <, >, or =.	**10/7 > 10/9**
6	Compare 2 4/5 and 2 4/7. Write <, >, or =. Then tell why.	**2 4/5 > 2 4/7 because fifths are larger parts than sevenths.**

PART 2 · APPLY IT

1. **Mia uses more ribbon because 3/5 > 3/8. Fifths are larger parts than eighths.** Compare the fractions because both students start with equal-length ribbons and both fractions have a numerator of 3. The smaller denominator, 5, names larger parts.
2. **6/12 < 6/8 < 6/7** All three fractions have a numerator of 6. The largest denominator gives the smallest fraction, so order the denominators from greatest to least.

CHALLENGE

3 7/12 < 3 7/10 < 3 7/9 < 3 7/8. Each mixed number has 3 wholes and 7 fractional parts, so the smaller denominator makes the fractional part larger.

Accept correct comparison symbols or ordered lists. For explanations, accept a statement that fractions with the same numerator have larger parts when the denominator is smaller.