Grade: 5 Strand: Number Outcome: 7

#### SPECIFIC LEARNER OUTCOME – Number

N7	Demonstrate an understanding of fractions by using concrete, pictorial and symbolic representations to:
	<ul> <li>create sets of equivalent fractions</li> <li>compare fractions with like and unlike denominators.</li> </ul>

#### PROCESSES

Communication (C), Connections (CN), Mental Mathematics and Estimation (ME), Problem Solving (PS), Reasoning (R), Technology (T), Visualization (V)

C, CN, PS, R, V

#### **EVIDENCE** the student has achieved the outcomes

Each student will:

- represent fractions in a variety of ways.
- order fractions with:
  - common denominators
  - common numerators
  - different numerators and denominators
- explain the relationship between two fractions using drawings and words.

#### TEACHER NOTE

- In this assessment task, students will be asked to demonstrate their understanding of fractions by ordering sets of fractions and then providing justification of their thinking using both pictures and words. Students will show their understanding of fractions by providing a variety of representations.
- Materials required: fraction strips, fraction circles, pattern blocks, tiles, number lines or cash register tape, grid paper.

• The following describes some of the ways that students can represent fractions.

Circle graphs	Points on a number line	Symbolic
		1 3 "One part out of three equal parts in the whole"
Fraction strips	Parts of a set	Area Grid Model
Proportions	Division	Decimal Numbers
	$\frac{1}{3}$ 1÷3	$\frac{1}{3}$ 0.3

- Students should understand that the "whole" must be the same size when comparing fractions.
- Students should also understand that fractions involve parts of equal size and not necessarily parts of equal shape.
- When comparing and ordering fractions, students can use the strategy of **common** denominators or common numerators among others.

#### **Common numerators:**

<u>2</u> because fifths are larger than sixths. 2 is larger than 5 6

#### Common denominators:

- <u>3</u> 5 is larger than <u>2</u> because there are more of the same sized parts. 5

• Early finishers can draw different ways to divide a 4 x 4 grid into halves.



Fill in the correct symbol to compare the size of each pair of fractions.

$$\frac{3}{5}$$
  $\frac{3}{7}$ 

is equivalent to	is greater than	is less than
	>	<

1. Use pictures and words to justify your thinking.

2. Place these two fractions on the number line below. Add two other fractions to the number line. Explain how you decided where to place each fraction on the number line.<sup>1</sup>



<sup>&</sup>lt;sup>1</sup> Quest 2000 Exploring Mathematics

# Math Live – Comparing and Ordering Fractions: Scoring Guide

Level	Compares fractions with common numerators	Orders fractions on a number line
Criteria	Question #1	Question #2
Wow!	The student correctly compares two fractions using a valid pictorial representation and clear reasoning based on conceptual understanding, such as comparing the size of "parts" of the "whole" or explaining the basis of common denominators.	The student correctly orders fractions, places them accurately on the number line, and provides a mathematically sound explanation for deciding how to order fractions.
Yes	The student correctly compares two fractions using a valid pictorial representation and clear reasoning based solely on procedural understanding such as finding common denominators with an algorithm.	The student correctly orders fractions by placing them on a number line and provides a reasonable explanation for deciding how to order fractions.
Yes, but	The student correctly compares two fractions using a pictorial representation and reasoning based on simple comparison of pictures.	The student correctly orders fractions by placing them on a number line but provides an unconvincing explanation for deciding how to order fractions.
No, but…	The student may incorrectly compare two fractions with either a flawed pictorial representation or reasoning not based on sound mathematical reasoning.	The student attempts to order fractions by placing them on a number line and provides little or no explanation for deciding how to order fractions.
Insufficient / Blank	No score is awarded due to insufficient evidence of student learning based on the requirements of the assessment task.	No score is awarded due to insufficient evidence of student learning based on the requirements of the assessment task.



Wow! 4. Place these two fractions on the number line below. Add two other fractions to the number line. Explain how you decided where to place each fraction on the number line. 375 80 3/5 2 80 8 10 - I know that 3 up more than 2 because 3 to more than half of 5. - I know that 3 is less than '2 because 3 is less than help of 7 -l'know 's up begger than 's because thirds me bigger than quarters. but 's up less than 's because thirds one smaller than halves. -l'know 8/10 up begges than 3/4 cause 8/10 - 20 and 3=(15) -l'know 8/10 up begges than 3/4 cause 8/10 - 20 and 3=(15)



6. Place these two fractions on the number line below. Add two other fractions to the number line. Explain how you decided where to place each fraction on the number line.

I use 4 I used common denominators and Found out that 1 is smaller than  $\frac{3}{5}$  and  $\frac{3}{7}$  is smaller than  $\frac{1}{2}$ , and  $\frac{4}{5}$  is bigger than  $\frac{1}{2}$  and and is smaller than 1.

Fill in the correct symbol to compare the size of each pair of fractions.

$$\frac{3}{5} \ge \frac{3}{7}$$

is equivalent to	is greater than	is less than
	>	<

7. Use pictures and words to justify your thinking.





Fill in the correct symbol to compare the size of each pair of fractions.

$$\frac{3}{5} > \frac{3}{7}$$

is equivalent to	is greater than	is less than
	>	<

9. Use pictures and words to justify your thinking.



No, but

Place these two fractions on the number line below. Add two other fractions to the number line. Explain how you decided where to place each fraction on the number line.

