# NCEA Math Lesson Plan

**Grade:** 5 **Subject:** Mathematics

**Domain:**
Fractions

**Standard Number(s) and Description:**
5.NF.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

**Vocabulary to be Highlighted:**
Fraction, numerator, denominator, like fractions, unlike fractions, common denominator

**Mathematical Practices (#):**
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.

**Essential Questions:**
Can you use manipulatives to build a representation?
How did you use a fraction strip to help?
If you disagree with your classmate's answer, can you find their mistake?

**Materials/Tools (include technology):**
Fraction strips (see attachment)
Number lines
Attached worksheet
White boards (optional)
Smart Board (optional)

**Connections to Other Math Domains:**
Operations and Algebraic Thinking
Geometry

**Connections to Other Subject Areas:**
Science
Social Studies
English

**Catholic Identity Component:**
Sample Questions:
Peter ran 2/3 of a mile towards Jesus's tomb and stopped to rest. John passed Peter and ran another 1/4 mile. What was the total distance the two disciples ran?

1/3 of Noah's ark is filled with amphibians and 1/2 is filled with reptiles. What fraction of the ark is full?

**Resources (attachments):**
Fraction strip: https://www.teachervision.com/tv/printables/0134356500_M1MUTM25.pdf

**Activities/Timeline:**
1. State the objective – learn to add two fractions with unlike denominators.
2. Explain each fraction (1/4 and 1/2) in relation to one whole.
3. Leave the students free to find a common denominator for 1/4 and 1/2.
4. Take the equivalent fractions and add them together. (Ex: 2/8 plus 4/8 equals 6/8)
5. Discuss as a whole group the different fractions that the students chose. (Ex: 1/4 and 2/4, 3/12 and 6/12)
6. Students use 2/3 and 1/6 and do independently. Then turn to partner and compare and contrast your answer.
7. Bring back to whole group to defend their answer and ask essential questions.
8. Make a connection between the fractions strips and a number line. You could use questioning about 12's on a ruler versus 12's on the fraction strips.
9. Using a number line and the fraction strips, add 1/6 and 1/4. Repeat #6 - #7.
10. If students are ready move on to improper fractions.

**Formative Assessment (what to look for, how/when to look):**
Manipulate fraction strips, or drawing number line correctly.
Can students find a common denominator for the two given fractions?
Did the students get the correct answer?

**Summative Assessment:**
Did the student get the correct answer and are they able to explain the method or strategy?

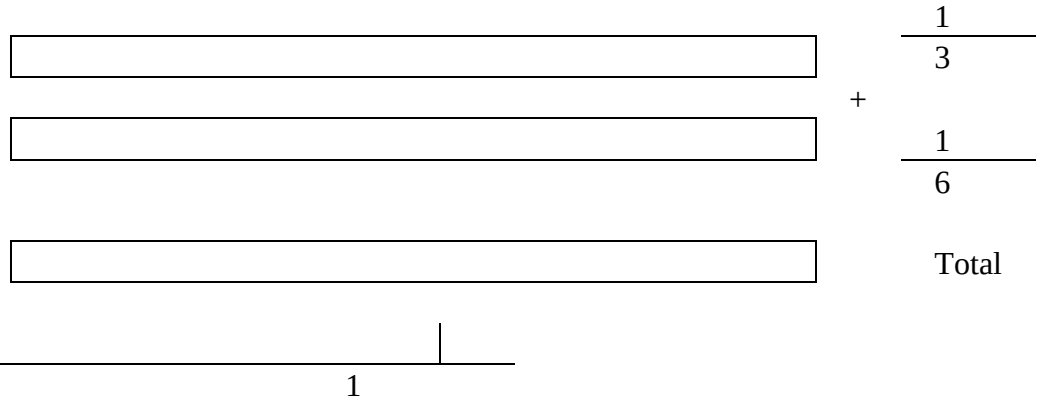
Use worksheet below.

Name _____ Date _____

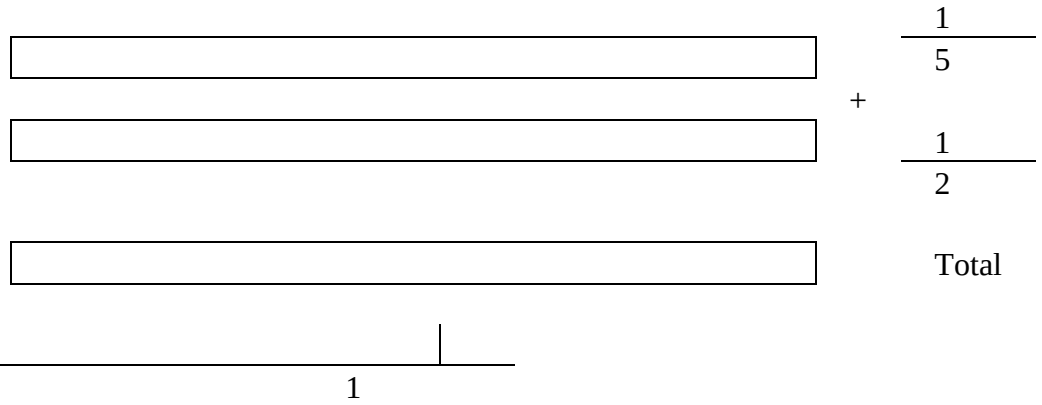
# Fractions with Unlike Denominators

Directions: Add fractions using strips and a number line to show the answer.

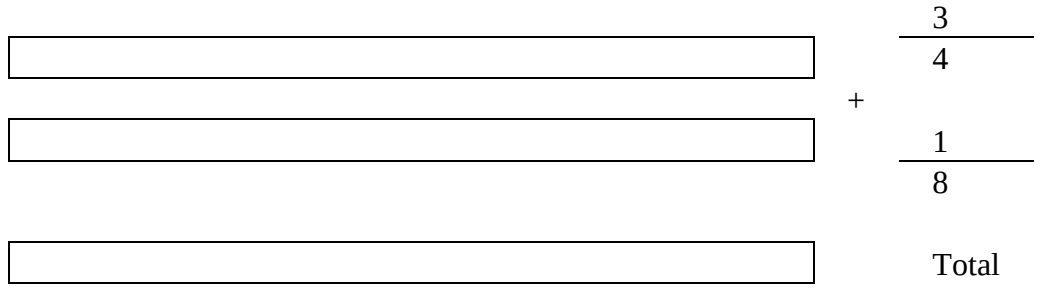
1 $\frac{1}{3} + \frac{1}{6} =$ ____




2 $\frac{1}{5} + \frac{1}{2} =$ ____



$3\ \frac{3}{4} + \frac{1}{8} = \_\_\_\_$



$\frac{3}{4}$ + $\frac{1}{8}$

Total