Lesson 110

Objective
Students will multiply fractions and whole numbers by fractions.

Preparation
For each student: Fraction Pieces I & II *(masters on pages M20 – M21).*

Lesson Plan
The product of two simple fractions is obtained by multiplying their numerators and their denominators.

Before distributing the Lesson Sheets, use problems #1 and #2 to show the students how they can use their fraction pieces to calculate the answers. Use the following procedure to help students understand:

Problem #1
1. Multiply the two fractions by multiplying the numerators and the denominators.

2. Next, set up an equivalent fraction for 3/4 with 8 as the denominator. The result will be 6/8.

3. Next, calculate one half of 6/8. To do this, divide 6/8 into two equal groups. There will be 3/8 in each group, which is exactly the answer you obtained when you multiplied the numerators and the denominators.

Problem #2
1. Multiply the two fractions by multiplying the numerators and the denominators.

2. Next, set up an equivalent fraction for 4/7 with 21 as the denominator. The result will be 12/21.

3. Next, calculate two thirds of 12/21. To do this, divide 12/21 into three equal groups. There will be 4/21 in each group. Since the problem is looking for two thirds of 4/7, two of these thirds would be 8/21, which is exactly the answer you obtained when you multiplied the numerators and the denominators.

ⓘ *#4 – #6 do not appear on the Lesson Sheets. Please read them aloud.*

Remind the students that any whole number can be written as a fraction by putting the whole number (numerator) over 1 (denominator). It is an improper fraction, but it is still a fraction.

Go through the same process you used in previous lessons. It may help to replace the "x" in the problem with the word "of". 1/2 x 6, 1/2 times 6 and 1/2 of 6 all mean the same thing.

ⓘ *#18 – #23 do not appear on the Lesson Sheets. Please read them aloud.*

Explain that 1/2 x 6/1 = 1 x 6 divided by 2 x 1. Show the students how to use their fraction pieces to calculate one half of 6/1. To do this, divide 6/1 into two equal groups. There will be 3 in each group. Confirm the answer by multiplying the numerators and denominators of 1/2 and 6/1. The result will be 6/2 or 3. Help your students create a story for this equation. (Such as: 1/2 of the 6 children on the bus are boys. How many boys are on the bus?)

Stretch 110
Write an equation that equals 30 using the same digit three times and any or all of the operations (+, -, ÷, = and parentheses).

Answer: (5 x 5) + 5 = 25 + 5 = 30