Reading about multiplication of fractions (pg 128-135) name:

1. Meaning: what does it mean to multiply by a fraction? In what ways is multiplying by a fraction the same as multiplying whole numbers?

**The progression in learning about multiplying fractions**

2. Give an example (numerical, in words and with a length of rectangular diagram) of multiplying to find a fraction of a whole number.

3. Give an example (numerical, in words and with a length of rectangular diagram) of a fraction by a fraction that does not require subdivisions.

4. Give an example (numerical, in words and with a length of rectangular diagram) of a fraction by a fraction that does require subdivisions.

5. Give an example of multiplication with squares (area model) that is different from the problem in figure 8.15 (different numbers). Include the explanatory labels and notes that show how this model gets you to the numerical algorithm where you multiply numerators and denominators.

6. Show how to explain multiplying with fractions greater than one using a diagram like that in figure 8.16.

7. Which of the misconceptions about multiplication seems the most tricky/confusing to you? What makes it tricky?

8. Explore the misconception that you should do the same thing with the denominator when you multiply as when you add. First, compare these addition and multiplication problem by illustrating them with similar diagrams (all rectangles or all number lines, etc)

Example: An error I have seen when students confuse multiplying and adding: 

a.  and 

b.  and 

c. Why and how are the algorithms for adding and multiplying different? Why do you find a common denominator first when you add, but not when you multiply?