Meaning of Fractions

A. Meaning of fractions
1. Part of a whole – illustrate with set pictures (see pictures in our textbook)
2. Number – position on number-line
3. Division – ¾ can mean 3 divided by 4
http://www.coolmath.com/prealgebra/01-fractions/index.html

B. Equivalent fractions – there are many ways to express the same number

$$\frac{a}{b} \cdot \frac{n}{n} = \frac{a \cdot n}{b \cdot n}$$

C. Order of fractions
1. Illustrate on a number line or with fraction strips (see pictures in our textbook.) Also look at a "coolmath" website, for elementary and middle school students, that teaches how to compare the size of fractions: **http://www.coolmath.com/prealgebra/01-fractions/fractions-08-which-fraction-is-greater-01.htm**
2. Rewrite fractions with a common denominator and compare numerators
3. Cross multiply

$$\frac{a}{b} < \frac{c}{d} \;\; if \;\; and \;\; only \;\; if \;\; a \cdot d < b \cdot c$$

4. Convert each fraction to a decimal and compare

D. Find a fraction between two other fractions
1. Rewrite with a large enough common denominator to find a fraction between the original two fractions

2. $\dfrac{a}{b} < \dfrac{a+c}{b+d} < \dfrac{c}{d}$

3. Convert each fraction to a decimal to find another between the original two fraction**s**

Consider the following:

1. Think about which of these concepts are difficult for students to understand.

2. Why are they difficult for the students to understand.

3. What can be done to overcome these difficulties so that students can be successful with fractions.