EQUIVALENT FRACTIONS

A/ Build the following: Add rods as you need them. The orange rod equals one whole.

1. How many reds will equal one orange? __________
2. What fraction of the orange is one red? __________ (indicate on the above diagram)
3. How many whites will equal one orange? __________
4. What fraction of the orange is one white? __________ (indicate on the above diagram)
5. What fraction of the orange is two white? __________
6. How many whites equal one red? __________
7. If one red is __________ of the orange then we can say that two whites are also __________ of the orange. Therefore, \( \frac{2}{10} = \frac{1}{5} \)

8. Can you answer?

Four whites equal \( \frac{10}{10} \) or \( \frac{5}{5} \)
Six whites equal \( \frac{10}{10} \) or \( \frac{5}{5} \)
Eight whites equal \( \frac{10}{10} \) or \( \frac{5}{5} \)
Ten whites equal \( \frac{10}{10} \) or \( \frac{5}{5} \) or __________ whole.

Using the orange rod as one, can you complete the following? Use the rods to solve the questions.

Which is greater \( \frac{6}{10} \) or \( \frac{4}{5} \) ? __________ By how much? __________.
Which is greater \( \frac{9}{10} \) or \( \frac{4}{5} \) ? __________ By how much? __________.
Which is greater \( \frac{3}{10} \) or \( 1 \frac{1}{2} \) ? __________ By how much? __________.
Which is greater \( \frac{2}{10} \) or \( \frac{1}{5} \) ? __________ By how much? __________.

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B/ Build the following: Add rods, as you need them. The blue rod equals one whole.

![Diagram of rods]

1. How many light green rods will equal one blue? __________
2. What fraction of the blue rod is one light green? __________
3. How many whites will equal one blue? __________
4. What fraction of the blue is one white? __________
5. What fraction of the blue are three whites? __________
6. How many whites equal one light green? __________
7. If one light green is __________ of the blue then we can say that three whites are also __________ of the blue. Therefore, \(\frac{9}{9} = \frac{3}{3}\)

8. Can you complete this mathematical sentence: Since \(\frac{3}{9} = \frac{3}{3}\) it follows that \(\frac{6}{9} = \frac{3}{3}\).

9. Is, \(\frac{9}{9} = \frac{3}{3}\)? Explain your reasoning with the use of a diagram and/or words.

Which is greater \(\frac{2}{9}\) or \(\frac{1}{3}\)? __________ By how much? __________.
Which is greater \(\frac{4}{9}\) or \(\frac{1}{3}\)? __________ By how much? __________.
Which is greater \(\frac{8}{9}\) or \(\frac{2}{3}\)? __________ By how much? __________.
Which is greater \(1\frac{1}{9}\) or \(1\frac{1}{3}\)? __________ By how much? __________.
C/ Build the following: Add rods as you need them. The brown rod equals one whole.

1. What fraction of the brown rod is one purple rod? ———— (indicate on the above diagram)

2. What fraction of the brown is one red? ————. (indicate on the above diagram)

3. Two red rods are what fraction of the brown rod? ————.

4. Since two red rods is the same as one purple rod. We can say that the two red rods is the same fraction of the brown rod as one purple rod. We can show this by writing \( \frac{2}{4} = - \).

5. What fraction of the brown is one white rod? ———— (indicate on the above diagram)

6. Four white rods are what fraction of the brown rod? ————

7. Therefore we can say that four white rods are the same fraction of the brown rod as one purple rod.

   We can show this by writing \( \frac{4}{8} = - \).

8. Two white rods are ———— of the brown rod.

9. Two white rods equal one red rod, therefore we can say that \( \frac{2}{8} = - \)

10. Can you answer? Six white rods equal \( \frac{6}{4} \) or \( \frac{4}{4} \)

     Four white rods equal ———— or ———— or ————.
Which is greater $\frac{3}{4}$ or $\frac{1}{2}$? ________ By how much? __________.

Which is greater $\frac{3}{8}$ or $\frac{1}{4}$? ________ By how much? __________.

Which is greater $\frac{5}{8}$ or $\frac{3}{4}$? ________ By how much? __________.

Which is greater $1\frac{3}{8}$ or $1\frac{1}{2}$? ________ By how much? __________.
D) Your turn:
Using the Dark Green Rod as a whole:
*a) determine the rods that can be used to create equivalent fractions*
b) create some equivalent fractions
c) display results in the table below, one example is given.

<table>
<thead>
<tr>
<th>Example</th>
<th>Diagram of Models</th>
<th>Fraction Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image" alt="Diagram" /></td>
<td>[ \frac{2}{6} = \frac{1}{3} ]</td>
</tr>
</tbody>
</table>

The table continues below.