

**Day 5: Uncover** (adopted from *Teaching Mathematics* by Marilyn Burns)

**Lesson Target:**

- Compare and order fractions that have common numerators and denominators of 2, 3, 4, 5, 6, 8, 9, 10 and 12.
- Equivalent Fractions

Process	Activities/Expected Students' responses	Teacher's Support
Understand the Goal	<b>Which fraction is bigger or smaller than other fraction?</b>	
Explore/ Investigate/Solve	<p><b>Introduce/Model <i>Uncover</i></b></p> <ol style="list-style-type: none"> <li>1. Cover 1 whole with two <math>\frac{1}{2}</math>s.</li> <li>2. Take turn rolling the cube.</li> <li>3. Decide to: 1) remove a piece, 2) exchange any of the pieces left for equivalent pieces, or 3) do nothing and to pass the cube to the next player.</li> </ol> <p><b>Play <i>Uncover</i> with a partner</b>  <b>T:</b> How many <math>\frac{1}{4}</math> do you need to exchange with <math>\frac{1}{2}</math>?  <b>S:</b> Two <math>\frac{1}{4}</math> is as equal as one <math>\frac{1}{2}</math>.</p> <p><b>Discuss</b> How they remove/exchange fraction pieces  <b>S:</b> I covered <math>\frac{4}{8}</math> on <math>\frac{1}{2}</math>.  <b>T:</b> <math>\frac{4}{8}</math> and <math>\frac{1}{2}</math> are <b>Equivalent fractions</b>.</p> <p><b>Analyze</b> the result and <b>Discuss</b>  <b>T:</b> Which fraction is the smallest, <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, or <math>\frac{1}{8}</math>?  <b>T:</b> What happens to the denominator in the largest fraction?  <b>T:</b> How about the numerals?</p>	<p><b>Provide</b> cubes labeled <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{8}</math>, <math>\frac{1}{8}</math>, <math>\frac{1}{8}</math>.</p> <p>Or, if you use a regular die, label as <math>1 = \frac{1}{2}</math>, <math>2 \ \&amp; \ 3 = \frac{1}{4}</math>, and <math>4, 5, \ \&amp; \ 6 = \frac{1}{8}</math></p> <p><b>Facilitate/Support</b> a conversation</p> <p><b>Record</b> in the class chart</p> <p><b>Equivalent Fraction</b>  <math>\frac{1}{2} = \frac{2}{4}</math>  <math>\frac{1}{2} = \frac{4}{8}</math>  <math>\frac{1}{4} = \frac{2}{8}</math></p> <ul style="list-style-type: none"> <li>• <math>\frac{1}{8} &lt; \frac{1}{4} &lt; \frac{1}{2}</math></li> <li>• Denominator is largest when the fraction is smallest</li> <li>• Numerators are all same... <b>Common Numerator</b></li> </ul>
Conclude	<b>Journal Entry: Which fraction is the smallest, <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, or <math>\frac{1}{8}</math>? Can you order them from smallest to largest? What happens to the denominator in the largest fraction?</b>	<b>Encourage</b> to check their fraction kit to ensure this rule is visually proved.

**Assessment:**

- **Play *Uncover*** accurately. ex) exchange correctly
- **Order** common numeral fractions from small to large
- **Use** the comparison signs, such as  $<$ ,  $>$ , and  $=$ .
- **Represent** some examples of equivalent fractions

**Extension:**

**Play** *Wipe Out* (adopted from *Teaching Mathematics* by Marilyn Burns)

1. Take turns rolling the cube (labeled  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{6}$ ,  $\frac{1}{6}$ ,  $\frac{1}{6}$ ,  $\frac{1}{6}$ )
2. Decide to 1) remove a pattern block (triangle, rhombus, or trapezoid), 2) exchange any of your remaining blocks for equivalent blocks, or 3) do nothing and pass the cube to your partner
3. Trade correctly
4. The first to discard your blocks, you win.
5. Order fraction pieces (pattern blocks) from smaller (triangle) to larger (hexagon).