

### Maths Learning Design

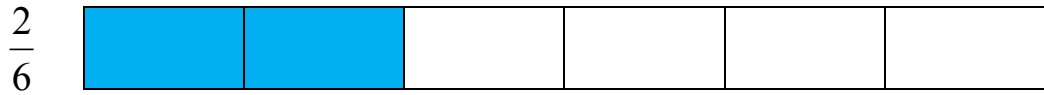
<b>Topic:</b>	Fractions	<b>Class:</b>	Year 4 Year 6 (I)	<b>Duration:</b>	4-6 periods
<b>Subtopic :</b>	Equivalent Fractions				
<b>Content Learning Objectives:</b>	Pupils should be able to determine equivalent fractions of a given fraction with denominator up to 12.				

Teaching & Learning Activities		Resources	Summary
<b>Tuning in (Introduction)</b> <i>Determine prior knowledge and prepare pupils</i>	<ol style="list-style-type: none"> <li>1. Gather the pupils to discuss their prior knowledge on fractions.</li> <li>2. Make sure that they understand that fractions represent parts of a whole or group (refer to Appendix 1).</li> </ol>		
<b>Finding out &amp; Sorting out (Lesson Development)</b> <i>Time to locate, gather information, organise and process ideas.</i>	<ol style="list-style-type: none"> <li>1. Write the word <i>equivalent fractions</i> on the board.</li> <li>2. Lead pupils to see that the word “equal” comes from the word “equivalent”.</li> <li>3. Group pupils into 3 or 4.</li> <li>4. Pass out Fraction Strips (refer to Appendix 2) to each group of pupils.</li> <li>5. Give the pupils time to investigate the different strips.</li> <li>6. Have the pupils hold up the strip that is divided into the fewest pieces (1/2).</li> <li>7. Have the pupils hold up the strip that is divided into the most pieces (1/12).</li> <li>8. Ask the pupils what they notice about the two Fraction Strips.</li> <li>9. Have the pupils demonstrate their understanding by correctly aligning the two strips to show <math>1/2 = 6/12</math> (refer to Appendix 3).</li> <li>10. Next, have the pupils combine the 1/3 and 1/12 Fraction Strips to show a 1/3 equivalency (refer to Appendix 3).</li> <li>11. Have the pupils work with their Fraction Strips to explore other possible equivalent combinations of 1/2 and 1/3.</li> <li>12. Have the pupils to raise their hands when they think they have discovered other 1/2 and 1/3 equivalent fractions.</li> </ol>	<ul style="list-style-type: none"> <li>• Stationaries (pen, pencil, eraser, sharpener)</li> <li>• Fraction Strips</li> <li>• Worksheet</li> <li>• Visualizer</li> </ul>	At this stage, the pupils should be able to determine equivalent fractions of a given fraction with the use of Fraction Strips.

<p><b>Making Conclusions</b> <i>Draw conclusion and consolidate understanding</i></p>	<ol style="list-style-type: none"> <li>Distribute worksheet (refer to Appendix 4).</li> <li>Ask the pupils to continue working in groups to create other equivalent fractions using the various Fraction Strips according to the worksheet's instructions.</li> <li>Give the pupils the opportunity to create his/her own equivalent fraction pair and record them at the bottom of their worksheet.</li> <li>Have each group pick one person to come to the board and share his/her equivalent fraction pair.</li> <li>Ask the pupils: "Do you notice that there are other ways to get the answer (equivalent fractions)?"</li> <li>Allow pupils to discover the rule where we can make equivalent fractions by multiplying or dividing both the numerator and denominator by the same number.</li> </ol> <div style="text-align: center;"> <p style="text-align: center;"> <math>\frac{1}{2} = \frac{2}{4} = \frac{4}{8}</math>      <math>\frac{18}{36} = \frac{6}{12} = \frac{1}{2}</math> </p> </div> <ol style="list-style-type: none"> <li>Get pupils to share their methods if they can figure out the rule.</li> </ol>	<ul style="list-style-type: none"> <li>Stationaries (pen, pencil, eraser, sharpener)</li> <li>Fraction Strips</li> <li>Worksheet</li> <li>Visualizer</li> </ul>	<p>At this stage, the pupils should be able to:</p> <ol style="list-style-type: none"> <li>create their own equivalent fraction pair with the use of Fraction Strips.</li> <li>determine equivalent fractions by multiplying or dividing both the numerator and denominator by the same number.</li> </ol>
<p><b>Go further (Enrichment)</b> <i>Apply knowledge to develop further understanding</i></p>	<ol style="list-style-type: none"> <li></li> </ol>		
<p><b>Evaluation</b> (with respect to the Content Learning Objectives)</p>			
<p><b>What worked well?</b></p>	<p><b>What would make it even better next time?</b></p>		

APPENDIX 1

What is the fraction of the Shaded Part?

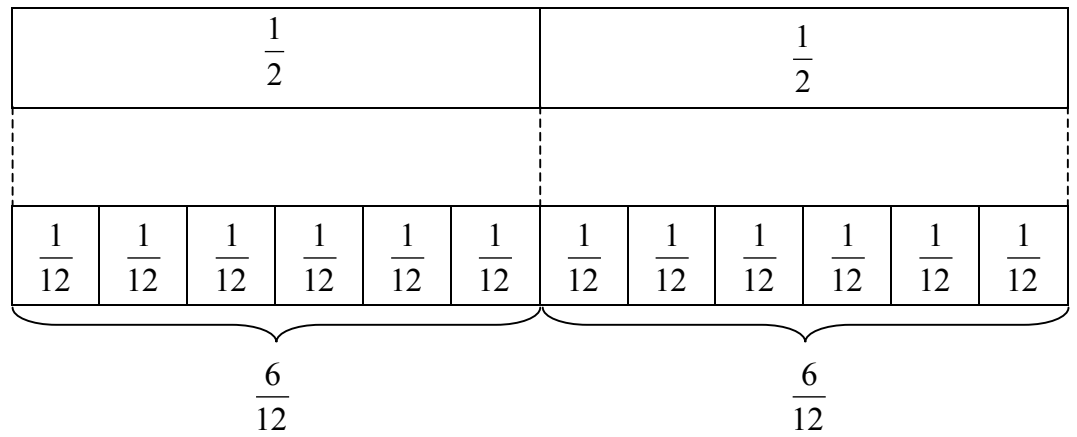


# Fraction Strips

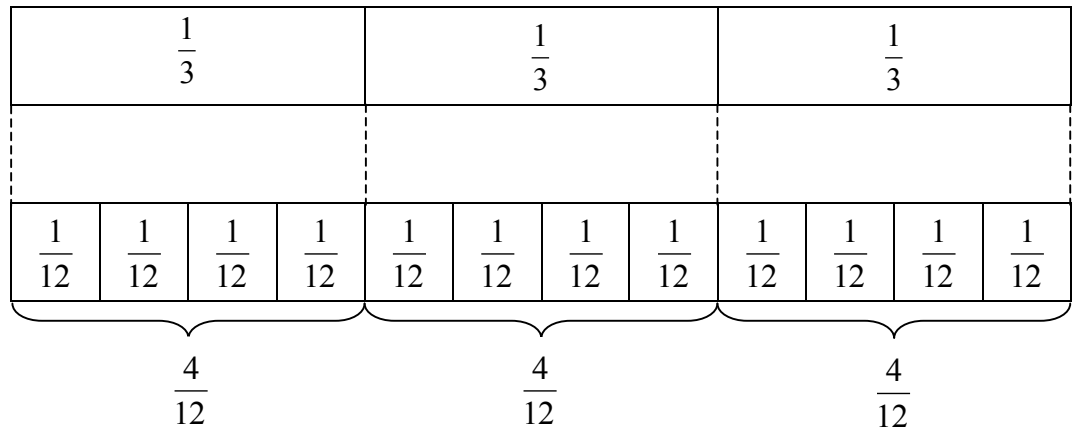
1 Whole											
$\frac{1}{2}$						$\frac{1}{2}$					
$\frac{1}{3}$				$\frac{1}{3}$				$\frac{1}{3}$			
$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$			$\frac{1}{4}$		
$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$		$\frac{1}{5}$	
$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$		$\frac{1}{6}$	
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$	$\frac{1}{10}$
$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$	$\frac{1}{12}$

# Equivalent Fractions

$$\frac{1}{2} = \frac{6}{12}$$



$$\frac{1}{3} = \frac{4}{12}$$



Name: \_\_\_\_\_

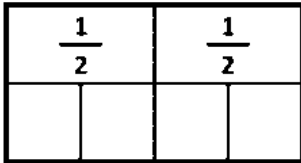
Class: \_\_\_\_\_

## EQUIVALENT FRACTIONS

Use these fraction strips to help you find the equivalent fractions.

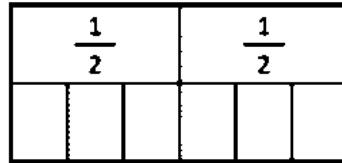
Put the correct fraction into the box and fill in the answers below.

1)



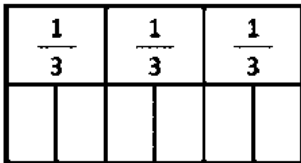
$$\frac{1}{2} = \frac{\quad}{4}$$

2)



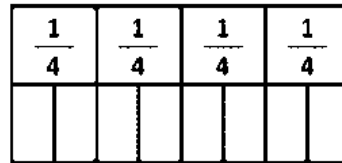
$$\frac{1}{2} = \frac{\quad}{6}$$

3)



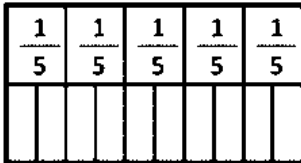
$$\frac{1}{3} = \frac{\quad}{6}$$

4)



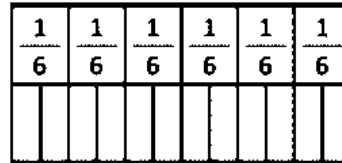
$$\frac{1}{4} = \frac{\quad}{8}$$

5)



$$\frac{1}{5} = \frac{\quad}{10}$$

6)



$$\frac{1}{6} = \frac{\quad}{12}$$

Now use the fraction strips to answer these questions.

7)  $\frac{2}{2} = \frac{\quad}{4}$       8)  $\frac{3}{4} = \frac{\quad}{8}$       9)  $\frac{2}{3} = \frac{\quad}{6}$       10)  $\frac{2}{5} = \frac{\quad}{10}$

11)  $\frac{3}{3} = \frac{\quad}{6}$       12)  $\frac{4}{6} = \frac{\quad}{12}$       13)  $\frac{4}{5} = \frac{\quad}{10}$       14)  $\frac{5}{6} = \frac{\quad}{12}$

Now use the fraction strips to answer these