

## UNIT 4 *Fractions and Percentages*

## Activities

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### **Activities**

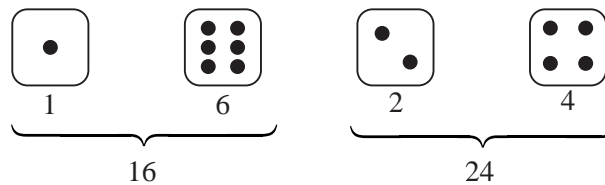
- 4.1 Simplify with Dice
  - 4.2 Equivalent Forms
  - 4.3 Dominoes, Sheet 1
  - 4.4 Dominoes, Sheet 2
- Notes and Solutions (1 page)

# ACTIVITY 4.1

## *Simplify with Dice*

You require 4 dice and pupils to roll them.

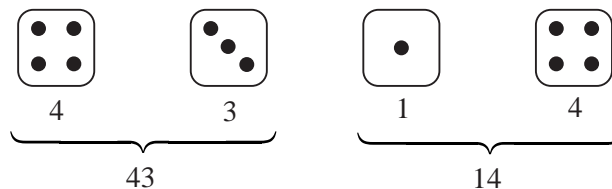
The pupils roll the dice and call out the four digits obtained, which are then used as the numerator and denominator of a fraction. For example:



$$\text{i.e. } \frac{16}{24} \quad \left( = \frac{2}{3} \right)$$

The class must then simplify this fraction to its simplest form or tell you that it is not possible to simplify.

In the case of an improper fraction, the answer must be given as a mixed number. For example:



$$\Rightarrow \frac{43}{14} \quad \left( = 3\frac{1}{14} \right)$$

### *Extension*

Use 6 dice to create 3-digit numbers for the numerator and denominator.

# ACTIVITY 4.2

## *Equivalent Forms*

Pupils are allowed to use any one- or two-digit numbers. They have to decide how many different ways they can write the given fraction. Some examples are stated below; complete the table for each of these fractions and choose other starting fractions (which must *start* in their simplest form).

<i>Starting Fraction</i>	<i>Equivalent Fractions</i>	<i>Number of Equivalent Fractions (including original fraction)</i>
$\frac{1}{2}$	$\frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}, \dots, \dots, \dots, \frac{49}{98}$	49
$\frac{1}{3}$	$\frac{2}{6}, \frac{3}{9}, \frac{4}{12}, \dots, \dots, \dots$	<input type="text"/>
$\frac{3}{4}$	$\frac{6}{8}, \frac{9}{12}, \frac{12}{16}, \dots, \dots, \dots$	<input type="text"/>
$\frac{2}{5}$	$\frac{4}{10}, \frac{6}{15}, \dots, \dots, \dots$	<input type="text"/>
$\frac{5}{8}$	$\frac{10}{16}, \dots, \dots, \dots$	<input type="text"/>
$\frac{1}{17}$	$\dots, \dots, \dots$	<input type="text"/>

### *Extension*

Find the rule for determining how many equivalent fractions can be written using only one- and two-digit numbers.

# ACTIVITY 4.3

## Dominoes, Sheet 1

0.75	0.75
5/10	7/10
2/1	1/2
1/2	2/2

0.6	0.6
9/10	6/10
4/1	1/4
1/4	1/4

0.3	0.3
3/10	3/10
5/1	1/5
1/5	5/5

0.375	0.375
5/10	375/1000
2/5	2/5
2/5	2/5

0.125	0.125
5/10	125/1000
2/1	1/2
1/2	1/2

0.6	0.6
9/10	6/10
4/3	3/4
3/4	3/4

0.8	0.8
8/10	8/10
5/1	1/5
1/5	5/5

0.1	0.1
1/10	1/10
5/3	3/5
3/5	3/5

0.3	0.3
3/10	3/10
4/1	1/4
1/4	1/4

0.5	0.5
5/10	5/10
4/3	3/4
3/4	3/4

0.625	0.625
5/10	625/1000
5/2	2/5
2/5	2/5

0.8	0.8
8/10	8/10
5/3	3/5
3/5	3/5

# ACTIVITY 4.4

## *Dominoes, Sheet 2*

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">0.75</td><td style="padding: 2px;">0.75</td></tr> <tr><td style="padding: 2px;">4   5</td><td style="padding: 2px;">4   5</td></tr> </table>	0.75	0.75	4   5	4   5	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">0.5</td><td style="padding: 2px;">0.5</td></tr> <tr><td style="padding: 2px;">1   8</td><td style="padding: 2px;">1   8</td></tr> </table>	0.5	0.5	1   8	1   8	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">0.2</td><td style="padding: 2px;">0.2</td></tr> <tr><td style="padding: 2px;">5   8</td><td style="padding: 2px;">5   8</td></tr> </table>	0.2	0.2	5   8	5   8	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">0.375</td><td style="padding: 2px;">0.375</td></tr> <tr><td style="padding: 2px;">1   10</td><td style="padding: 2px;">1   10</td></tr> </table>	0.375	0.375	1   10	1   10
0.75	0.75																		
4   5	4   5																		
0.5	0.5																		
1   8	1   8																		
0.2	0.2																		
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1   10	1   10																		
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