Yr 6 Decimals and fractions Unit 4 (6661)

Additional teacher instructions for practice sheets

These notes indicate which practice sheets are most appropriate for which groups.

Day 1 Compare fractions with unrelated denominators using equivalence Sheet 1
Working towards ARE / Working at ARE / Greater Depth
Working towards ARE use a fraction wall (see resources) to help.

Day 2 Equivalent fractions, decimals and percentages Sheet 1
Working towards ARE / Working at ARE / Greater Depth
Greater Depth add other equivalent fractions, e.g. $\frac{1}{20}$s.

Day 3 Find percentages of amounts of money Sheet 1
Working towards ARE

Day 3 Find percentages of amounts of money Sheet 2
Working at ARE / Greater Depth

Day 4 Find unit fractions and non-unit fractions of amounts Sheet 1
Working towards ARE

Day 4 Find non-unit fractions of amounts Sheet 2
Working at ARE / Greater Depth

Compare fractions with unrelated denominators using equivalence

Sheet 1

Write these pairs of fractions as $\frac{1}{10}$s, then write < or > between each pair.

1. $\frac{1}{2}$ $\frac{3}{5}$

2. $\frac{1}{2}$ $\frac{2}{5}$

3. $1\frac{1}{2}$ $1\frac{2}{5}$

Write these pairs of fractions as $\frac{1}{6}$s, then write < or > between each pair.

4. $\frac{1}{2}$ $\frac{1}{3}$

5. $\frac{1}{2}$ $\frac{2}{3}$

6. $1\frac{2}{3}$ $1\frac{1}{2}$

Write these pairs of fractions as $\frac{1}{12}$s, then write < or > between each pair.

7. $\frac{2}{4}$ $\frac{4}{6}$

8. $\frac{1}{3}$ $\frac{1}{4}$

9. $\frac{3}{4}$ $\frac{5}{6}$

10. $\frac{3}{4}$ $\frac{2}{3}$

11. $2\frac{2}{6}$ $2\frac{1}{4}$

12. $\frac{11}{6}$ $\frac{7}{4}$

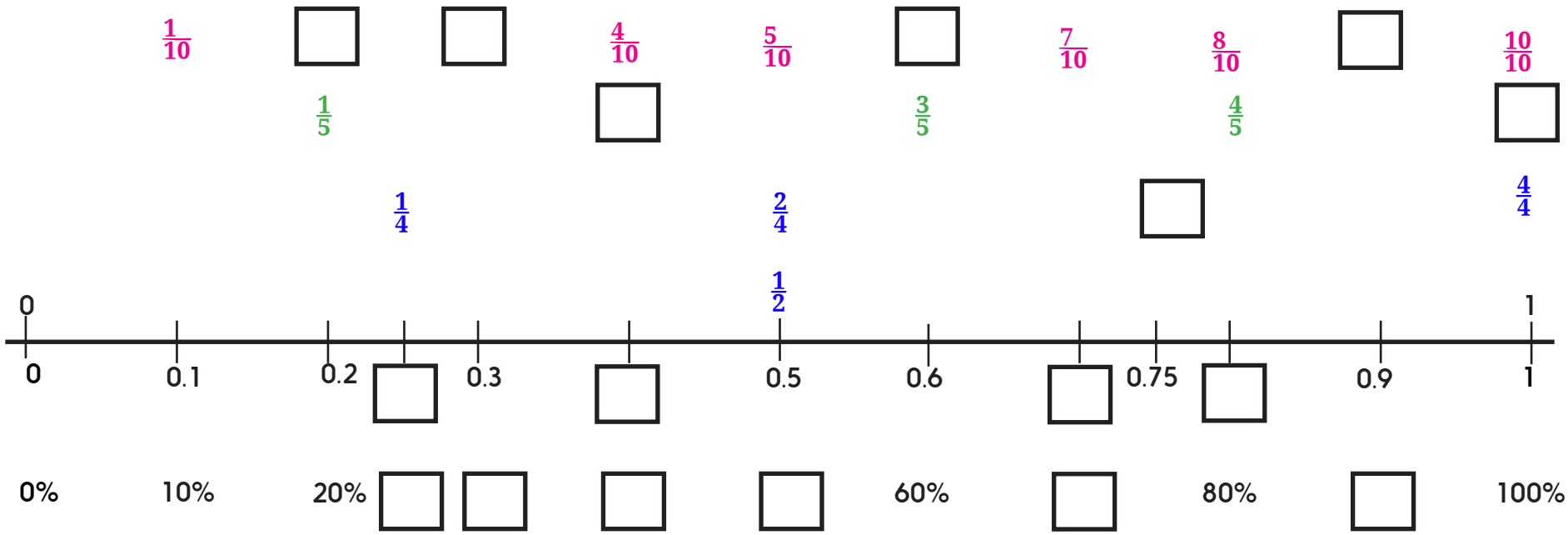
Challenge

Find four fractions with different denominators that can be compared using $\frac{1}{20}$s and write them in order of size, smallest to largest.

Equivalent fractions, decimals and percentages

Sheet 1

Fill in the missing equivalent fractions, decimals and percentages.



Find percentages of amounts of money

Sheet 1

Remember that: 50% = $\frac{1}{2}$ 25% = $\frac{1}{4}$ 10% = $\frac{1}{10}$ 1% = $\frac{1}{100}$

50% of £120 is	25% of £120 is	75% of £120 is	10% of £120 is	1% of £120 is
50% of £250 is	25% of £250 is	75% of £250 is	10% of £250 is	1% of £250 is
10% of £280 is	20% of £280 is	5% of £280 is	40% of £280 is	90% of £280 is
10% of £320 is	20% of £320 is	5% of £320 is	40% of £320 is	90% of £320 is

Find percentages of amounts of money

Sheet 2

Find the following percentages of £360.

50% 10% 25% 75% 20% 60% 90% 5% 1% 6% 11%

Find the following percentages of £248.

50% 10% 25% 75% 30% 60% 90% 5% 1% 16% 99%

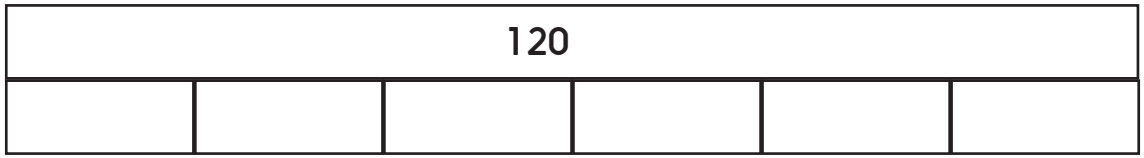
Challenge

Find three different ways to calculate 96% of £360.

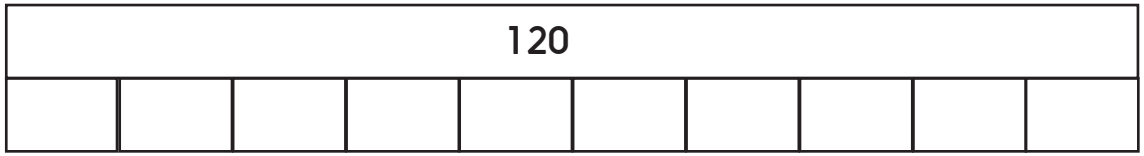
Find unit fractions and non-unit fractions of amounts

Sheet 1

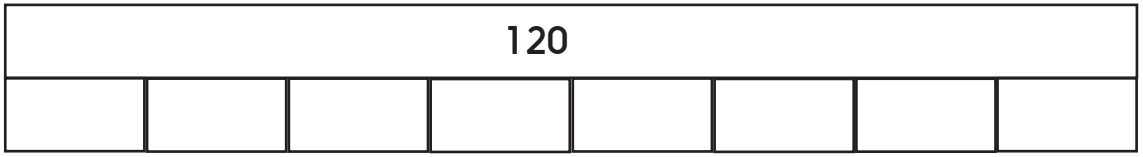
1. $\frac{1}{6}$ of 120 is $\frac{5}{6}$ of 120 is



2. $\frac{1}{10}$ of 120 is $\frac{3}{10}$ of 120 is $\frac{9}{10}$ of 120 is



3. $\frac{1}{8}$ of 120 is $\frac{3}{8}$ of 120 is $\frac{7}{8}$ of 120 is



Now draw your own bar model to show thirds of 240. Use your bar model to find $\frac{1}{3}$ of 240 and $\frac{2}{3}$ of 240.

Now draw your own bar model to show sixths of 240. Use your bar model to find $\frac{1}{6}$ of 240 and $\frac{5}{6}$ of 240.

Now draw your own bar model to show eighths of 240. Use your bar model to find $\frac{1}{8}$ of 240 and $\frac{5}{8}$ of 240.

Find non-unit fractions of amounts

Sheet 2

1. $\frac{5}{6}$ of 240
2. $\frac{3}{8}$ of 240
3. $\frac{5}{12}$ of 240
4. $\frac{2}{3}$ of 180
5. $\frac{5}{6}$ of 180
6. $\frac{4}{9}$ of 180
7. $\frac{3}{4}$ of 124
8. $\frac{3}{8}$ of 168

9. Izzy is saving up for a telescope which costs £140. She has saved $\frac{5}{7}$ of the cost.
   How much has she saved? How much more does she need to save?

10. In a school of 256 children, $\frac{7}{8}$ have school dinners. How many children have school dinners?

11. A supermarket shelf holding 150 eggs collapses. $\frac{1}{6}$ of the eggs are broken.
    How many eggs are still whole?

12. A snail is crawling 125 metres home. It has crawled $\frac{3}{5}$ of the way. How far is left to crawl home?

Challenge

Write each answer to questions 9-12 as a percentage of the 'whole' amount. You might need to approximate, or write a range as your answer.

Decimals and fractions

Answers

Day 1 Compare fractions with unrelated denominators using equivalence Sheet 1

$\frac{1}{2} = \frac{5}{10} < \frac{3}{5} = \frac{6}{10}$

$\frac{1}{2} = \frac{5}{10} > \frac{2}{5} = \frac{4}{10}$

$1\frac{1}{2} = \frac{15}{10} > 1\frac{2}{5} = \frac{14}{10}$

$\frac{1}{2} = \frac{3}{6} > \frac{1}{3} = \frac{2}{6}$

$\frac{1}{2} = \frac{3}{6} < \frac{2}{3} = \frac{4}{6}$

$1\frac{2}{3} = \frac{10}{6} > 1\frac{1}{2} = \frac{9}{6}$

$\frac{2}{4} = \frac{6}{12} < \frac{4}{6} = \frac{8}{12}$

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

$\frac{3}{4} = \frac{9}{12} < \frac{5}{6} = \frac{10}{12}$

$\frac{3}{4} = \frac{9}{12} > \frac{2}{3} = \frac{8}{12}$

$2\frac{2}{6} = \frac{28}{12} > 2\frac{1}{4} = \frac{27}{12}$

$\frac{11}{6} = \frac{22}{12} > \frac{7}{4} = \frac{21}{12}$

Challenge

Accept answers of four fractions with different denominators that have equivalent fractions using $\frac{1}{20}$s in order of size from smallest to largest.

e.g. $\frac{3}{10}$ $(\frac{6}{20})$ < $\frac{1}{2}$ $(\frac{10}{20})$ < $\frac{3}{4}$ $(\frac{15}{20})$ < $\frac{4}{5}$ $(\frac{16}{20})$

Day 2 Equivalent fractions, decimals and percentages Sheet 1

Missing fractions, decimals and percentages are:

$\frac{2}{10}$ $\frac{3}{10}$ $\frac{6}{10}$ $\frac{9}{10}$

$\frac{2}{5}$ $\frac{5}{5}$

$\frac{3}{4}$

0.25 0.4 0.7 0.8

25% 30% 40% 50% 70% 90%

Day 3 Find percentages of amounts of money Sheet 1

50% of £120 is £60
10% of £120 is £12

25% of £120 is £30
1% of £120 is £1.20

75% of £120 is £90

50% of £250 is £125
10% of £250 is £25

25% of £250 is £62.50
1% of £250 is £2.50

75% of £250 is £187.50

10% of £280 is £28
40% of £280 is £112

20% of £280 is £56
90% of £280 is £252

5% of £280 is £14

10% of £320 is £32
40% of £320 is £128

20% of £320 is £64
90% of £320 is £288

5% of £320 is £16

Decimals and fractions

Answers

Day 3 Find percentages of amounts of money Sheet 2

50% of £360 is £180	10% of £360 is £36	25% of £360 is £90
75% of £360 is £270	20% of £360 is £72	60% of £360 is £216
90% of £360 is £324	5% of £360 is £18	1% of £360 is £3.60
6% of £360 is £21.60	11% of £360 is £39.60	

50% of £248 is £124	10% of £248 is £24.80	25% of £248 is £62
75% of £248 is £186	30% of £248 is £74.40	60% of £248 is £148.80
90% of £248 is £223.20	5% of £248 is £12.40	1% of £248 is £2.48
16% of £248 is £39.68	11% of £248 is £27.28	

Day 4 Find unit fractions and non-unit fractions of amounts Sheet 1

$\frac{1}{6}$ of 120 is 20	$\frac{5}{6}$ of 120 is 100	
$\frac{1}{10}$ of 120 is 12	$\frac{3}{10}$ of 120 is 36	$\frac{9}{10}$ of 120 is 108
$\frac{1}{8}$ of 120 is 15	$\frac{3}{8}$ of 120 is 45	$\frac{7}{8}$ of 120 is 105

$\frac{1}{3}$ of 240 is 80	$\frac{2}{3}$ of 240 is 160
$\frac{1}{6}$ of 240 is 40	$\frac{5}{6}$ of 240 is 200
$\frac{1}{8}$ of 240 is 30	$\frac{5}{8}$ of 240 is 150

Day 4 Find non-unit fractions of amounts Sheet 2

1. $\frac{5}{6}$ of 240 is 200.
2. $\frac{3}{8}$ of 240 is 90.
3. $\frac{5}{12}$ of 240 is 100.
4. $\frac{2}{3}$ of 180 is 120.
5. $\frac{5}{6}$ of 180 is 150.
6. $\frac{4}{9}$ of 180 is 80.
7. $\frac{3}{4}$ of 124 is 93.
8. $\frac{3}{8}$ of 168 is 63.
9. Izzy has saved £100. She needs another £40.
10. 224 children have school dinners.
11. 125 eggs are still whole.
12. The snail has another 50 metres left to crawl.

Decimals and fractions

Answers

Day 4 Find non-unit fractions of amounts Sheet 2 continued

Challenge

9. Izzy's £100 is 71.4% of the full £140. Children may say that this is $\frac{100}{140}$ or $\frac{10}{14}$, which ≡ $\frac{5}{7}$. If they find 5 ÷ 7 as a short division, the answer is 0.7142, or 71.4%
10. $\frac{7}{8}$ ≡ $\frac{175}{200}$, which is equivalent to $\frac{87.5}{100}$ or 87.5%
11. 83.3̇%
12. $\frac{50}{125}$ ≡ $\frac{2}{5}$ = 0.4 = 40%