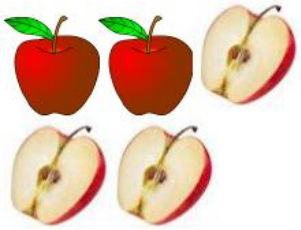
FLUENCY PROGRESSION – FRACTIONS

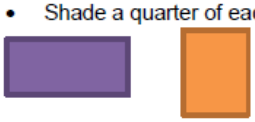
Year 1

- Shade a half of each object.

- Find ½ of 8
- How many halves of the apples below have been eaten?



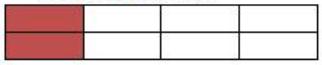
- Shade a quarter of each shape.



- Find ¼ of 12.
- How many quarters are in 2 whole apples?

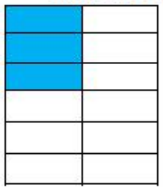
Year 2

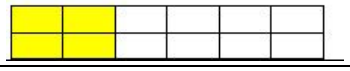
- What fraction of the shape below is shaded?



- Pat is organising her teddy bears. She donates $\frac{1}{4}$ of them to charity. How many bears did she have left?

- Circle the shape showing $\frac{1}{4}$





Year 2

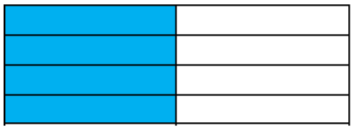
- Find $\frac{1}{3}$ of 30.
- Fill in the boxes:

$\frac{1}{2}$ of 6 = ☐

$\frac{1}{☐}$ of 12 = 3

$\frac{2}{4}$ of ☐ = 4

- Write a simple fraction sentence for the space shaded below.



Year 2

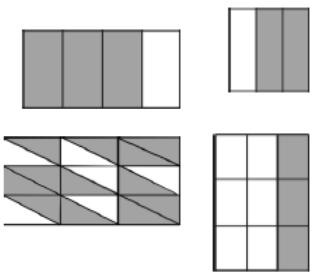
- $\frac{2}{4}$ of this tower is blue. How else can we describe this?

- What fraction of these shapes are shaded orange?

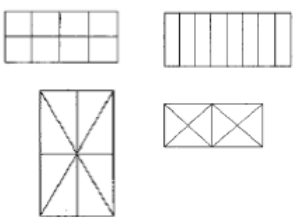
- What is $\frac{2}{4}$ equivalent to?

Year 3

- Write the fractions shaded in the shapes below.

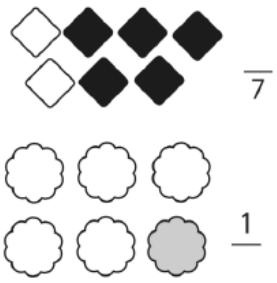


- Find ½ of 16.
  Find ¼ of 16.
  Find $\frac{1}{8}$ of 16.
- Shade in $\frac{3}{8}$ of each of the diagrams below.

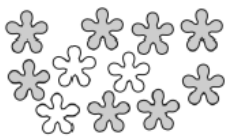


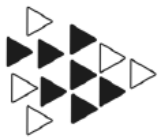
Year 3

- Complete the fractions to describe the set of objects.



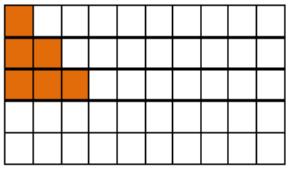
- Write the fraction of each set of objects that is shaded.





Year 3

- Shade the diagram to continue the pattern.



- Finish the sequences:

$\frac{1}{10}, \frac{2}{10}, \frac{3}{10}, \_\_, \_\_, \_\_$

$\frac{10}{10}, \frac{9}{10}, \frac{8}{10}, \_\_, \_\_, \_\_$

- What comes next?

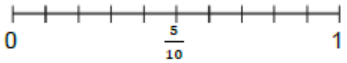
Five tenths, six tenths, seven tenths, _____

Four tenths, three tenths, two tenths, _____

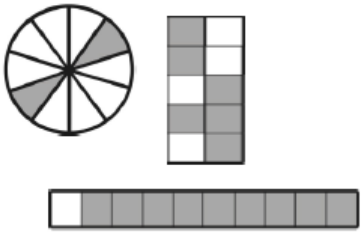
Nine tenths, eight tenths, seven tenths, _____

Year 3

- Here is a number line from 0 - 1. Can you fill in the missing fractions on the number line?



- Write the fraction of the shape that is shaded.



- Draw and shade shapes to show the following fractions.

$\frac{1}{10}$ $\frac{6}{10}$ $\frac{8}{10}$

Year 3

- Complete the statements:

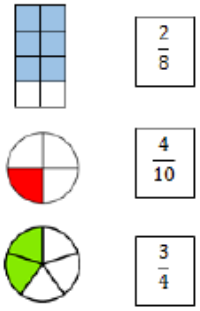
$\frac{1}{2} = \frac{\_}{6}$

$\frac{1}{2} = \frac{\_}{4} = \frac{\_}{8}$

- Draw diagrams to show fractions that are equivalent to

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

- Match the diagram to the equivalent fraction.



Year 3

- Complete the statements:

$\frac{1}{5} + \frac{3}{5} =$

$\frac{6}{8} - \frac{3}{8} =$

$\frac{2}{10} + \frac{3}{10} + \frac{4}{10} =$

- Write these statements using numbers:

1 sixth + 3 sixths = ☐ Sixths

5 eighths - 3 eighths = ☐ Eighths

- Find the sum of:

$\frac{2}{12}, \frac{4}{12}$ and $\frac{5}{12}$

Year 3

- Order from smallest to largest

$\frac{3}{9}, \frac{1}{9}, \frac{8}{9}, \frac{5}{9}, \frac{9}{9}$

- Use <, > or = to complete the statements below

$\frac{4}{9}$ ○ $\frac{2}{9}$

$\frac{1}{7}$ ○ $\frac{1}{5}$

$\frac{2+2}{8}$ ○ $\frac{3+1}{8}$

- Which is greater?

1 ninth or 1 tenth

Year 3

- Use different concrete objects and pictorial representations to make $\frac{3}{6}$

- Phil baked a chocolate and banana loaf. He ate $\frac{3}{6}$ of it. Rich ate $\frac{2}{6}$ of it. What amount of loaf was left?

- Fill in the missing boxes

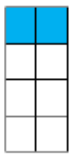
$\frac{1}{5} + \frac{2}{5} + \frac{2}{5} = \square$

$\frac{4}{7} - \frac{\square}{7} = \frac{5}{7} - \frac{5}{7}$

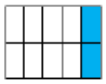
$\frac{1}{4} + \frac{2}{3} + \frac{\square}{\square} + \frac{1}{3} = 2$

Year 4

- Complete the statements:



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



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

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

- ½ is equivalent to 2 quarters. Write and draw three more fractions that are equivalent to a half.

- Draw diagrams to show fractions that are equivalent to $\frac{4}{8}$

Year 4

- Use the number line to count from 0.05 to 0.12. How many steps did you take?

- Count up from 0 on the number line to find the value of the missing amounts.

- Continue the sequences:

2.45, 2.46, 2.47, ___, ___, ____

$\frac{25}{100}, \frac{26}{100}, \frac{27}{100}$, ____, ____, ____

4.32, 4.31, 4.30, ___, ___, ___

Year 4

- Find:
  $\frac{2}{5}$ of 45 $\frac{3}{8}$ of 24

- Emily buys a box of 24 chocolates. She eats $\frac{1}{4}$ of the chocolates and her Mum eats $\frac{1}{3}$. How many chocolates are left?

- George and Grace have ordered lemonade. Grace has a small lemonade which is 250ml. George has a large lemonade which is $\frac{4}{10}$ more than a small. How many ml does George have?

- If George only drinks half of his lemonade and Grace drinks three quarters of her lemonade, who drinks the most? Show your working.

Year 4

- Calculate:

Use diagrams and bar modelling to solve the problems below.

$\frac{3}{8} + \frac{2}{8} =$ $\frac{1}{6} + \frac{2}{6} =$

$\frac{7}{8} - \frac{2}{8} =$ $\frac{5}{7} - \frac{2}{7} =$

- Sarah eats $\frac{3}{8}$ of a bunch of grapes; Tom eats $\frac{2}{8}$ of a bunch of grapes. What fraction of the grapes have they eaten altogether?

- Fill in the box:

$\frac{5}{8} + \square = \frac{7}{8}$

$\frac{5}{6} - \square = \frac{1}{6}$

Year 4 (Decimals)

- Complete the table:

Fraction	Decimal
$\frac{6}{10}$	
	0.2
$\frac{37}{100}$	
	0.68

- Match the fraction to the correct decimal.

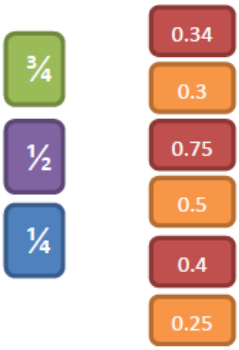
- Here is a tens frame with 3 squares shaded, what fraction does this represent? Place 0.1 place value counters on top of the shaded squares to find the decimal equivalent.

Year 4 (Decimals)

- Fill in the table:

Fraction	Decimal
$\frac{1}{2}$	
$\frac{1}{4}$	
$\frac{3}{4}$	

- Match the fraction to the correct decimal.

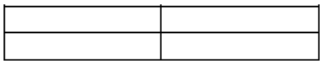


- Write the fraction that matches to each decimal.

0.25 =
0.5 =
0.75 =

Year 5

- Use < > or = to make the statement below correct
  $\frac{3}{4}$ $\frac{9}{12}$
- Order these fractions
  $\frac{2}{5}, \frac{5}{15}, \frac{3}{10}$
- Fill in the missing fraction
  $\frac{1}{3} = \frac{2}{\quad} = \frac{3}{9}$
- Find 5 equivalent fractions of $\frac{3}{4}$
- Colour $\frac{6}{8}$ of this shape



- Complete the sentences:

  One eighth is a half of one
  _____

  One sixth is a half of one
  _____

  One quarter is a half of one
  _____

Year 5

- Convert these from mixed numbers to improper fractions:
  $3\frac{2}{5}$

  $2\frac{1}{6}$
- A pizza has 8 slices. At a party, 2 full pizzas and 3 slices are left over.
  Write this as an improper fraction.
- Pencils are packed 6 to a box. A teacher hands them out and has $\frac{15}{6}$ left.
  Write how many boxes she has left as a mixed number.

Year 5

- Calculate:
  $\frac{15}{6} - \frac{5}{3} =$

  $\frac{24}{8} - \frac{15}{8}$

  $\frac{2}{3} + \frac{8}{12}$
- Kelsey and Beth had a bag of sweets.
  Kelsey took $\frac{2}{7}$ and Beth took $\frac{6}{21}$
  What was the difference between their amounts?
- Fill in the missing fractions:

  $\frac{11}{7} + \_\_ = \frac{18}{7}$

  $\frac{18}{5} - \_\_ = \frac{9}{10}$

  $\_\_ - \frac{4}{6} = \frac{1}{6}$

Year 5

- Complete the table:

Multiplication	Improper fraction	Mixed number
$3 \times \frac{4}{7}$	$\frac{12}{7}$	
$2 \times \frac{5}{8}$		
$6 \times \frac{3}{9}$		

- Use the diagram to find the answer.
  $3 \times \frac{2}{3}$

- Draw a diagram to represent
  $5 \times \frac{3}{7}$

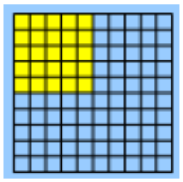
Year 5

- Fill in the blanks:

  ■ = $\frac{65}{100}$

  ■ = 0.88

  0.2 = ■
- Write the shaded part of this 100 square grid as a decimal number and a fraction.



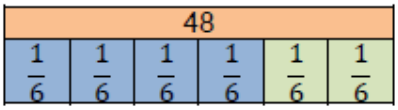
- Match the decimal number to the equivalent fraction:

0.5	$\frac{50}{100}$
0.05	$\frac{1}{2}$
0.55	$\frac{5}{100}$
0.50	$\frac{55}{100}$

Year 5

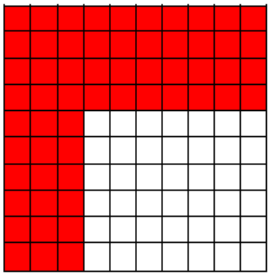
- There are 56 people playing rounders. $\frac{5}{8}$ of the players are girls. How many girls are playing?
- In a class of 32 children, $\frac{3}{4}$ of them voted for maths as their favourite subject. How many children voted for something else? Give your answer as a whole number.
- 48 people work at an office. On Monday, $\frac{4}{6}$ of them walked to work. How many people walked to work?

  Use the bar model to help you visualise the problem.



Year 5 (Decimals)

- Write the decimal number that is illustrated below:



- Write five and ninety-one tenths as a decimal number.
- Insert < or > to make the statement below true.

0.06 ▭ 0.006

- Put the following numbers in ascending order:

six thousandths

0.5

$\frac{7}{1000}$

1 tenth

Year 5 (Percentages)

- There are 100 malteasers in a bag. 56 were eaten. How many are left?
  Write this as a fraction and as a decimal.
- There are 200 lego pieces in a box. Theo uses 114 of them to build a robot.
  Write the amount he used as a percentage out of 100
- Fill in the missing boxes to make the statement true:

▭ % = $\frac{\square}{100}$ = 0.1

- Ash spends $\frac{4}{5}$ of his money on a coat and 30% on shoes. He started with £55. How much does he have left?
- A painter uses $\frac{1}{25}$ of white paint to paint a wall. What percentage does he have left?
- Here are a mix of equivalent percentages, fractions and decimals. Put them into correct piles.
  (Cut up and put in an envelope)

Year 6

- Simplify the following fraction to its lowest form.

$\frac{48}{54}$

- Convert these fractions to the same denominator.

$\frac{2}{7}$ $\frac{3}{8}$

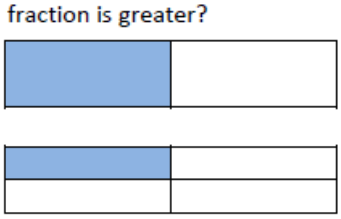
- Which is greater?

$\frac{2}{3}$ or $\frac{4}{7}$

Year 6

- Use the diagram to show that $\frac{1}{3}$ is greater than $\frac{1}{5}$

- Which is greater?
  $2\frac{4}{5}$ or $2\frac{3}{8}$
- Look at the two diagrams. Which fraction is greater?



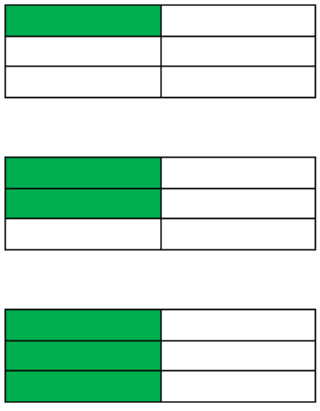
Draw a diagram that would go between the two above if ordered from smallest to greatest.

Year 6

- Work out the missing fractions in the sequence below.

$\frac{5}{7}$, —, 1, —, —

- Draw the next three in the following sequence

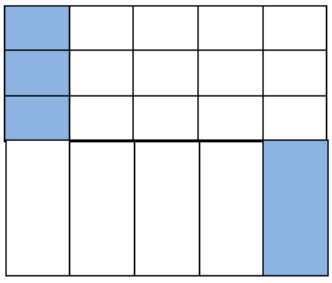


Year 6

- A jug contains some milk. Josh pours $\frac{1}{2}$ of the milk into a glass.
  Josh pours $\frac{3}{10}$ of the milk into another glass.
  What fraction of the milk is left?
- Work out:

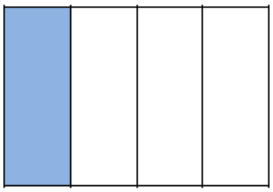
$5\frac{3}{7}$ - $2\frac{6}{5}$

- Add these diagrams together.



Year 6

- Use the diagram to show $\frac{1}{3} \times \frac{1}{4}$



- What is 1 ninth multiplied by 1 seventh?

- Work out

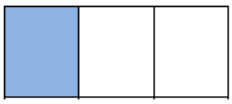
$\frac{1}{4} \times \frac{1}{2} =$

$\square \times \frac{1}{2} = 1$

Year 6

- Work out four sevenths divided by 5

- Use the diagram to show $\frac{1}{3} \div 2$



- Alfie has $\frac{4}{6}$ of a pizza left. He shares it between 4 people. How much do they each get?

- Beth shares $\frac{3}{4}$ kg of sweets into 3 equal piles so that she can share them with her friends.
What fraction of a kg is in each pile?

Year 6

- Complete the table.

$\frac{1}{8}$	$\frac{2}{8}$	
0.125		0.375

- Charlie divided 1 pizza into 5 pieces.
If he ate 2 pieces, what decimal fraction of the pizza did he eat?

- Use a 1 place value counter.
I want to divide this by 2
How can I do it?
Exchange your 1 for ten tenths, now I can divide ten tenths into 2 groups which equals 0.5
Therefore 1 divided by 2 is 0.5 which is why $\frac{1}{2} = 0.5$
Can you divide 1 by 4?
What equivalence between fractions and decimal fractions does this show?

Year 6

- What fraction (in its simplest form) and percentage are equal to 0.65?

- Work out the missing values in these fractions.

$$\frac{2}{5} = \frac{10}{\quad} = \frac{\quad}{45}$$

- Last month Kira saved $\frac{3}{5}$ of her £10 pocket money.
She also saved 15% of her £20 birthday money.
How much did she save altogether?

Year 6 (Percentages)

- Calculate:

10% of 60
25% of 300
45% of 460

- Find:

20% of £340
35% of 6m
75% of £1340
20% of 2 hours

- Daniel has spent 30 minutes doing his homework so far this week. This is 25% of the time he has to spend on his homework.

How much longer must he spend on his homework this week?

Year 6 (Percentages)

- Fill in the table.

Fraction	Decimal	Percentage
	0.375	
$\frac{2}{5}$		
		75%

- Order from smallest to largest:

40% , $\frac{3}{5}$, 0.45, 54%, $\frac{5}{10}$, 0.05

- Four friends share a pizza.
Tyrone eats 35% of the pizza,
Jasmine eats 0.4 of the pizza,
Imran eats 12.5% of the pizza and Oliver eats 0.125 of the pizza.
Can you write the amount each child ate as a fraction?
Who ate the most?
Who ate the least?
Is there any of the pizza left?