3 decimal places

Complete the sentences.

There are ____ ones, ____ tenths, ____ hundredths and ____ thousandths.
The number in digits is _____

Write down the value of the 3 in the following numbers.

0.53 362.44 739.8 0.013 3,420.98

Tina says that 3.24 can be written as 2 ones, 13 tenths and 4 hundredths.

Do you agree?

How else can you partition 3.24?
Think about exchanging between columns.

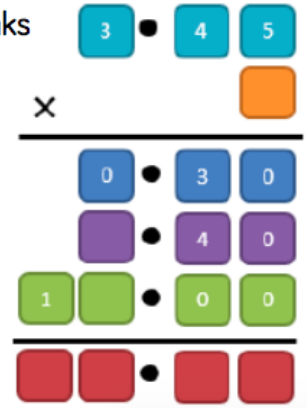
Multiply and divide decimals by integers

Use the place value counters to multiply 1.212 by 3
Complete the calculation alongside the concrete

Tens	Ones	Tenths	Hundredths	Thousandths
	1	0.1 0.1	0.01	0.001 0.001
	1	0.1 0.1	0.01	0.001 0.001
	1	0.1 0.1	0.01	0.001 0.001

A jar of sweets weighs 1.23 kg.
How much would 4 jars weigh?

Fill in the blanks



Multiply and divide by 10, 100 and 1000

Children multiply numbers with up to three decimal places by 10, 100 and 1,000[LT][SEP]They discover that digits move to the left when they are multiplying and look at when to use zero as a place value holder.

Use a place value chart to multiply the following decimals by 10, 100 and 1,000

6.4 6.04 6.004

Fill in the missing numbers in these calculations

32.4 × ☐ = 324 1.562 × 1,000 = ☐

☐ × 100 = 208 4.3 × ☐ = 86

Use the place value chart to divide the following numbers by 10, 100 and 1,000

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

44 1.36 107 5

Can you find a path from 6 to 0.6?
You cannot make diagonal moves.

6	x 10	x 10	÷ 100
÷ 10	x 100	x 100	÷ 10
x 10	÷ 10	÷ 1000	÷ 100
÷ 1000	x 1000	x 100	0.06

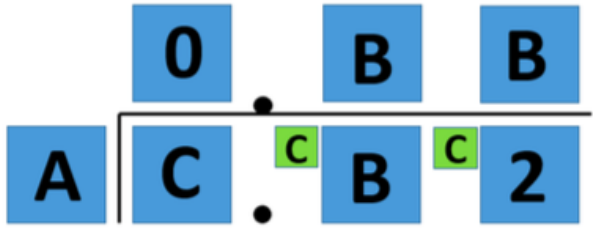
Is there more than one way?

Decide whether you will use grouping or sharing and use the place value chart and counters to solve:

7.55 ÷ 5 = 8.16 ÷ 3 = 3.3 ÷ 6 =

C is $\frac{1}{4}$ of A
B = C + 2

Use the clues to complete the division:



Division to solve problems

Children will apply their understanding to use division to solve problems in cases where the answer has up to 2 decimal places.

Mrs Forbes has saved £4,960
She shares the money between her 15 grandchildren.
How much do they each receive?

Playdoh is sold in two different shops.
Shop A sells four pots of Playdoh for £7.68
Shop B sells three pots of Playdoh for £5.79
Which shop has the better deal?
Explain your answer.

Each division sentence can be completed using the digits below. If there is more than one digit missing from the division, it must be filled with the same digit.
For example, 44 ÷ 5 = 8.8

□3 ÷ □ = 10.33

12□ ÷ □ = 18.14

□34 ÷ □ = 104.25

Decimals as fractions

Children will apply their understanding to use division to solve problems in cases where the answer has up to 2 decimal places.

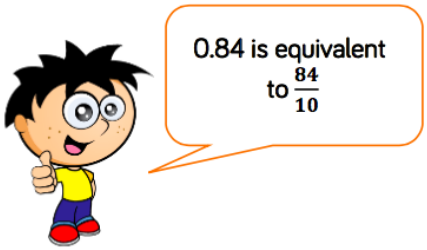
What decimal is shaded?
Can you write this as a fraction?

0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Three friends share a pizza. Sam ate 0.25 of the pizza, Mark ate 0.3 of the pizza and Jill ate 0.35 of the pizza.

- Can you write the amount each child ate as a fraction?
- What fraction of the pizza is left?

Alex says,



Do you agree?
Explain why.

Match the fractions to the equivalent decimals.

$\frac{4}{10}$	0.09
$\frac{37}{100}$	0.4
$\frac{9}{100}$	0.37

Eva says that $\frac{63}{100}$ is less than 0.65

Do you agree with Eva?
Explain your answer.

Fractions to decimals

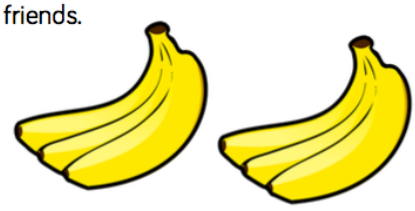
Children will apply their understanding to use division to solve problems in cases where the answer has up to 2 decimal places.

Use the short division method to convert the fractions to decimals.
Write the decimals to three decimal places.

$\frac{4}{7}$ $\frac{5}{9}$ $\frac{5}{6}$

8 friends share 7 pizzas.
How much pizza does each person get?
Give your answer as a decimal fraction.

Pete shares 6 bananas between some friends.



Each friend gets 0.75 of a banana.

How many friends does he share the bananas with?
Show your method.

Fractions to Percentages

It is important that children understand that 'percent' means 'out of 100', therefore they will need to use their knowledge of equivalent fractions to make the denominator 100

What fraction of the 100 square is shaded?
Can you write this as a percentage?

Shade in another 100 square to show 50%
Can you write this as two different fractions?

What numbers have been covered by the splats?

$\frac{12}{100} = \_\_\_\_\%$. $\frac{\_\_\_\_}{100} = 35\ \%$

$\frac{12}{50} = \_\_\_\_\%$. $\frac{44}{\_\_\_\_} = 22\ \%$

In a Maths test, Tom answered 62% of the questions correctly.

Lily answered $\frac{3}{5}$ of the questions correctly.

Who answered more questions correctly?

Explain your answer.

Equivalent fractions, decimals and percentages

Children will apply their understanding to use division to solve problems in cases where the answer has up to 2 decimal places.

Complete the table.

Decimal	Fraction	Percentage
0.35	$\frac{35}{100}$	35%
0.27		
0.6		

Fill in the missing boxes.

0.72 = ☐ % 89% = ☐ %

6% = ☐ % 0.4 = ☐ %

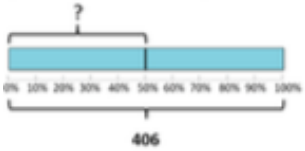
Use the digit cards to complete the missing information.
How many ways can you find?

$\frac{\square}{8} = 0.\square 25 = \square 2.\square\%$

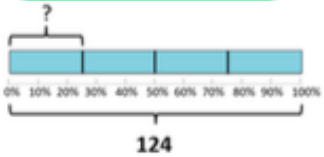
Percentages of an amount

Children use different representations to find percentages of amounts. For example 50%, 25%, 10%, 1%.

Find 50% of 406
50% is equal to a half so we can divide by 2 to find 50%



Calculations
50% = $\frac{1}{2}$
406 ÷ 2 = 203



Use this to find 25% of 124
Which fraction is 124 equivalent to?

Find:

10% of 300 10% of 30 10% of 3
1% of 500 1% of 1 m 1% of 750 ml

Henry says,

> To find 10% you divide by 10, so to find 50% you divide by 50

Do you agree? Explain why.

Calculate:
(a) 15% of 6 m (b) 35% of 3 kg (c) 65% of 2 hours

Percentages- missing values

Complete:

Use a bar model to help you if you need.

10% of ☐ = 15 ☐ % of 150 = 45

30% of ☐ = 90 30% of ☐ = 900

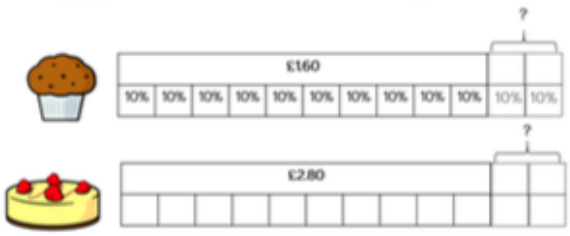
Can you see a link between the questions?

350,000 people visited the Natural History Museum last week.
15% of people visited on Monday.
40% of people visited on Saturday.
How many people visited the Natural History Museum the rest of the week?

25% of ☐ = ☐ % of 60

Percentage increase and decrease

Janet is increasing the prices in her café by 20%
Calculate the percentage increase for the following items:



Use the same models to calculate the new cost for each item.

Football tickets cost £46.80 after a 20% decrease.

Cindy says,

The original tickets cost £56.16

Order Fractions, decimals and percentages

Use <, > or = to complete the statements:

0.23 ◯ 24% ◯ $\frac{1}{4}$

37.6% ◯ $\frac{3}{8}$ ◯ 0.27

Order from smallest to largest:

40%	$\frac{2}{5}$	0.45	$\frac{3}{10}$	54%	0.05

Can you place them on a number line?

In a Geography test, Sam scored 62% and Hamza scored $\frac{3}{5}$

Who got the highest score?

Explain your answer.

Amir buys 12 apples. They each cost 19p.
How much does Amir pay altogether?

Decimal	Fraction (in tenths or hundredths)	Simplified fraction
0.82		
0.01 0.01 0.01 0.01 0.01		
0.25		

7 chocolate bars are split equally between 8 friends.
How much does each person get?
Give your answer as a decimal.

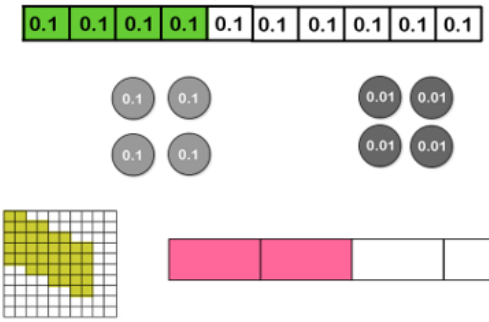
5 pizzas are shared equally between a number of children.
Each child gets 0.25 of a pizza.

How many children are there?

There are lots of ways to find the answer. Share your ideas.

0.3 = ? %

Victoria says, "The odd diagram out is the hundred square because it shows 40 parts. All the others show 4 parts."
Is Victoria correct? Explain your answer.



First find 10% and then use this to find each unknown percentage.

a) 20% of £30

b) 30% of 900 kg

c) 70% of 800 ml

d) 40% of 1 km

e) 90% of £2.50

Decimal	Fraction	Percentage
		75%
0.83		
	$\frac{2}{10}$ or $\frac{20}{100}$	
		10%

$64 = 4b + 32$ **$5a + 25 = 145$**

$0.5x + 2 = 4.5$ **$9y - 0.3 = 45 - 0.3$**

Two children are looking through their sock drawers.
They both have green, red, black and white socks.

Alicia's socks are 20% green, 10% red, 50% black and 20% white.
Jordan's socks are 15% green, 35% red, 10% black and 40% white.

Jordan has 20 socks.

Alicia and Jordan have 17 black socks between them.

How many of each colour sock do they both have?

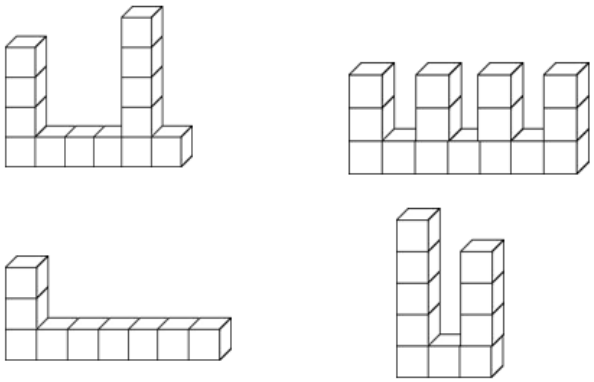
If  = 10

and  = 7

What is  worth?

Mo's family have gone to France for a holiday. A sign says that the nearest town is 16km away. About how many miles away is the town?

Each of these shapes is made out of cubic centimetres.
What is the volume of each shape?



These are some websites that could help your child:
Addition
https://www.topmarks.co.uk/Flash.aspx?f=bingoaddition

Subtraction
https://www.topmarks.co.uk/maths-games/subtraction-grids

Timetables and number bonds- Hit the Button
https://www.topmarks.co.uk/maths-games/hit-the-button

Timetables- Shooting bubbles
http://www.mad4maths.com/4_x_multiplication_table_math_game/

Timetables- Fishy timetables
http://www.what2learn.com/home/examgames/maths/subtraction/

Place Value- Place value chart
https://www.topmarks.co.uk/

Recognising numbers- Blast off
https://www.topmarks.co.uk/learning-to-count/blast-off

TimesTableRockStars

BBC Bitesize