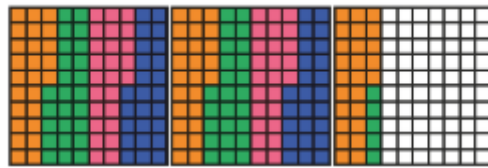


Year 4 Indigo Knowledge Organiser: Numbers to 10,000



Can you count in hundreds and twenty-fives?



1 thousand



2 thousands



3 thousands



4 thousands



5 thousands

Can you count in thousands?



Can you count in thousands, hundreds, tens and ones?

thousands	hundreds	tens	ones
	8	5	1
	6	7	2

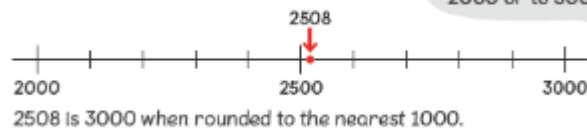
$800 > 672$
So, $851 > 672$

Can you compare and order 3 and 4 digit numbers?

177	277	377	477	577	677	777	?
-----	-----	-----	-----	-----	-----	-----	---

Can you make number patterns using 1000, 100, 10 or 1 more/less?

Moscow is 2508 km from London.
Round 2508 to the nearest 1000.



Can you round to the nearest 10, 100 or 1000 and use rounding to estimate?

thousands	hundreds	tens	ones
2	3	4	5

The digit 2 is in the thousands place.
It stands for 2000.

The digit 3 is in the hundreds place.
It stands for 300.

The digit 4 is in the tens place.
It stands for 40.

The digit 5 is in the ones place.
It stands for 5.

Can you use place value to count and recognise the value of each digit in a 4 digit number?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

Can you count in sixes, sevens and nines?

Year 4 Indigo Knowledge Organiser: Addition & Subtraction Within 10,000

$$\begin{array}{r} 2 \ 3 \ 1 \ 4 \\ + 4 \ 2 \ 4 \ 0 \\ \hline 6 \ 5 \ 5 \ 4 \end{array}$$

- Step 1 Add the ones.
4 ones + 0 ones = 4 ones
- Step 2 Add the tens.
1 tens + 4 tens = 5 tens
- Step 3 Add the hundreds.
3 hundreds + 2 hundreds = 5 hundreds
- Step 4 Add the thousands.
2 thousands + 4 thousands = 6 thousands

$$2314 + 4240 = 6554$$

Can you add two numbers without renaming?

$$\begin{array}{r} 3 \ 4 \ 3 \ 7 \\ - 2 \ 0 \ 1 \ 6 \\ \hline 1 \ 4 \ 2 \ 1 \end{array}$$

- Step 1 Subtract the ones.
7 ones - 6 ones = 1 one
- Step 2 Subtract the tens.
3 tens - 1 ten = 2 tens
- Step 3 Subtract the hundreds.
4 hundreds - 0 hundreds = 4 hundreds
- Step 4 Subtract the thousands.
3 thousands - 2 thousands = 1 thousand

Can you subtract two numbers without renaming?

$$\begin{array}{r} 5 \ 6 \ 0 \ 8 \\ + 1 \ 2 \ 3 \ 5 \\ \hline 6 \ 8 \ 4 \ 3 \end{array}$$

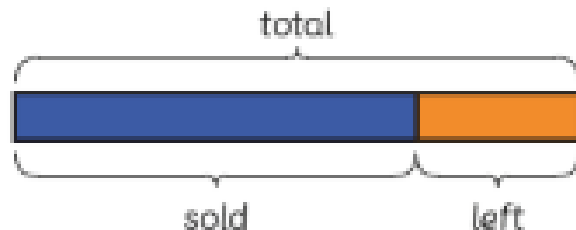
Can you add two numbers with renaming?

$$1999 + 299 = 2000 + 298$$

make 2000 = 2298

The total price is £2298.

Can you add using mental strategies?



Can you solve problems involving addition and subtraction?

$$\begin{array}{r} 6 \ 4 \ 12 \ 11 \\ - 2 \ 3 \ 8 \ 5 \\ \hline 4 \ 1 \ 4 \ 6 \end{array}$$

Can you subtract two numbers with renaming?

$$2001 - 189$$




$$1999 - 189 = 1810$$

$$2001 - 189 = 1812$$

Can you subtract using mental strategies?

Year 4 Indigo Knowledge Organiser: Multiplication & Division



1 group of 6
 $1 \times 6 = 6$

2 groups of 6
 $2 \times 6 = 12$

3 groups of 6
 $3 \times 6 = 18$

4 groups of 6
 $4 \times 6 = 24$

There are 24 flowers altogether.

Can you multiply and divide by 6?

	$1 \times 7 = 7$
	$2 \times 7 = 14$
	$3 \times 7 = 21$
	$4 \times 7 = 28$

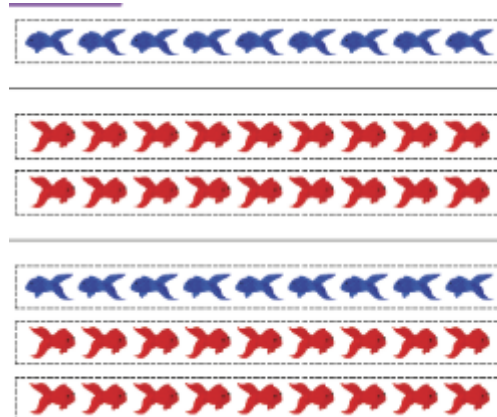
Can you multiply and divide by 7?

Can you multiply and divide by 11?

$2 \times 12 = 24$
 $4 \times 12 = 48$
 $8 \times 12 = 96$

Can you multiply and divide by 12?

$5 \times 11 = 55$
 $3 \times 11 = 33$
 $8 \times 11 = 88$



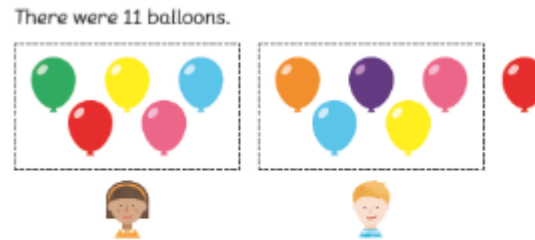
1 group of 9
 $1 \times 9 = 9$

2 groups of 9
 $2 \times 9 = 18$

3 groups of 9
 $3 \times 9 = 9 + 9 = 18$

Can you multiply and divide by 9?

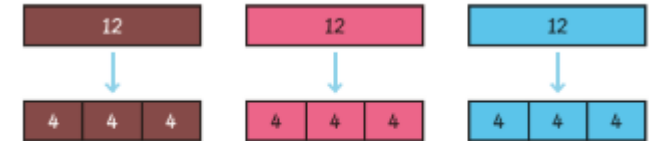
There were 11 balloons.



$11 \div 2 = 5$ remainder 1

The quotient is 5 and the remainder is 1.
 Each friend got 5 balloons.
 There was 1 balloon left over.

Can you divide with a remainder?



$12 \div 4 = 3$

So, $36 \div 4 = 3 + 3 + 3 = 9$

Can you solve word problems involving multiplication and division?



Pick a coin and then pick a note.
 Add them together.
 Try different combinations.
 How many different amounts are possible?

Can you solve multiplication and division word problems finding all possibilities?

Year 4 Indigo Knowledge Organiser: Further Multiplication & Division



1 plate of 4
 $1 \times 4 = 4$

0 plates of 4
 $0 \times 4 = 0$

Can you multiply and divide by 0 and 1?



This shows 3×6 .



This shows 6×3 .

Do you understand that multiplication can be done in any order (commutativity)?

$$3 \times 8 \times 5 = 120$$

Can you multiply three numbers?

Method 1

$$3 \times 8 \times 5 = 120$$

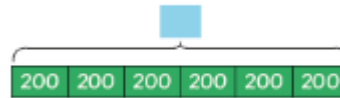
Method 2

$$3 \times 8 \times 5 = 120$$

$$\begin{array}{r} \times \quad 2 \quad 3 \\ 1 \quad 3 \quad 8 \end{array}$$

$$\begin{array}{r} \times \quad 2 \quad 3 \\ + \quad 1 \quad 2 \quad 0 \\ 1 \quad 3 \quad 8 \end{array}$$

Can you multiply 2 and 3 digit numbers with renaming?



Can you multiply multiples of 100?

$$3 \times 40 =$$



Can you multiply with multiples of 10?

Method 1



Can you divide 2 and 3 digit numbers with remainders?

$$68 \div 2 =$$



Method 1



Method 2



Method 2

$$\begin{array}{r} 2 \overline{) 68} \\ - 6 \quad 8 \\ \hline 8 \quad 8 \\ - 8 \quad 8 \\ \hline 0 \end{array}$$

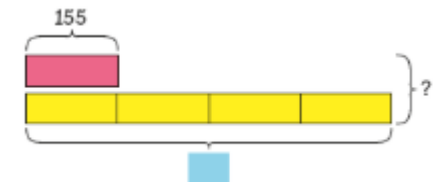
$$\begin{array}{r} 2 \overline{) 68} \\ - 6 \quad 8 \\ \hline 8 \quad 8 \\ - 8 \quad 8 \\ \hline 0 \end{array}$$

Each should take 34 postcards.

$$\begin{array}{r} 2 \overline{) 68} \\ - 6 \quad 8 \\ \hline 8 \quad 8 \\ - 8 \quad 8 \\ \hline 0 \end{array}$$

$$68 \div 2 = 34$$

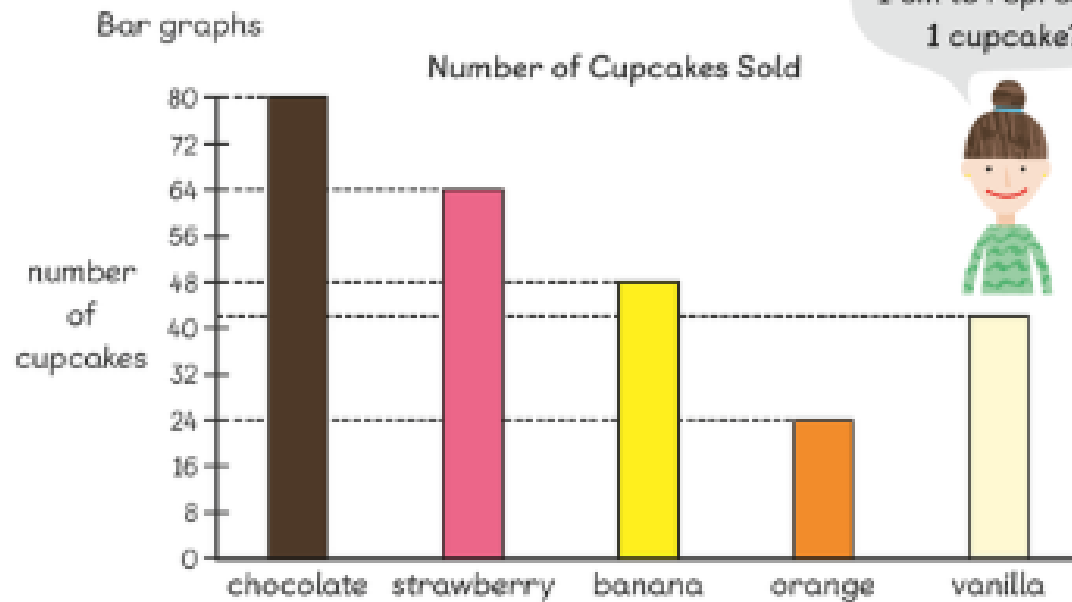
Can you divide 2 and 3 digit numbers?



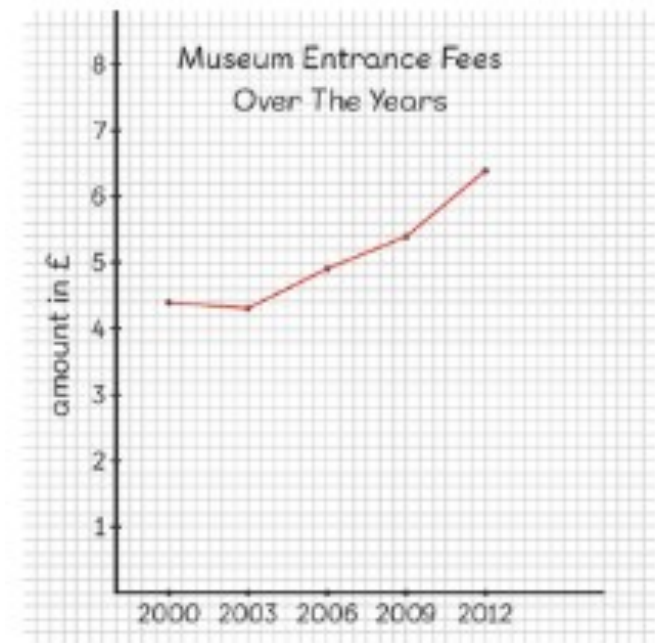
Can you solve word problems involving multiplication and division?

Year 4 Indigo Knowledge Organiser: Graphs

Can you draw and read bar graphs?



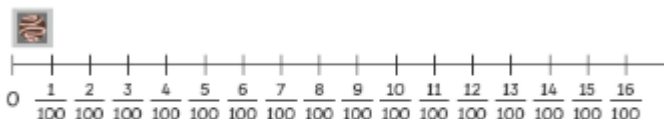
Can we use
1 cm to represent
1 cupcake?



Can you draw and read line graphs?

Year 4 Indigo Knowledge Organiser: Fractions

 is 1 hundredth of the box.



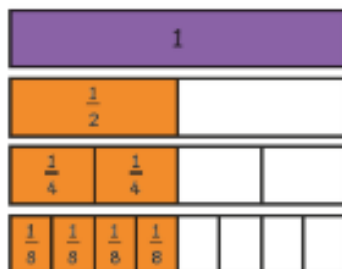
Can you count in hundredths?



There are 2 whole cakes and 5 sixths of a cake.

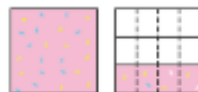
$$2 + \frac{5}{6} = 2\frac{5}{6}$$

Can you write mixed numbers?



Can you find equivalent fractions?

$1\frac{4}{12}$ can be simplified.



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

$1\frac{1}{3}$ is the simplest form

Can you simplify mixed numbers?



$\frac{3}{5}$ and $\frac{4}{5}$ make 1 and $\frac{2}{5}$. $1\frac{2}{5}$

Can you add fractions with the same denominator and record answers as mixed numbers?

What is the difference between 3 and $\frac{5}{8}$?

Method 1

$$3 - \frac{5}{8} = 2 + \frac{3}{8}$$

Method 2

$$\begin{aligned} 3 - \frac{5}{8} &= \frac{24}{8} - \frac{5}{8} \\ &= \frac{19}{8} \\ &= 2\frac{3}{8} \end{aligned}$$

Can you subtract a fraction from a whole or mixed number?



Can you solve word problems involving fractions?

Year 4 Indigo Knowledge Organiser: Time



Can you tell the time on a 24-hour clock?

Method 1

1 min = 60 s

2 min = 120 s

4 min = 240 s

Can you convert time in
minutes to seconds and vice
versa?

1 hour = 60 minutes

$\frac{1}{2}$ hour = 30 minutes

$1\frac{1}{2}$ hours = 90 minutes

Can you convert time in
hours to minutes?

1 year = 12 months

10 years = 120 months

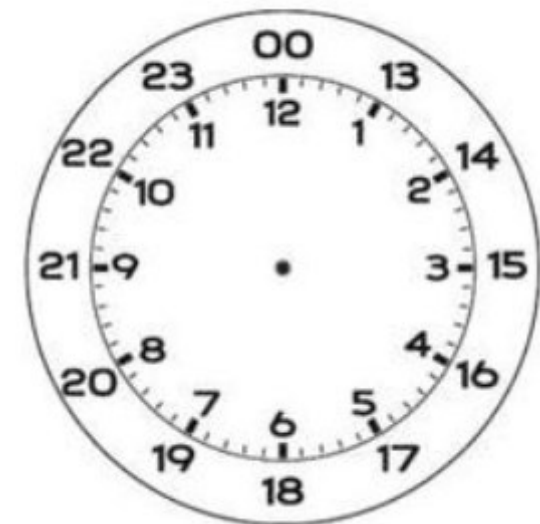
5 years = 60 months

15 years = 120 months + 60 months
= 180 months

Can you convert years to
months and weeks to
days?



Can you solve word problems involving durations of
time?



Year 4 Indigo Knowledge Organiser: Decimals

$$1 \text{ tenth} = \frac{1}{10} = 0.1$$

tens	ones	tenths	hundredths
1	3	0	8

Can you read and write numbers as decimals?

Can you recognise and write decimal equivalents of a number of tenths?

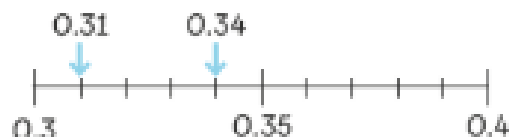
1	1	0.1
1		0.1
ones	tenths	
3	2	

$$\begin{aligned} & 3 \text{ ones} + 2 \text{ tenths} \\ &= 3 + 0.2 \\ &= 3.2 \end{aligned}$$



$$1 \text{ hundredth} = \frac{1}{100} = 0.01$$

Can you recognise and write decimal equivalents of any number of hundredths?



Can you compare and order numbers with the same decimal places up to 2 decimal places?

$$\begin{aligned} \frac{1}{2} &= \frac{5}{10} = 0.5 \\ \frac{1}{4} &= \frac{25}{100} = 0.25 \\ \frac{3}{4} &= \frac{75}{100} = 0.75 \end{aligned}$$

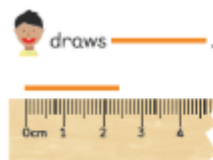
Can you recognise decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$?

tens	ones	tenths	+10	tens	ones	tenths
2	3		→		2	3

What do you notice when a number is divided by 10?

tens	ones	tenths	hundredths	+100	tens	ones	tenths	hundredths
1	4			→		0	1	4

Can you divide 1 or 2 digit numbers by 10 and 100?

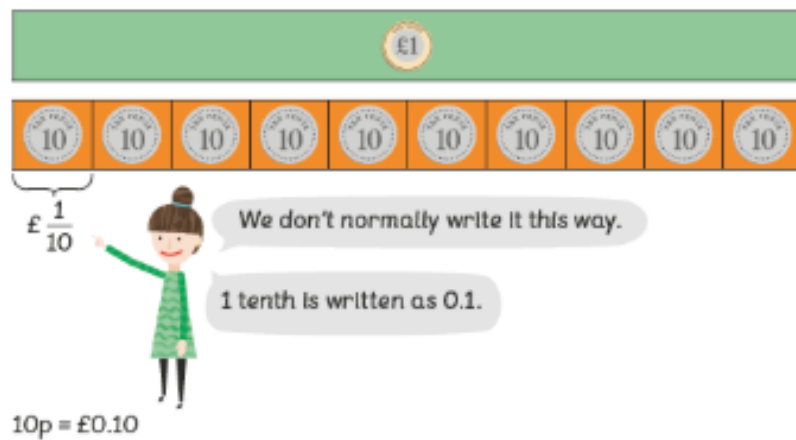


It is 2.4 cm long. It is nearer to 2 cm than to 3 cm. It is about 2 cm long.

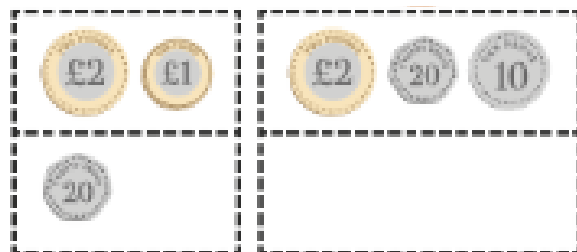
2.4 is approximately equal to 2.
 $2.4 \approx 2$

Can you round numbers with 1 decimal place to the nearest whole number?

Year 4 Indigo Knowledge Organiser: Money



Can you write amounts of money as decimals?



£3.20 is more than £2.30.

Can you compare amounts of money?



Can you round amounts of money to the nearest £1 or £10?



Can you solve word problems involving adding, subtracting,, multiplying and dividing money?

Which amount is rounded down?

Fish cakes	£6.90
Meat toasties	£5.40
Green curry	£8.90
Mango seabass	£16.90
King prawn curry	£13.90
Chicken salad	£7.80
3 rice	£6.00
4 smoothies	£18.80

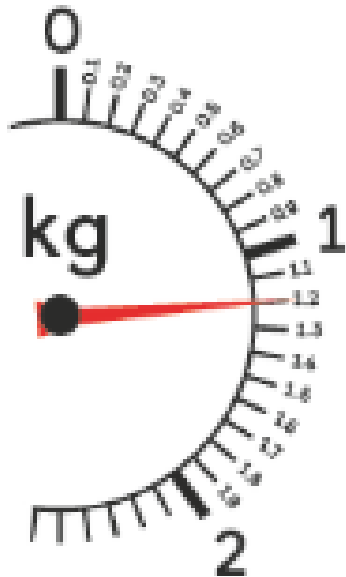
An example of rounding down is £1.05 \approx £1.

An example of rounding up is £1.95 \approx £2.

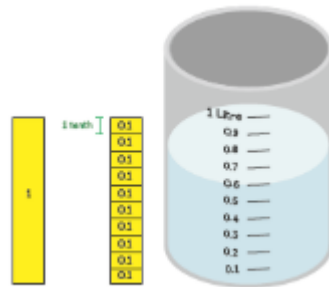


Can you estimate amounts of money?

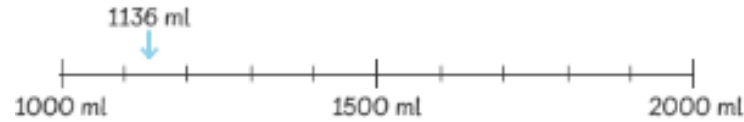
Year 4 Indigo Knowledge Organiser: Mass, Volume & Length



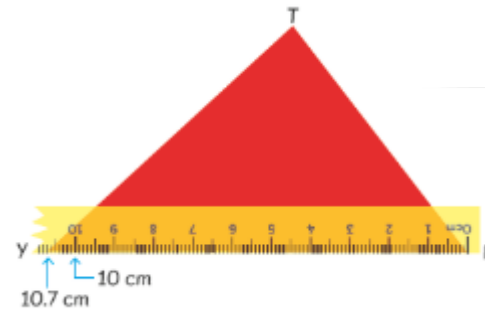
Can you estimate mass to the nearest kilogram and solve problems reading scales?



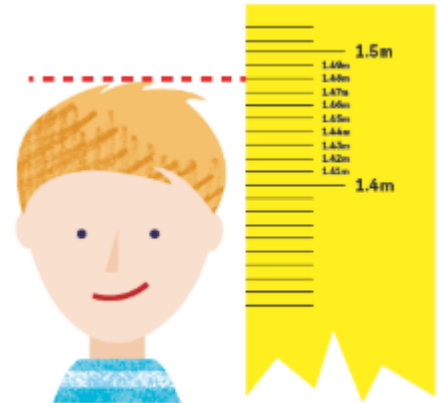
Can you measure volume in litres using decimals?



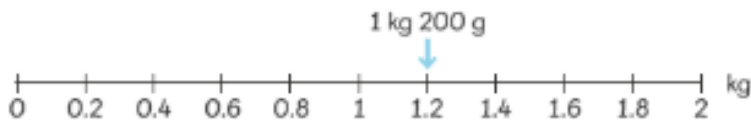
Can you convert different units of measure for volume?



Can you measure length in centimetres?



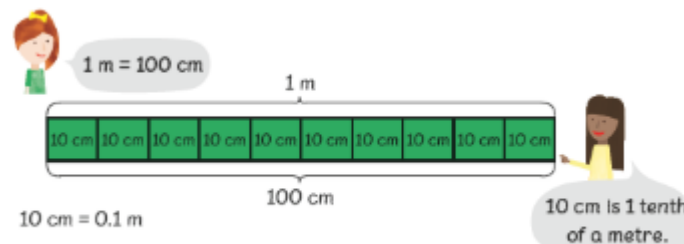
Can you measure height in metres using decimals?



Can you measure mass?

1 kg	1 kg	1 kg	$\frac{1}{2}$ kg	
1000 g	1000 g	1000 g	500 g	

Can you convert between different units of measure for mass?

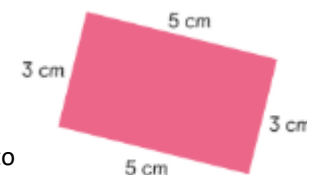


Can you convert between centimetres and metres?

10 km = 10 000 m

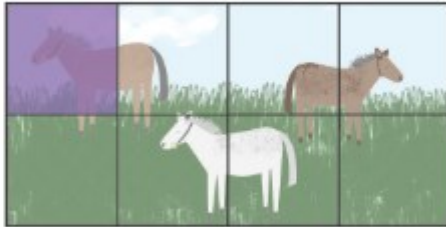
Can you convert between metres and kilometres?

Can you measure perimeter and convert into millimetres?

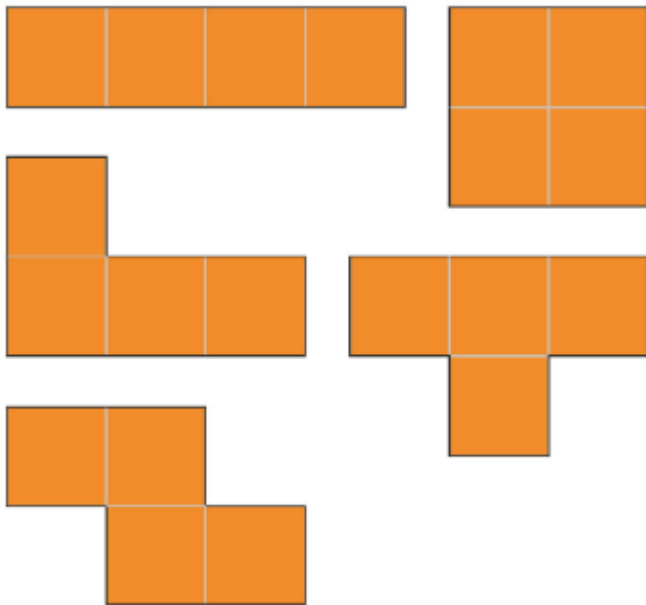


Year 4 Indigo Knowledge Organiser: Area of Figures & Geometry

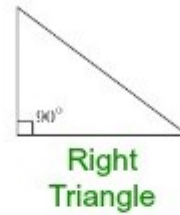
The surface the photograph covers is 8 times the surface of 1 square tile.



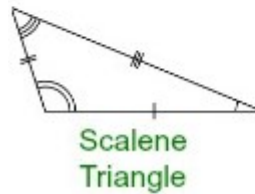
Can you measure the surface an object covers?



Can you find the area of rectilinear shapes by counting squares?



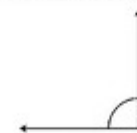
Can you compare and classify triangles?



AN ACUTE ANGLE IS ANY ANGLE THAT MEASURES 0° - 89°



A RIGHT ANGLE IS AN ANGLE THAT MEASURES EXACTLY 90°



AN OBTUSE ANGLE IS AN ANGLE THAT MEASURES 91° - 180°



Can you recognise different types of angles?

Can you order and compare angles by size?



Parallelogram



Rectangle



Rhombus



Square

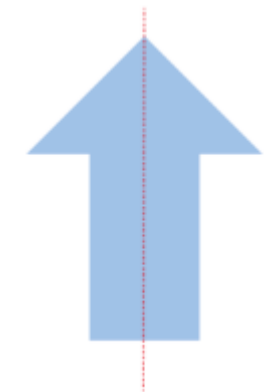


Trapezium (UK)
Trapezoid (US)



Kite

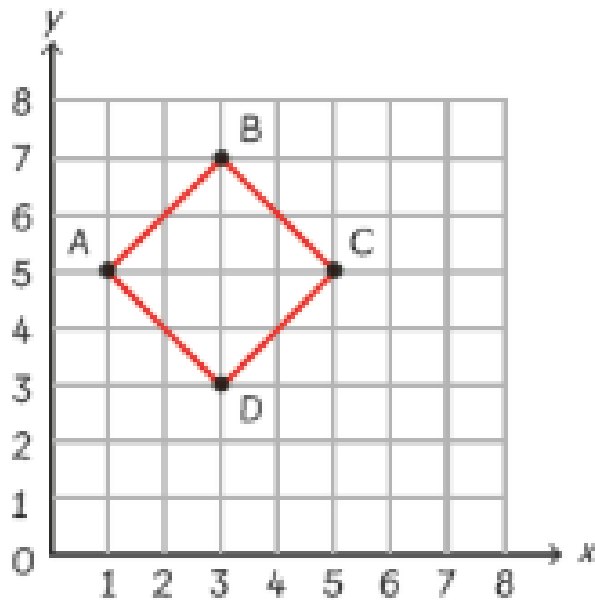
Can you compare and classify quadrilaterals?



Can you find lines of symmetry in 2-D figures and shapes and complete symmetrical figures?

Year 4 Indigo Knowledge Organiser: Position & Movement

D is at (3,3).

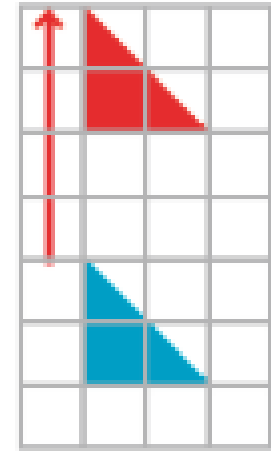


Can you recognise positions in the first quadrant as co-ordinates?

Can you plot points in the first quadrant?

Can you complete polygons by plotting points?

It moves up by 4 units.



Can you describe movements between positions as translations using movements to the left/right and up/down?

Year 4 Indigo Knowledge Organiser: Roman Numerals

Can you write roman numerals to 100?

I = one

V = five

X = ten

L = fifty

C = hundred

D = five hundred

M = thousand

X = 10



XX = 20

XXX = 30

X = 10, L = 50



LX = 60

LXX = 70

LXXX = 80

L = 50



XL = 40

10 less than 50 is 40.

C = 100



XC = 90

10 less than 100 is 90.