



Analogue and digital clocks

Year 3 and Year 4 (Mixed) Time (page 1)



Minute Hand

The long hand points to the minutes past or the minutes to the hour.

Hour Hand

The short hand points to the hour. If this hand is pointing between hours, it is either past the earlier hour or to the later hour.



twelve o'clock



quarter past twelve



half past twelve



quarter to one

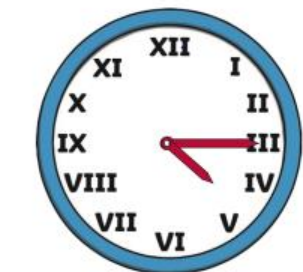
2. Digital and Analogue clocks

half past three in the afternoon



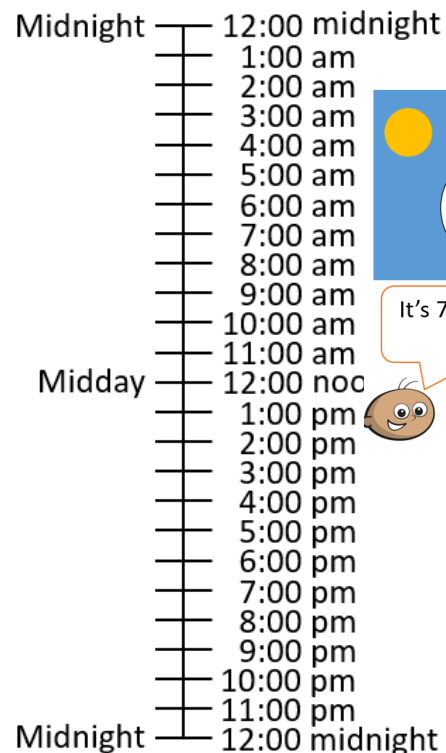
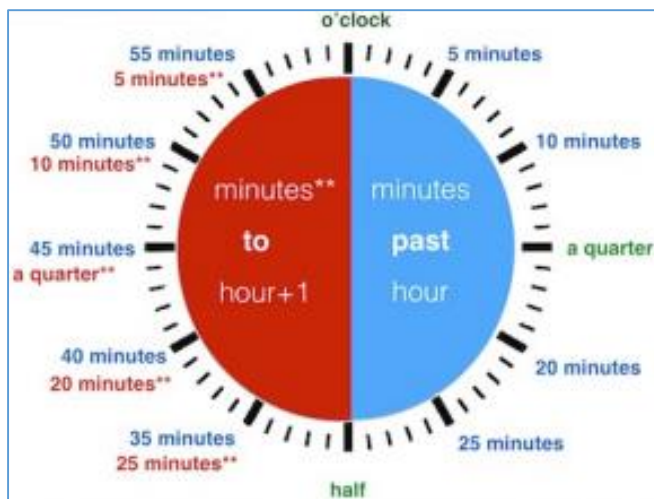
Analogue

To convert between analogue and digital clocks, if the time is in the afternoon, start at 12 and count on... (12+3=15)

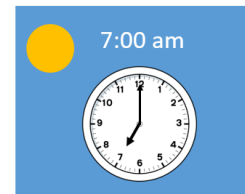


2. Roman Numerals

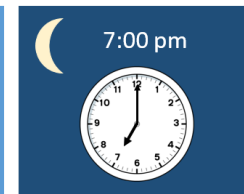
I	1	VII	7
II	2	VIII	8
III	3	IX	9
IV	4	X	10
V	5	XI	11
VI	6	XII	12



Walmsley C.E. Primary School
Where getting better never stops



It's 7 o'clock in the morning.

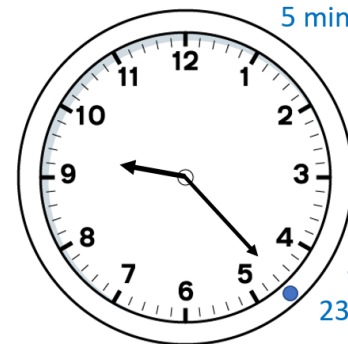


No, it's 7 o'clock in the evening.

a.m and p.m

Vocabulary

years
leap year
months weeks
days fortnight
hours minutes
seconds
analogue digital
morning am
afternoon pm
duration
clockwise
anticlockwise
24 hour
noon
midnight
earlier later
January – December



The time is 23 minutes past 9

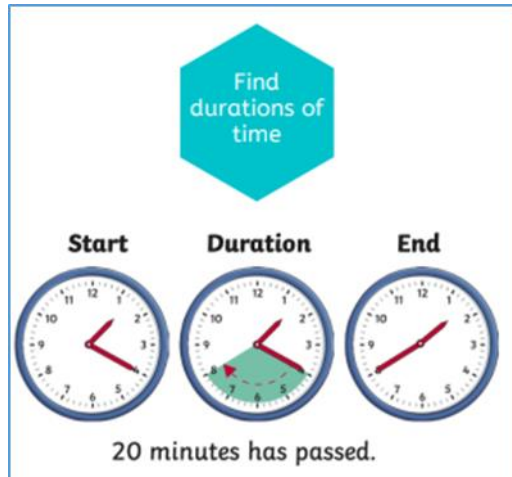


There are 24 hours in a day.



Duration

60 seconds	=	1 minute
60 minutes	=	1 hour
24 hours	=	1 day
7 days	=	1 week
4 weeks	=	1 month
12 months	=	1 year
10 years	=	1 decade
100 years	=	1 century
1,000 years	=	1 millenium



Months

Month	Number of days
January	31
February	28 or 29
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

30 days has September,
April, June and November,
All the rest have 31
Except February, 28 days here
Or 29 in each leap year.

Year 3 and Year 4 Mixed Time (page 2)

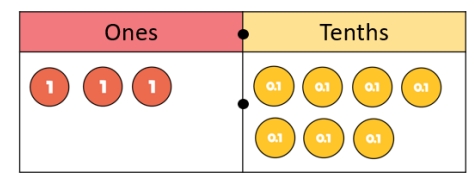
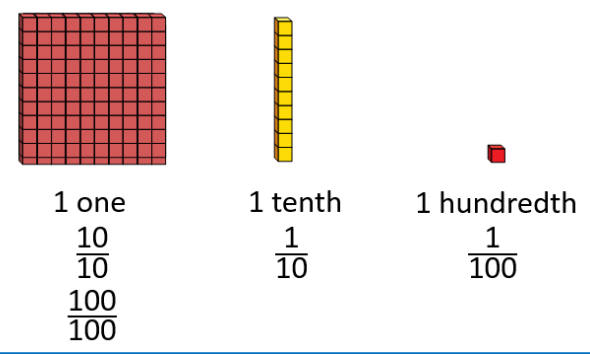
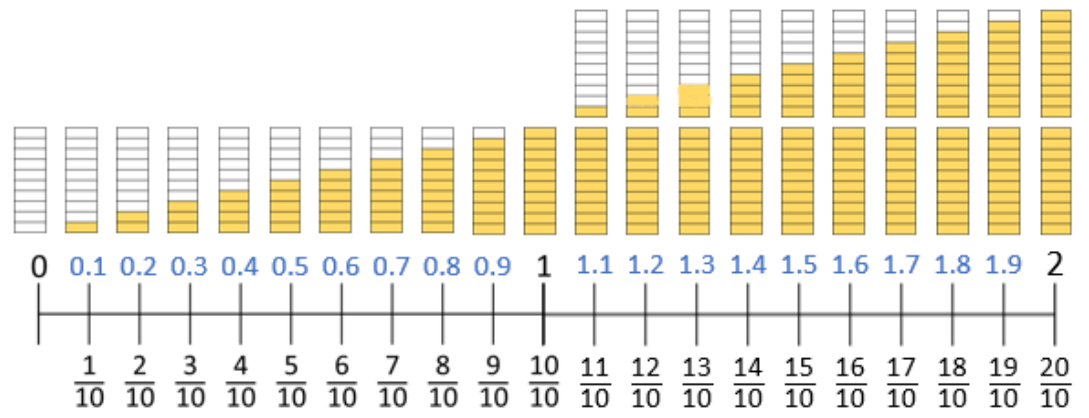
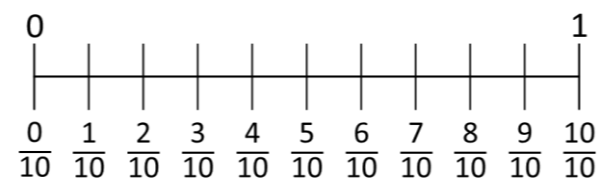
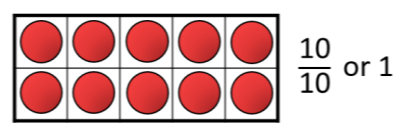
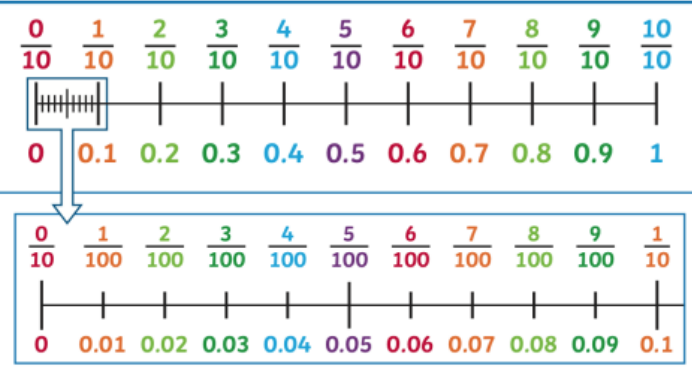
24-hour time

	01:00	1 a.m.	1 o'clock			13:00	1 p.m.	1 o'clock	
	02:00	2 a.m.	2 o'clock			14:00	2 p.m.	2 o'clock	
	03:00	3 a.m.	3 o'clock			15:00	3 p.m.	3 o'clock	
	04:00	4 a.m.	4 o'clock			16:00	4 p.m.	4 o'clock	
	05:00	5 a.m.	5 o'clock			17:00	5 p.m.	5 o'clock	
	06:00	6 a.m.	6 o'clock			18:00	6 p.m.	6 o'clock	
	07:00	7 a.m.	7 o'clock			19:00	7 p.m.	7 o'clock	
	08:00	8 a.m.	8 o'clock			20:00	8 p.m.	8 o'clock	
	09:00	9 a.m.	9 o'clock			21:00	9 p.m.	9 o'clock	
	10:00	10 a.m.	10 o'clock			22:00	10 p.m.	10 o'clock	
	11:00	11 a.m.	11 o'clock			23:00	11 p.m.	11 o'clock	
	12:00	12 p.m.	12 o'clock			00:00	12 a.m.	12 o'clock	

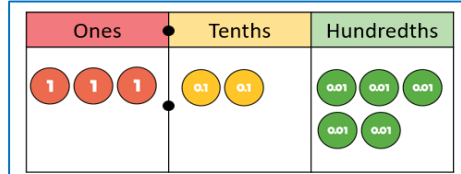


Tenths and hundredths

Year 3 and Year 4 (Mixed) Decimals (Page 1)

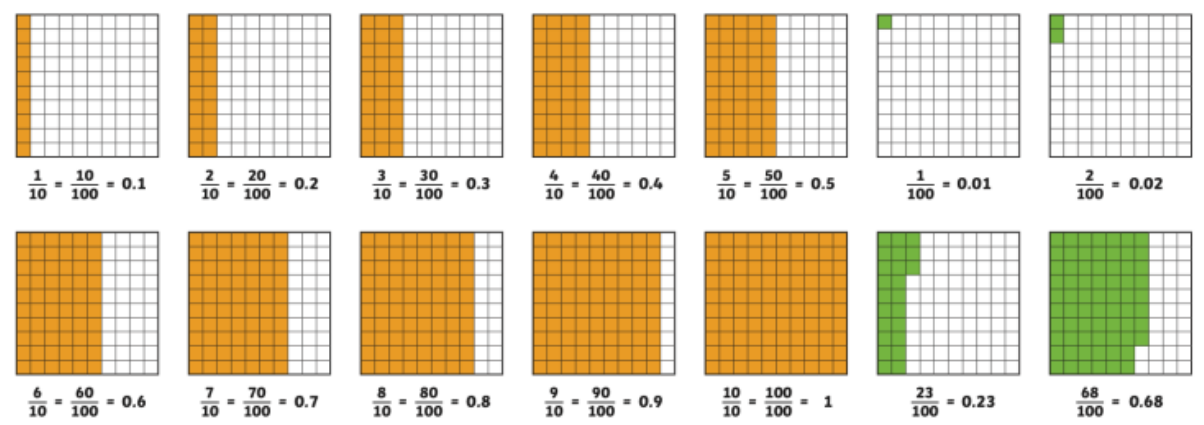


There are 3 wholes and 7 tenths.
The number is 3.7



There are 3 ones.
There are 2 tenths.
There are 5 hundredths.
The number represented is 3.25

Tenths and Hundredths equivalence



- ### Vocabulary
- Whole
 - tenths
 - hundredths
 - decimal
 - partition
 - equal part
 - whole number
 - halves
 - quarter
 - three quarters
 - value
 - zero
 - place holder
 - digits
 - greater than
 - less than
 - smaller
 - place value
 - column
 - equivalent
 - rounding
 - divide



Dividing
by 10 and
100

Year 3 and Year 4 (Mixed) Decimals (Page 2)

Tens	Ones
8	5

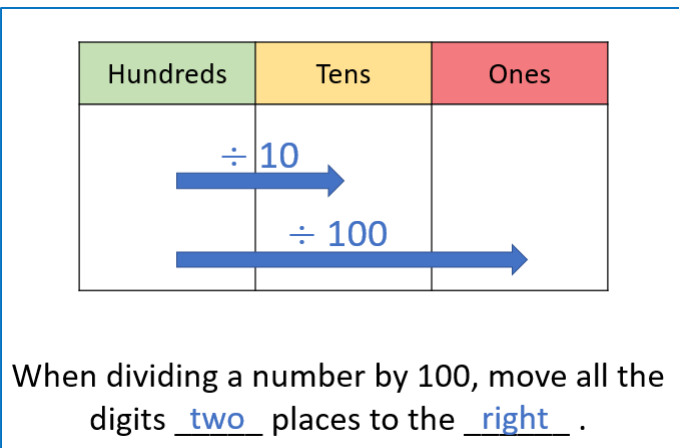
÷ 10

Tens	Ones	Tenths
	8	5

Tens	Ones
8	5

÷ 100

Tens	Ones	Tenths	Hundredths
	0	8	5



Alex uses the Gattegno chart to divide a different 2-digit number by 10
Here is her answer.

100	200	300	400	500	600	700	800	900
10	20	30	40	50	60	70	80	90
1	2	3	4	5	6	7	8	9
0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9

What was her original number?

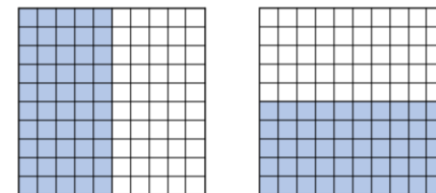
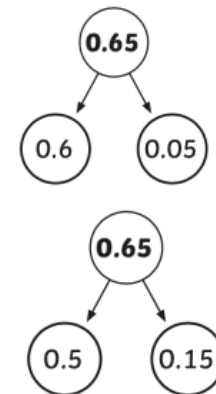
$$15 \div 10 = 1.5$$



Making a whole



Partitioning tenths and hundredths



$$\frac{1}{2} = \frac{5}{10} = \frac{50}{100} = 0.5$$



Fractions and decimal equivalence

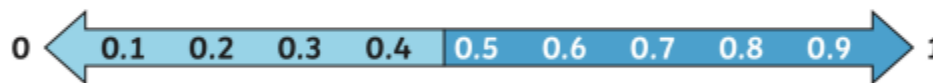
$$\frac{1}{2} = \frac{1}{2} = 0.5$$

$$\frac{1}{4} = \frac{1}{4} = 0.25$$

$$\frac{3}{4} = \frac{3}{4} = 0.75$$

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

Rounding decimals



If the tenths digit is 1, 2, 3 or 4, we round **down** to the nearest whole number.

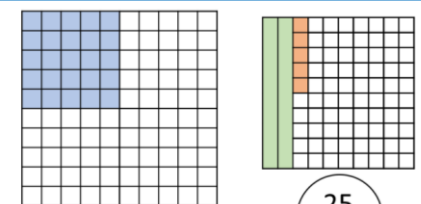
If the tenths digit is 5, 6, 7, 8 or 9, we round **up** to the nearest whole number.

5. Round to the nearest ten pence

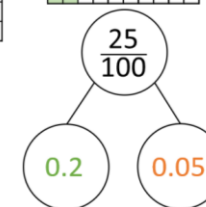
£3.88	Rounds to	£3.90
£0.72	Rounds to	£0.70

Round to the nearest pound (£)

£15.72	Rounds to	£16.00
£784.39	Rounds to	£784.00



$$\frac{1}{4} = \frac{25}{100} = 0.25$$





Year 3 and Year 4 (Mixed)

Money (page 1)

Subtracting Money

£5 — £3 and 65p

I can count up to find the difference.



+ 35p

+ £1

£3 and 65p

£4

£5

Subtracting money

The difference is £1 and 35p

Vocabulary
pounds £
pence p
compare
order
estimate
partition
value
change
approximately
ascending
descending



£5
five pound note



£10
ten pound note



£20
twenty pound note



£50
fifty pound note

Pounds and pence



£3 and 25 pence



£52 and 13 pence



120 pence
100 pence is £1
120 pence is £1 and 20 pence.

Giving change



a)



£5 — £2 = £3

£3 change

b)



+ 25p

+ £3

£1 and 75p

£2

£5

£3 and 25p change

Adding money



£1 and 60p

?



£1 and 60p + £1 and 52p
There is £2 and 112p.
112p is £1 and 12p
Altogether there is £3 and 12p.



What do these words mean?

Ascending → Smallest to greatest

Descending → Greatest to smallest



Estimating money



That's about £8.



We can use estimates when calculating.

They are about £3 and £7 so will be about £10 in total.



We can compare or order amounts by changing all amounts to either pounds or pence.

£4.82 428p

£4.82 = 482p

482p > 428p

£4.82 > 428p

Order in ascending order:

516p 156p £1.65 £6.51

£1.65 = 165p and £6.51 = 651p

156p, £1.65, 516p, £6.51

Year 3 and Year 4 (Mixed) Money (Page 2)



Giving change

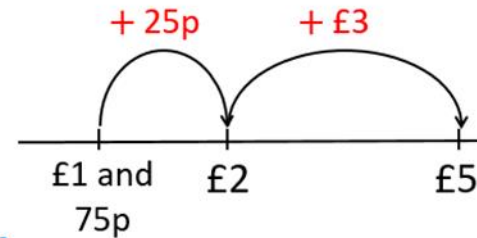
a)



$$£5 - £2 = £3$$

£3 change

b)



£3 and 25p change

Compare and Order
Amounts of Money

Vocabulary

pounds
pence
compare
estimate
partition
value
approximately
ascending
descending

Solve Problems with
Money

Dexter has £7.64

He buys this T-shirt.



How much money does Dexter have left?



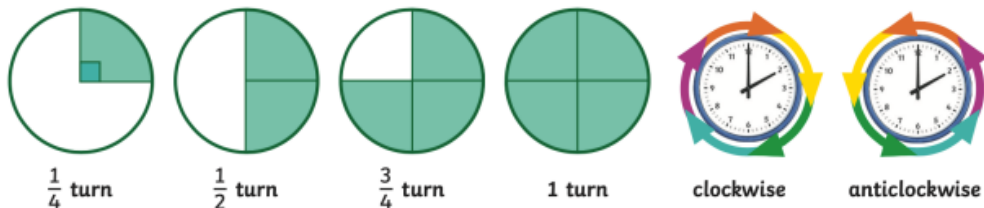
Turns and angles

Year 3 and Year 4 (Mixed)

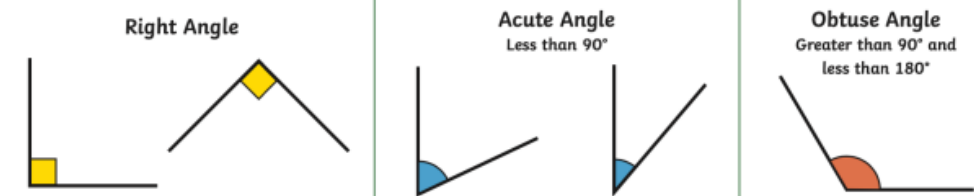
Shape (Page 1)

Describe 3d shapes

Angles can be used as a description of a turn.



An angle is created when two straight lines meet at a point or intersect.



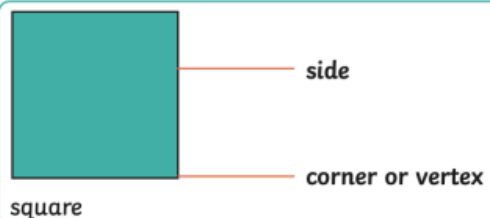
Types of lines

horizontal

vertical

parallel

perpendicular



2d shapes

Regular – A regular polygon is any polygon that has all its sides and angles the same. A square is a regular quadrilateral.

Irregular – Irregular polygons do not have all their sides the same length. They have different size angles.

Regular

Irregular



A polygon can have three or more sides.

Regular Polygons

all sides are equal length and all internal angles are equal

Examples of

Irregular Polygons

any polygon that is not regular

3 sides
Triangle



4 sides
Quadrilateral



5 sides
Pentagon



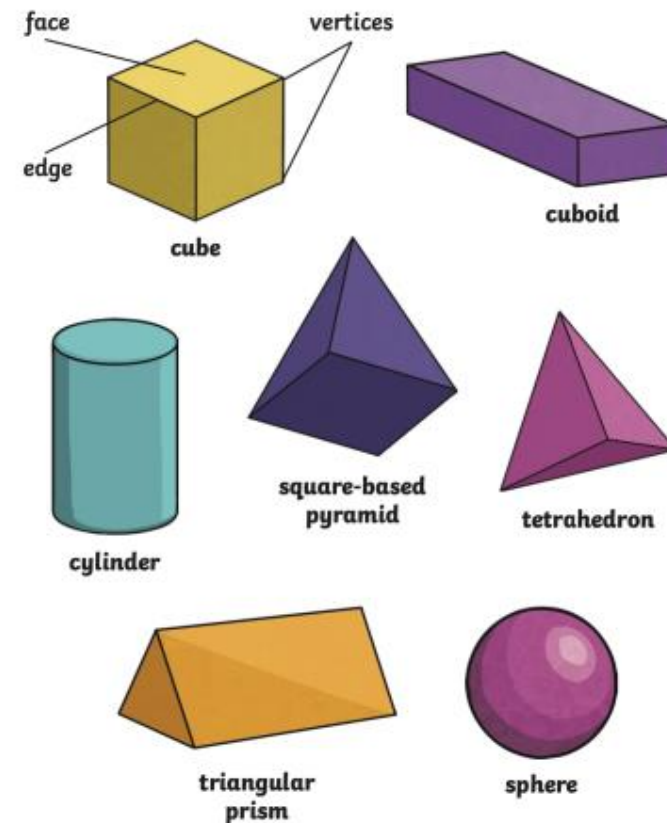
6 sides
Hexagon



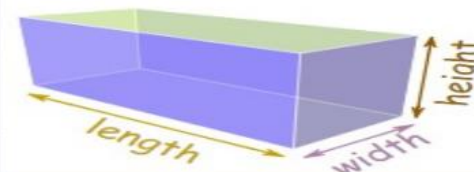
7 sides
Heptagon



8 sides
Octagon



Three – Dimensional

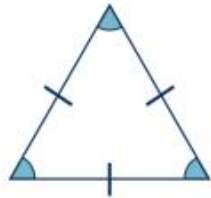


Having three dimensions (such as height, width and depth), like any object in the real world.



Triangles

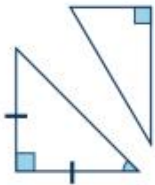
Triangles have 3 sides and 3 vertices. The total of the angles in a triangle is 180° .



An equilateral triangle is a regular polygon. It has sides of equal length and each angle is 60° .

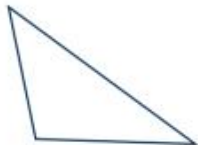


An isosceles triangle has two sides of equal length and two angles of equal size.



A right-angled triangle always has one 90° angle.

It can be isosceles or scalene.

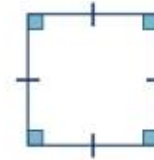


A scalene triangle has no equal sides or angles.

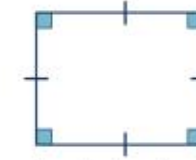
Year 3 and Year 4 (Mixed) Shape (Page 2)

Quadrilaterals

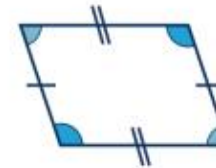
A quadrilateral is a polygon with four sides.



A square has four sides of equal length and four right angles (90°). A square is also a rectangle, a rhombus and a parallelogram.



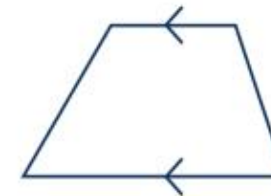
A rectangle has two pairs of parallel, equal sides and four right angles. A rectangle is also a parallelogram.



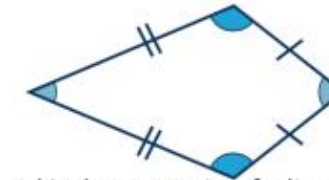
A parallelogram has two pairs of parallel, equal sides and opposite equal angles.



A rhombus has four sides of equal length and opposite equal angles. A rhombus is also a parallelogram.

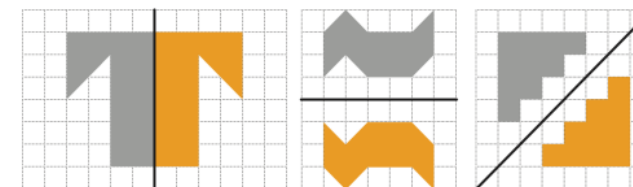


A trapezium only has one pair of opposite parallel sides.



A kite has two pairs of adjacent equal sides and one pair of opposite equal angles.

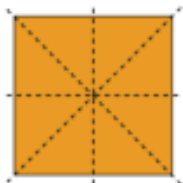
Patterns and shapes can be reflected in a mirror line. Mirror lines can be vertical, horizontal or diagonal.



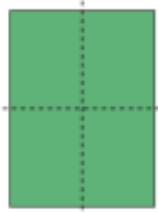
Vocabulary
Angle turn
clockwise
anti-clockwise
full/half/quarter
turn
acute obtuse
right angle
triangle rectangle
square pentagon
hexagon octagon
equilateral
isosceles scalene
polygon regular
irregular
quadrilateral
horizontal
vertical parallel
perpendicular
perimeter
line of symmetry
symmetrical
horizontal
mirror line
vertex vertices
2D shapes 3D
shapes (cube
cuboid cone
cylinder pyramid
prism sphere etc)
flat faces
curved surface
edges

Lines of symmetry

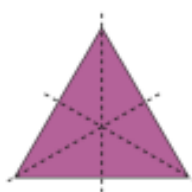
A square has four lines of symmetry.



A rectangle has two lines of symmetry.



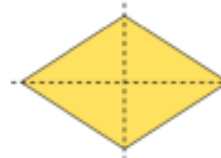
An equilateral triangle has three lines of symmetry.



An isosceles triangle has one line of symmetry.



A rhombus has two lines of symmetry.

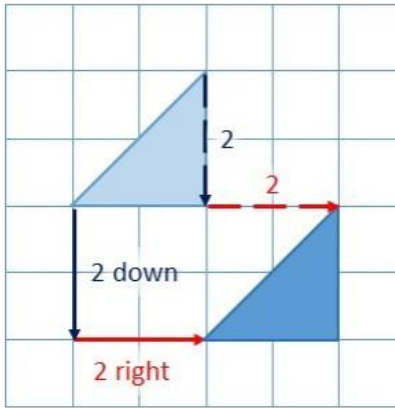




Year 3 and Year 4 (Mixed)

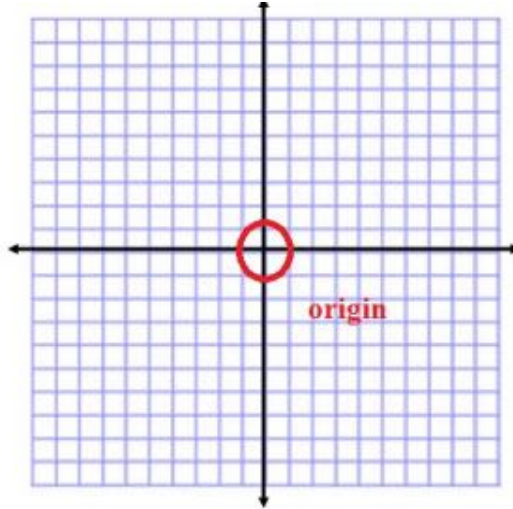
Position and Direction

Translation

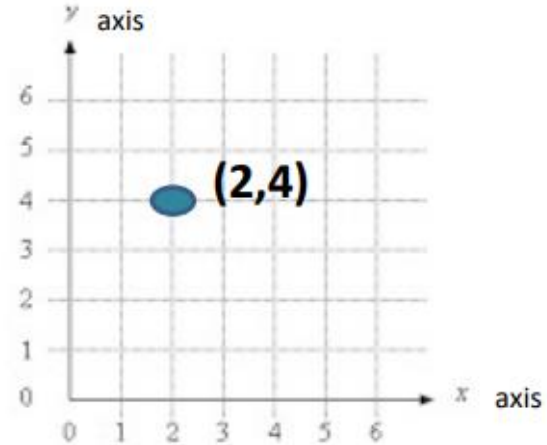


Points can be translated **up**, **down**, **left** and **right**

Coordinates



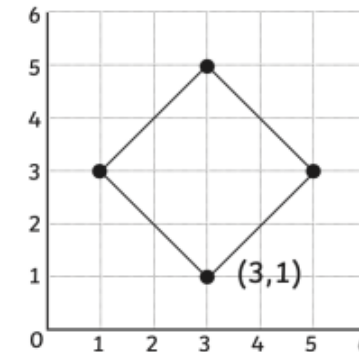
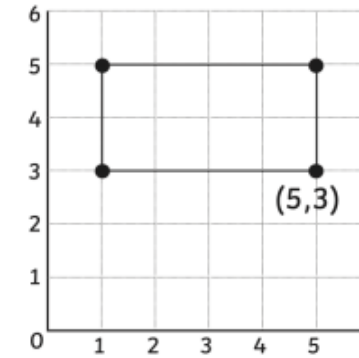
Coordinate Grid



Remember, when plotting points, we use the **x-axis first**, then **y-axis**!

Plotting 2d shapes

Each vertex (corner) of a 2D polygon can be represented as a co-ordinate on a 2D grid.



Vocabulary

Position
direction
coordinates
point
2D shapes
(triangles
square
rectangle
pentagon
hexagon
octagon)
translate
translation up
down left
right vertex
vertices
horizontal
vertical
x axis y axis
polygon



To help you remember which point to read or write first, simply remember to move 'along the corridor and up the stairs.'

In other words, move on the *x-axis* and then move on the *y-axis*.



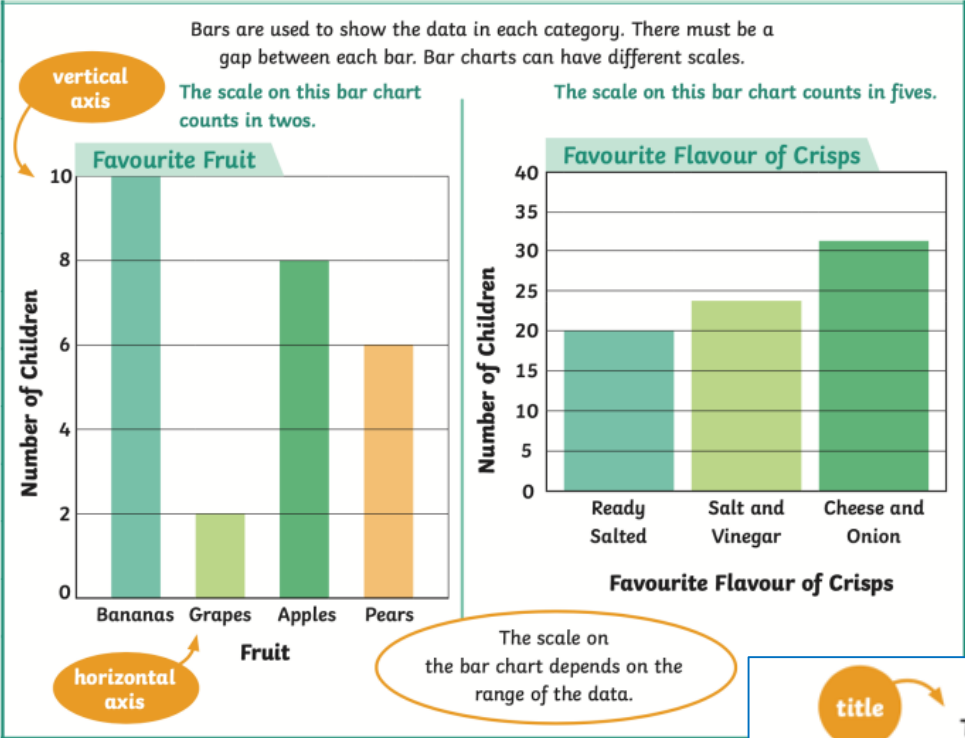


Bar charts

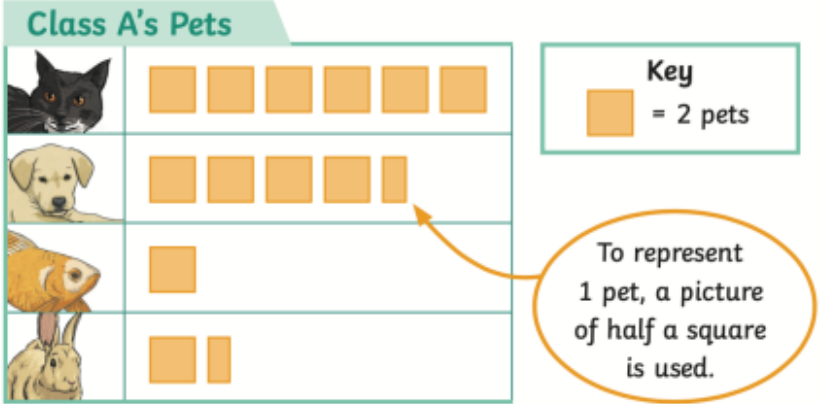
Year 3 Statistics

Pictograms

Vocabulary
bar chart
pictogram
symbol
represent
how many more than
key
axis
data
row
column



Pictograms use pictures or symbols to represent data. The key shows what each symbol represents. This pictogram uses 1 symbol to represent 2 pets.



Tables

ROWS

COLUMNS

Using the table, we can see the cost of an adult and a child visiting the cinema on a Monday would be £10.

title

Table to Show Ticket Prices at a Local Cinema

heading Ticket Type	Weekday Price	Weekend Price
Adult	£6	£7.50
Child	£4	£4.50
Student	£5.50	£6

information

Day	Dogs seen
Monday	2 dogs
Tuesday	1 dog
Wednesday	3 dogs
Thursday	2 dogs
Friday	5 dogs

Key [Dog icon] = 10 dogs

3 × 10 = 30

How many dogs were seen on Wednesday?
30 dogs



Discrete and continuous data

Bar charts

Year 3 and Year 4 (Mixed) Statistics

Line graphs

Vocabulary
data
sum
scale
difference
bar chart
line graph
represent
horizontal axis
vertical axis
pictogram
symbol
value
row
column
more less

Data that is counted in whole numbers is discrete. In **discrete data**, values between whole numbers cannot be counted. Data that is measured and therefore can take on infinite values is continuous. In **continuous data**, values between whole numbers can be counted.

Frequency tables

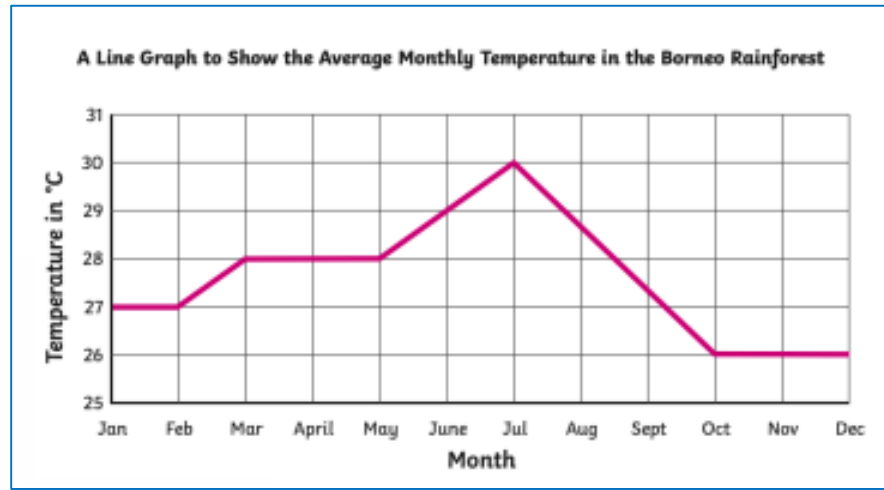
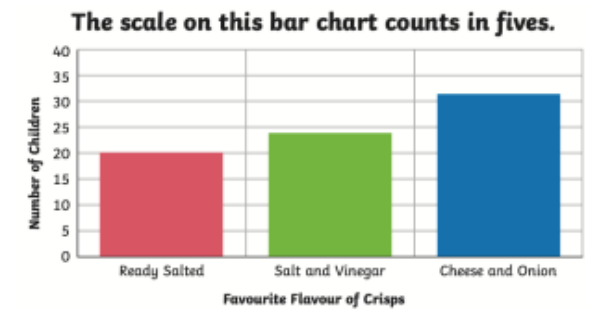
Tally marks are used to help count things. Each vertical line represents one unit. The fifth tally mark goes across the first four to make it easier to count.

The frequency column is completed after all the data has been collected.

Eye Colour	Tally	Frequency
brown	###	6
blue	###	8
green		3
grey		4
hazel	###	5

A bar chart has a horizontal axis and a vertical axis. Bars are used to show the data of each category. There must be a gap between each bar.

The scale of the bar chart is based on the range of data.

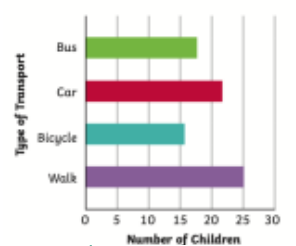


Pictograms

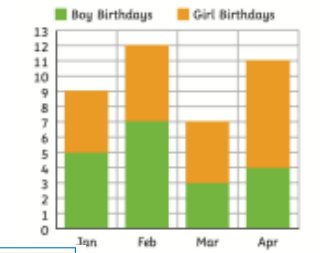
Key = 4 goals

Player	Goals scored
Alex	
Jack	
Mo	
Rosie	
Whitney	

The bars are horizontal on this bar chart.



Two sets of data are shown on this stacked bar chart.



Tables

ROWS
COLUMNS

Using the table, we can see the cost of an adult and a child visiting the cinema on a Monday would be £10.

Table to Show Ticket Prices at a Local Cinema

Ticket Type	Weekday Price	Weekend Price
Adult	£6	£7.50
Child	£4	£4.50
Student	£5.50	£6

