

Key Vocabulary

Steel industry
Crucible steel
Puller-out
Teemer
Cellar Lad
Grinder
Buffer girl
Scythe
Tilt hammer
Cutlery
Philanthropist
Agricultural
Nutrition
Seasonality
Biome
Climate zone
Vegetation belt
Reversible changes
Irreversible changes



Aston Fence J & I School
Class 6
Summer Term 2021

Time for Tea!

Famous Names and Places

Abbeydale Industrial Hamlet
Kelham Island
Cutler's' Hall
Hadfields Steel Works
JG Graves
Benjamin Hunstman
Henry Bessemer
Harry Brearly

Mathematical Concepts

See separate Maths Knowledge Organiser for facts that need to be learned and remembered.

Solve multi-step problems by combining relevant facts such as measures and ratio, percentage and time.

Develop efficient methods to solve problems using the most reliable and quickest strategy.

Carry out mathematical investigations to find patterns and rules.

Key Facts

Recap what happens to solids, liquids and gases when heated and cooled: ice turns to water when heated and water to steam / water vapour. The opposite is true for cooling.

Explain how some baking techniques can be reversible and some irreversible. Reversible means that you can recover all the ingredients in their original form e.g. melting and remoulding chocolate. Irreversible means that the original form cannot be returned to e.g. baking a cake from raw ingredients / heating bread to make toast.

Identify vegetation belts globally and explain what is able to grow there and why. Identify where some of our common fruits and vegetables are from:

Melons - Asia - warm climates, apples - Europe - cooler climates with rainfall, bananas - Africa & South America - hot and dry

Recognise how the settlement of Sheffield made the production and distribution of steel successful for many years e.g. transport links, rivers, raw materials.

Explain what causes changes and declines in industry e.g. cheaper raw materials and transport costs elsewhere.

Relevant Dates

1697 - 1933 - Scythe production at Abbeydale Industrial Hamlet
1742 - Invention of Crucible Steel
1856 - Mass production of steel using Bessemer method
1913 - Invention of stainless steel

Multiplication and division vocabulary

Term	Definition	Example
factor	a number that divides exactly into another number	factors of 12 = 1, 2, 3, 4, 6, 12
common factor	factors of two numbers that are the same	common factors of 8 and 12 = 1, 2, 4
prime number	a number with only 2 factors: 1 and itself	2, 3, 5, 7, 11, 13, 17, 19...
composite number	a number with more than two factors	12 (it has 6 factors)
prime factor	a factor that is prime	prime factors of 12 = 2, 3
multiple	a number in another number's times table	multiples of 9 = 9, 18, 27, 36...
common multiple	multiples of two numbers that are the same	common multiples of 4 and 6 = 12, 24...
square numbers	the result when a number has been multiplied by itself	25 ($5^2 = 5 \times 5$) 49 ($7^2 = 7 \times 7$)
cube numbers	the result when a number has been multiplied by itself 3 times	8 ($2^3 = 2 \times 2 \times 2$) 27 ($3^3 = 3 \times 3 \times 3$)

Roman numerals

1	I	100	C
5	V	500	D
10	X	1000	M
50	L		

YEAR 6 MATHS KNOWLEDGE ORGANISER

Measurement conversions

Month	Days
January	31
February	28 (29 in leap year)
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

1 year = 365 days (\approx 52 weeks)
Leap year = 366 days

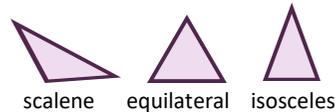
1 centimetre	10mm
1 metre	100cm
1 kilometre	1,000 m
1 mile	1.6 km
1 kilometre	0.625 ($\frac{5}{8}$) mile
1 kilogram	1,000 grams
1 litre	1,000 millilitres

2D shapes

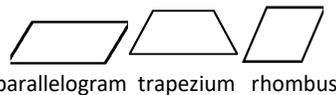
Name	No. of sides
quadrilateral	4
pentagon	5
hexagon	6
heptagon	7
octagon	8
nonagon	9
decagon	10

polygon = shape with straight sides
regular = all sides/angles the same
irregular = sides/angles **not** same

Types of triangle



Types of quadrilateral



AREA

is the amount of space inside a 2D shape usually measured in cm^2 or m^2 .

Area of a triangle
= (base x height) \div 2
Area of a parallelogram
= base x height

(Height = perpendicular height)

Co-ordinates

Read co-ordinates along the x axis (horizontal) first, then the y axis (vertical). E.g. (3,-4) = go right 3, down 4.

3D shapes

	square-based pyramid	triangular-based pyramid	triangular prism
faces (the flat sides)	5	4	5
edges	8	6	9
vertices (the points where the edges meet)	5	4	6

Volume = the amount of space a 3D shape takes up, usually measured in cm^3 or m^3



Volume of a cuboid =
length x width x height

Fractions, decimals & percentages

$\frac{1}{100}$	0.01	1%	\div 100
$\frac{1}{20}$	0.05	5%	\div 20
$\frac{1}{10}$	0.1	10%	\div 10
$\frac{1}{5}$	0.2	20%	\div 5
$\frac{1}{4}$	0.25	25%	\div 4
$\frac{1}{2}$	0.5	50%	\div 2
$\frac{3}{4}$	0.75	75%	\div 4, x3
1	1	100%	\div 1

Angles

full turn	360°
half turn	180°
right angle	90°
acute angle	$< 90^\circ$
obtuse angle	$> 90^\circ$
reflex angle	$> 180^\circ$
angles on a straight line	180°
angles inside a triangle	180°
angles inside a quadrilateral	360°

Shape vocabulary

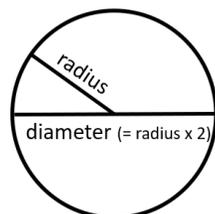
perimeter = measure around the edge (**circumference** = perimeter of a circle)

horizontal line

parallel lines

vertical line

perpendicular lines
(at right angles)



The mean

The mean is a type of average. To find the mean, add up all the numbers and divide by how many there are. E.g. the mean of 4, 5, 3, 4 is 4.
(Because $4 + 5 + 3 + 4 = 16$, and $16 \div 4 = 4$)

