YEAR 6 MATHS KNOWLEDGE ORGANISER

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 = 5x5) 49 (7^2 = 7x7)
cube numbers	the result when a number has been multiplied by itself 3 times	8 (2^3 = 2x2x2) 27 (3^3 = 3x3x3)

Roman numerals

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

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 (≈ 52 weeks) Leap year = 366 days	

1 **cent**imetre	10mm
1 metre	100cm
1 **kilo**metre	1,000 m
1 mile	1.6 km
1 kilometre	0.625 ($^5/_8$) mile
1 **kilo**gram	1,000 grams
1 litre	1,000 **milli**litres

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.

Fractions, decimals & percentages

$^1/_{100}$	0.01	1%	÷ 100
$^1/_{20}$	0.05	5%	÷ 20
$^1/_{10}$	0.1	10%	÷ 10
$^1/_5$	0.2	20%	÷ 5
¼	0.25	25%	÷ 4
½	0.5	50%	÷ 2
¾	0.75	75%	÷ 4, x3
1	1	100%	÷ 1

Angles

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

2D shapes

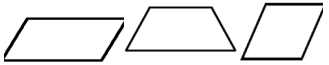
Name	No. of sides
quadrilateral	4
pentagon	5
hexagon	6
heptagon	7
octagon	8
nonagon	9
decagon	10

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

Types of triangle

scalene equilateral isosceles

Types of quadrilateral



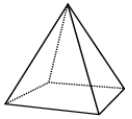
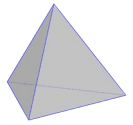
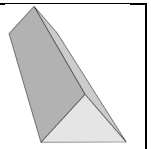
parallelogram trapezium rhombus

AREA

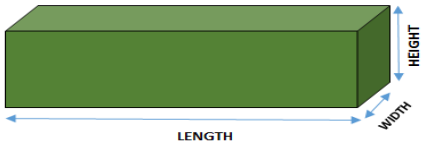
is the amount of space inside a 2D shape usually measured in cm^2 or m^2.

Area of a triangle = (base x height) ÷ 2
Area of a parallelogram = base x height
(Height = perpendicular height)

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

Shape vocabulary

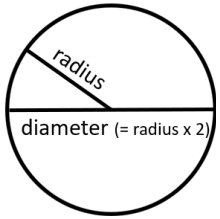
perimeter = measure around the edge (**circumference** = perimeter of a circle)

horizontal line

vertical line

parallel lines

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 ÷ 4 = 4)

YEAR 6 SPaG KNOWLEDGE ORGANISER

Subordinating Conjunctions

Joins a subordinate clause and a main clause.

While
After
Because
Before
If
Though
Since
As

Because I go to school, I get to learn about grammar.

I get to learn about grammar because I go to school.

Coordinating Conjunctions

Joins two independent (main) clauses.

For
And
Nor
But
Or
Yet
So

*I am like ice cream **and** I like cake.*

Noun Phrases – Gives detail about a noun but does not contain a verb

An ancient book in a leather sleeve was hidden in the library.

Commands, Questions, Statements and Exclamations

Commands begin with an imperative verb. ***Wash** your hands.*

Questions expect an answer in return. *Did you enjoy the trip**?***

Statements tell the reader something. *The leaves fall off trees in autumn.*

Exclamations** begin with **how** or **what.
***How** lovely is that!*
***What** a beautiful sunset!*

Passive and Active Voice

Active – The subject performs the action.

The cat chased the mouse.

Passive – When the subject has something done to it (by zombies).

The mouse was chased by the cat.

Subject, Object and Verb

Subject (the person or thing doing the action) → The fisherman caught the fish. ← Object (the person or thing having something done to it)

Modal Verbs – show degree of certainty or possibility.

could, should, would, might, often, ought, can

Clauses

Main clause – A simple sentence that contains a subject and a verb. It makes sense on its own

I went to school.

Subordinate clause – Contains a subordinating conjunction. Adds detail to a main clause; is not a full sentence. The subordinate clause can appear at the start, end or middle of a sentence.

*I went to school **while my brother stayed at home.***
or
***While my brother stayed at home**, I went to school.*

Punctuation

Semi-colon (;) – joins two related independent clauses together
Colon (:) – joins two related clauses **or** begins a list.
Dashes (–), brackets (), commas (,) Used within a sentence to add additional information.

The cat (that didn't belong to me) was black.

Apostrophes

For possession - shows us that something belongs to the subject.

My Mum's bag.
The girls' bathroom.

For omissions/contraction - shows us that a letter has been missed out to create informality.

Don't do that.
Do not do that.

Synonyms and Antonyms

Synonym: words that have a similar meaning *(big/large)*

Antonym: words that have the opposite meaning *(big/small)*

More Punctuation

Hyphen (-) – Creates compound words to give a clear meaning.

*The **man-eating** shark.*

The man eating shark.

Tenses – tells us when in time an action took place.

Past	Present	Future
Simple Past *I walk**ed*** *We **saw*** *You **ran***	**Simple Present** *I **walk*** *We **see*** *You **run***	**Simple Future** *I **will** walk* *We **will** see* *You **will** run*
Past Progressive *I **was** walk**ing*** *We **were** see**ing*** *You **were** runn**ing***	**Present Progressive** *I **am** walk**ing*** *We **are** see**ing*** *You **are** runn**ing***	**Future Progressive** *I **will be** walk**ing*** *We **will be** see**ing*** *You **will be** runn**ing***
Past Perfect *I **had** walk**ed*** *We **had** seen* *You **had** run*	**Present Perfect** *I **have walked*** *We **have** seen* *You **have** run*	**Future Perfect** *I **will have** walk**ed*** *We **will have** seen* *You **will have** run*

(to have is perfect!)

Parts of speech

Comma → **The child asked, "What are your plans for the weekend?"** ← Punctuation before inverted comma

Inverted Comma ← Capital letter → Inverted Comma