

Mathematics:

- Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (e.g. how many 10,000s, how many 100s, etc.);
- Know key facts - see separate sheet;
- Add and subtract numbers with more than four digits, using formal written methods of columnar addition and subtraction - see below:

10,000	1,000	100	10	1
TTh	Th	H	T	O
●●		●	●●●●●●	●●●●●
●	●●●●●●	●	●●●●●●	●●●●●

TTh	Th	H	T	O	
	1	9	1	7	5
+	1	8	4	1	7
	3	7	5	9	2

1	.	0.1	0.01
O	.	Tth	Hth
●●●●●	.	●●●●●	●●●●●
	.	●●●●●	●●●●●

Exchange 1 tenth for 10 hundredths.

O	.	Tth	Hth
●●●●●	.	●●●●●	●●●●●
	.	●●●●●	●●●●●

Now subtract the 5 hundredths.

O	.	Tth	Hth
●●●●●	.	●●●●●	●●●●●
	.	●●●●●	●●●●●

Now subtract the 2 tenths, then the 2 ones.

O	.	Tth	Hth
●●●●●	.	●●●●●	●●●●●
	.	●●●●●	●●●●●

O	.	Tth	Hth
5	.	7	4
-	.	2	5
	.	5	9

- Be fluent with all times tables up to 12x12 (children should be able to recall the times tables in any order and know the inverse (division fact));
- Examples of online activities:
 - <https://ttrockstars.com/>
 - <https://www.topmarks.co.uk/maths-games/daily10>
 - <https://www.topmarks.co.uk/Flash.aspx?f=GuessMyNumber>

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		

Measurement conversions		
1 centimetre	10mm	
1 metre	100cm	
1 kilometre	1,000 m	
1 mile	1.6 km	
1 kilometre	0.625 (3/4) mile	
1 kilogram	1,000 grams	
1 litre	1,000 millilitres	

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

YEAR 6 MATHS KNOWLEDGE ORGANISER

2D shapes	
Name	No. of sides
quadrilateral	4
pentagon	5
hexagon	6
heptagon	7
octagon	8
nonagon	9
decagon	10

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			
$\frac{1}{100}$	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%	$\div 4, \times 3$
1	1	100%	$\div 1$

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°

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

3D shapes			
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	parallel lines	
vertical line	perpendicular lines (at right angles)	

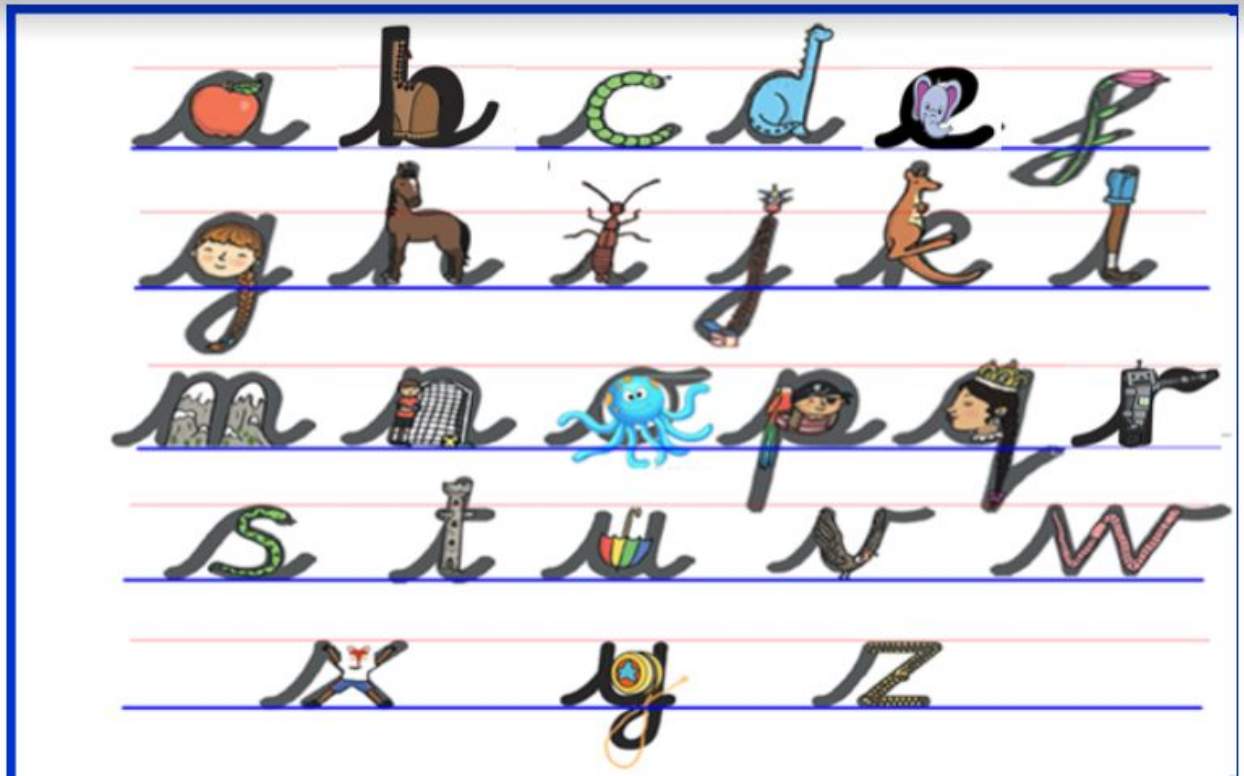
AREA
is the amount of space inside a 2D shape usually measured in cm^2 or m^2 .

Area of a triangle = (base x height) \div 2
Area of a parallelogram = base x height
(Höheht = senkrechte/die Höheht)

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 $16 \div 4 = 4$)

English:

- Know Year 6 spelling rules (see Home-School diary) and recall rules and phonics from prior year groups
- Read daily a book of choice and reread pages to build fluency
- Regularly read a variety of reading materials and literature and identify punctuation and grammar used to convey the author's intent.
- Ask and answer questions of books you read or hear being read, remembering question types (copy cat, text detective, you judge)
- Form all letters of the alphabet using cursive handwriting with correct joins
- Spell all of the Year 5 and 6 wordlist
- Read and write the first 200 high frequency words



Year 5 and 6 Statutory Spellings

accommodate	cemetery	develop	frequently	mischievous	pronunciation	stomach
accompany	committee	dictionary	government	muscle	queue	sufficient
achieve	communicate	disastrous	guarantee	necessary	recognise	suggest
aggressive	community	embarrass	harass	neighbour	recommend	symbol
amateur	competition	environment	hindrance	nuisance	relevant	system
ancient	conscience	equipment	identity	occupy	restaurant	temperature
apparent	conscious	equipped	immediate	occur	rhyme	thorough
appreciate	controversy	especially	immediately	opportunity	rhythm	twelfth
attached	convenience	exaggerate	individual	parliament	sacrifice	variety
available	correspond	excellent	interfere	persuade	secretary	vegetable
average	criticise	existence	interrupt	physical	shoulder	vehicle
awkward	curiosity	explanation	language	prejudice	signature	yacht
bargain	definite	familiar	leisure	privilege	sincere	
bruise	desperate	foreign	lightning	profession	sincerely	
category	determined	forty	marvellous	programme	soldier	