Gosberton Academy

Maths Portfolio

Maths at Gosberton Academy

Mathematics gives pupils the tools to function and excel in all walks of life, developing the skills to tackle everyday problems and succeed in future employment. Moreover, it encourages and develops logical and creative thinking through problem solving.

The 2014 National Curriculum for Maths aims to ensure that all children:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics

At Gosberton Academy, these skills are embedded within Maths lessons and developed consistently over time. We are committed to ensuring that children are able to recognise the importance of Maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts. We want all children to enjoy Mathematics and to experience success in the subject, with the ability to reason mathematically.

To help structure and plan our lessons, we use White Rose Maths Hub schemes of learning to support firm foundations and sequence our learning where possible. Alongside the SOL, we use a range of rich resources to enhance our lessons and deepen understanding.

Teaching Mixed-Age Classes

Our teachers recognise that mixed aged teaching can be a challenge and they constantly adapt their approach to teaching and learning. They demonstrate a high level of flexibility and organisation to ensure that their provision caters for both age groups and includes all learners.

Mixed Aged classes generate a family of learners who support and care for each other. Older children have the opportunity to help others and be a leader, supporting younger learners to play and learn. At the same time, the older child is increasing an independence and competence.

At Gosberton Academy, we recognise learning happens individually, in small groups and as a whole class. Keeping children engaged, motivated and focused ensures they will learn regardless of the class they are in.

We have in place robust transition procedures which starts at the planning process, where teachers work collaboratively in Maths. Good communication across classes fosters curriculum continuity. Teachers share information to ensure learners start confidently in their new class.

Our Vision, Values and Aims

Gosberton Academy aims to provide a high-quality, **exceptional** education with first-hand learning experiences that are able to motivate and stimulate all learners. All learners will recognise the importance of the community in which they are educated and understand that the Academy is based at the heart of the community, bringing a **togetherness** of all stakeholders.

- All pupils and families will feel supported and integrated into the school life.
- Every pupil, regardless of their life experiences, can reach their full potential, growing in confidence and being **honest** to themselves.

H

Honesty – Honest to each other but also, honest to themselves.

A

Aspirational- Aspirational staff, children, parents and families

T

Togetherness- Friendships, support, stakeholders, community, parents and staff

E

Exceptional- Exceptional behaviour, effort, attitude, progress and opportunities

R

Resilient- Never giving up, always wanting to succeed.

We take pride in everything that we do

We show respect to everyone in our School and community

We aspire to reach our dreams and strive for excellence

We are tolerant towards other people's views and opinions

Gosberton Goals

We always try our best

We show exceptional behaviour around school

We are enthusiastic about our learning

We are honest and always tell the truth

We are committed to making our school a better place

We work together and support each other

Maths Long Term Plan EYFS/Year 1

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn Y1	Number: Place Value (within 20)				Addition and Subtraction (Within 20)			***Half Term***	***Half Term***	Geometry: Shape		Measurement: Length and Height		Consolidation	Consolidation
Autumn EYFS	Baseline			Numbers: Counting, Writing and Recognition				***Half Term***	***Half Term***	Shape		Addition and Subtraction			Consolidation
Spring Y1	Number: Place Value (within 50)		Multiples of 2,5 and 10		Number: Multiplication and Division		***Half Term***	Multiplication and Division		Weight and Volume		Time		***Easter Holiday***	***Easter Holiday***
Spring EYFS	Number Patterns		Doubling		Halving and Sharing		***Half Term***	Measurement			Time			***Easter Holiday***	***Easter Holiday***
Summer Y1	Number: Fractions		Geometry: Position and Direction		Number Place Value Within 100		***Half Term***	Money			Shape	Consolidation (ensure place value objectives are embedded)			***Summer Holiday***
Summer EYFS	Addition and Subtraction		Position and Direction		Halving, Doubling and Sharing		***Half Term***	Money			Shape	Consolidation (ensure place value objectives are embedded)			***Summer Holiday***

Maths Long Term Plan Year 1/Year 2

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn Y1	Number: Place Value (within 20)			Addition and Subtraction				***Half Term***	***Half Term***	Geometry: Shape		Measurement: Length and Height		Time	
Autumn Y2	Number: Place Value (within 20)			Addition and Subtraction				***Half Term***	***Half Term***	Geometry: Properties of Shapes		Measurement: Length and Height; Mass, Capacity and Temperature; Time			
Spring Y1	Number: Place Value (within 50)		Multiples of 2,5 and 10		Number: Multiplication and Division		***Half Term***	Fractions			Measures: Money		Consolidation	***Easter Holiday***	***Easter Holiday***
Spring Y2	Statistics		Multiplication and Division				***Half Term***	Fractions			Measures: Money		Consolidation	***Easter Holiday***	***Easter Holiday***
Summer Y1	Number: Place Value (within 100)		Geometry: Position and Direction	Addition and Subtraction	Weight and Volume		***Half Term***	Weight and Volume	Fractions		Consolidation (ensure place value objectives are embedded)				***Summer Holiday***
Summer Y2	Geometry: Position and Direction		Problem Solving and Efficient Methods				***Half Term***	Investigations and consolidation – all areas based on real-life scenarios							***Summer Holiday***

Maths Long Term Plan Year 3/Year 4

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn Y3	Number: Place Value			Addition and Subtraction				***Half Term***	***Half Term***	Multiplication and Division				Consolidation	
Autumn Y4	Number: Place Value			Number: Addition and Subtraction				***Half Term***	***Half Term***	Multiplication and Division			Area	Consolidation	
Spring Y3	Measure: Length and Perimeter			Statistics		Money	***Half Term***	Money	Number: Fractions					***Easter Holiday***	***Easter Holiday***
Spring Y4	Measure: Length and Perimeter			Statistics		Money	***Half Term***	Money	Fractions		Decimals			***Easter Holiday***	***Easter Holiday***
Summer Y3	Measure: Time			Geometry: Properties of Shape			***Half Term***	Measure: Mass and Capacity			Position and Direction	Consolidation of all learning – ensure place value and the four operations is secure – apply this to problem solving.			***Summer Holiday***
Summer Y4	Measure: Time			Geometry: Properties of Shape			***Half Term***	Measure: Mass and Capacity			Position and Direction	Consolidation of all learning – ensure place value and the four operations is secure – apply this to problem solving.			***Summer Holiday***

Maths Long Term Plan Year 4/Year 5

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn Y4	Number: Place Value			Number: Addition and Subtraction			Multiplication and Division	***Half Term***	***Half Term***	Number: Multiplication and Division			Length and Perimeter		Area
Autumn Y5	Number: Place Value			Number: Addition and Subtraction			Multiplication and Division	***Half Term***	***Half Term***	Multiplication and Division			Length and Perimeter		Consolidation
Spring Y4	Number: Fractions					Decimals	***Half Term***	Number: Decimals			Money		Consolidation	***Easter Holiday***	***Easter Holiday***
Spring Y5	Number: Fractions						***Half Term***	Number: Decimals			Number: Decimals and Percentages			***Easter Holiday***	***Easter Holiday***
Summer Y3	Statistics			Geometry: Properties of Shape			***Half Term***	Revision of the four operations		Measures			Consolidation of all learning – ensure place value and the four operations is secure – apply this to problem solving.		***Summer Holiday***
Summer Y4	Statistics			Geometry: Properties of Shape			***Half Term***	Revision of the four operations		Measures			Consolidation of all learning – ensure place value and the four operations is secure – apply this to problem solving.		***Summer Holiday***

Maths Long Term Plan Year 6

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn	Number: Place Value			Number: Addition, Subtraction, Multiplication and Division				**Half Term**	**Half Term**	Number Fractions:				Properties of Shape	
Spring	Number: Decimals		Number: Percentages		Number: Algebra		**Half Term**	Measure: Converting Units	Measure: Perimeter, Area and Volume		Number: Ratio		Geometry: Position and Direction	End of term	End of term
Summer	Statistics		Revision in the context of problems				**Half term**	Investigations and Consolidation of learning							End of term

Maths Vocabulary- Place Value

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
number zero none numbers to twenty and beyond ten, twenty, thirty... teens numbers count (on, from, to, back) count in ones, twos, tens is the same as ones tens odd even every other few pattern repeating pattern pair digit compare order before after next between size **Language of comparing numbers:** *more, less, larger, bigger, greater, fewer, smaller, fewest, biggest, largest, smallest, greatest, least, most, before, after, next, between* one more / less first, second, third... last / last but one guess estimate nearly / close to about the same as just over / just under too many / too few enough / not enough	ten more/ten less as many as equal to digit numeral figure different represent value halfway halfway between eleventh... twentieth roughly greater than less than count in fives numberline sequence	numbers to one hundred hundred count in three, fours, fives one-digit number two-digit number three-digit number place value partition recombine tally multiple of continue predict rule exact/exactly nearest twenty-first... twenty second... greater than >\ less than < single digit	numbers to one thousand thousand) count in hundreds relationship hundred more/less hundred less approximate approximately round (up or down) four-digit number	ten thousand numbers to a hundred thousand five-digit number six-digit number numeral integer thousand more thousand less consecutive sort classify properties tenths hundredths decimal (places) round to the nearest 10, 100 and a 100 thousand more/less negative number/integer positive number/integer above/below zero minus count through zero Roman Numerals (I to C)	numbers to a million Powers of 10 ≥ greater than or equal to ≤ less than or equal to ascending order descending order ≈ approximately equal to round to the nearest ten thousand and hundred thousand Roman Numerals (up to M) linear sequence	numbers to ten million factorise

Maths Vocabulary- Addition and Subtraction

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
add more and make sum total altogether double one more, two more, ten more how many more to make...? how many more is ... than ...? take (away) leave how many are left/left over? how many have gone? one less, two less, ten less how many fewer is... than...? difference between is the same as	+, - , = symbols addition plus near double how much more is...? subtract subtraction minus how much less is...? equals (sign) missing number one-step related facts number bonds combine whole regrouping to make 10 missing part difference bridging ten age-appropriate facts to 20 equation repeated addition / subtraction	tens boundary exchange facts to 20 addition of two numbers can be done in any order subtraction of one number from another cannot column two-step commutative place holder adding multiplies of 10 bridging a 100	hundreds boundary formal written methods column(ar) addition column(ar) subtraction fluent mental jottings inverse addend minuend subtrahend	thousands boundary increase decrease distributive associative	multi-step problems efficient written method complement tenth boundary	millions boundary hundredth boundary mixed operations order of operations brackets

Maths Vocabulary- Multiplication and Division

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
double	lots of	x, ÷ symbols	product	divisible by	divisibility	long division
half	groups of	times	multiplication	remainder	square number (^{2})	common multiples
share	equal groups	multiply	factor	interpret remainders	square root	common factors
share equally	unequal groups	multiplied by	x3, x4, x8 tables facts and associated division	factor pairs	cubed numbers (^{3})	brackets
fair	left / left over	multiple of	expanded method of multiplication	short division	prime numbers	order of operations
count in ones, twos, tens	grouping	divide	compact method of multiplication	count in multiples of 6, 7, 9, 25 and 100	prime factors	
	sharing	divided by	scaling	12 x 12 tables facts and associated division	composite numbers	
	doubling	divided into	division	derive	formula	
	halving	sharing equally	inverse	distributive	multi-step problems	
	repeated addition	grouping equally	dividend	associative	efficient written method	
	count in multiples of 2, 5 and 10	grouping in pairs, threes, tens etc	divisor	formal written methods (multiplication and division)		
	number patterns	once, twice, three times... ten times	quotient	two-step problems		
	once, twice ...	repeated addition	expression			
		array	count in multiples of 4, 8, 50 and 100			
		commutativity	formal written methods (multiplication)			
		row	single-step problems			
		column	fluent			
		multiplication / times tables	mental			
		x2, x5, x10 tables facts missing number	jottings			
		counting in steps of 2, 3 and 5				

Maths Vocabulary- Fractions, Decimals and Percentages

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
doubling halving half sharing	(one) half (one, two, three) quarters group (ing) part whole equal parts same	one third ($^1/_3$) one quarter ($^1/_4$) two quarters ($^2/_4$) three-quarters ($^3/_4$) two thirds ($^2/_3$) whole ($^4/_4$) ($^3/_3$) ($^2/_2$) equivalence equal / same as one whole one and a quarter, one and two quarters (or one and a half) – up to 10. half as much twice as much numerator denominator	tenth ($^1/_{10}$) unit fraction non-unit fraction fifths ($^1/_5$) sixths ($^1/_6$) sevenths ($^1/_7$) eighths ($^1/_8$) ninths ($^1/_9$) order compare equivalent fractions intervals	Common equivalent fractions dividing by 10 dividing by 100 hundredth (1/100) decimal equivalents quarter (0.25) half (0.5) three-quarters (0.75) tenth (0.1) hundredth (0.01) nearest whole number round decimals one decimal place two decimal places proportion decimal point mixed number fraction simplify	thousandths proper fraction improper fraction convert cancel down / reduce to percent (per cent) 100 in every three decimal places fraction, decimal percentage equivalents	degree of accuracy express fractions ratio proportion proportionality

Maths Vocabulary- Measures (Time and Money)

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Time time day, week days of the week: Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday morning, afternoon, evening, night bedtime, dinnertime, playtime today, yesterday, tomorrow birthday, holiday before, after next, last now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest, new, newer, newest, takes longer, takes less time clock, hands, watch hour, o'clock **Money** money coin(s) penny (p), pence, pound (£) price cost buy, sell spend, spent pay	**Time** year, month, weekend, January, February, March, April, May, June, July, August, September, October, November, December spring, summer, autumn, winter midnight hour, minute, second minutes past / to o'clock hands half past fast, faster, fastest early / earlier late / later how long ago? always, never, often, sometimes, usually, once, twice timer **Money** note amount one pence (1p) two pence (2p) five pence (5p) ten pence (10p) twenty pence (20p) fifty pence (50p) five-pound note (£5) ten-pound note (£10) twenty-pound note (£20) fifty-pound note (£50) costs the same as how much…? how many…? total dear, costs more cheap, costs less, cheaper	**Time** analogue quarter past quarter to minutes clockwise anti-clockwise fortnight sequence chronological order **Money** bought sold combine pounds (£) pence (p) change	compare mixed units equivalents **Time** am pm duration noon midnight digital clock seconds leap year century calendar date 12-hour clock 24-hour clock duration Roman Numeral clock **Money** more / most expensive less / least expensive value worth	convert conversions **Time** millennium **Money** Embed previous vocabulary	**Time** timetable **Money** Embed previous vocabulary	**Time** time zone Greenwich Mean time British Summer time International Date Line **Money** Embed previous vocabulary

Maths Vocabulary- Measures (Length, Mass, Capacity and Temperature)

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
General measure size compare guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as just over, just under **Length** length, width, height, depth long, short, tall high, low wide, narrow deep, shallow thick, this longer, shorter, taller, higher... longest, shortest, tallest, highest... far, near, close **Mass** weigh, weighs, balances heavy, light heavier / lighter heaviest / lightest scales weight **Capacity** full half full empty holds container	**General** roughly double half **Length** metre ruler metre stick tape measure **Mass** mass weighing scales heavier than... lighter than... **Capacity** volume more than... less than...	**General** measuring scale scale about compare using <, >, = half as..., twice as... etc **Length** height width length depth further, furthest metre (m) centimetre (cm) millimetre (mm) **Mass** kilogram (kg) gram (g) **Capacity** Capacity volume contains litre (l) half-litre millimetre (ml) **Temperature** higher, lower warmer, colder thermometer degrees celsius (°C)	**General** measurement division approximately mixed units equivalents **Length** *language of comparing lengths and measuring lengths* distance apart / between distance to / from kilometre (km) mile **Mass** *language of comparing mass / weight and measuring mass / weight* **Capacity** *language of comparing capacity / volume and measuring capacity / volume* **Perimeter** perimeter 2D shapes	**General** compare convert standard units non-standard units dimensions **Length** Embed previous vocabulary **Mass** Embed previous vocabulary **Capacity** Embed previous vocabulary **Temperature** negative minus below zero negative number/integer positive number/integer below/above freezing **Perimeter and Area** rectilinear area array multiplication repeated addition algebraically formula surface	**General** units of... approximate equivalences metric units imperial units decimal notation **Length** inches feet yards **Mass** Embed previous vocabulary **Capacity** Embed previous vocabulary **Temperature** Embed previous vocabulary **Perimeter, Area and Volume** composite rectilinear shapes irregular shapes cm^2, m^2 volume (cm^3, m^3) cuboids., cubes scaling	**General** three decimal places compound units conversion speed **Length** miles miles per hour (mph) metres per second (m/s) kilometres per hour (kmph) **Mass** pound (lb) ounce **Capacity** gallon pint **Temperature** Embed previous vocabulary **Perimeter, Area and Volume** parallelogram triangle formula / formulae mm^3 km^3

Maths Vocabulary- Geometry

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Position and Direction shape pattern repeating pattern flat, round, hollow, solid corner face, side, edge, end sort, match make, build, draw size - bigger, larger, smaller **3D shapes** cube pyramid sphere cone **2D shapes** circle triangle square rectangle star **Position and Direction** position direction over, under, above, below top, bottom, side on, in outside, inside around, in front, behind front, back before, after beside, next to, apart left, right, up, down forwards, backwards, sideways across, between, middle far, near, along, through to, from, towards, away from movement, turn	**Properties of Shape** corner point, pointed group straight curved **3D shapes** cuboid cylinder **2D shapes** Embed previous vocabulary **Position and Direction** whole turn half turn quarter turn three-quarter turn clockwise underneath centre journey compass points (N, S, E, W)	**Properties of Shape** surface symmetry (line of) mirror line vertices / vertex vertical horizontal compare group match **3D shapes** triangular-based pyramid square-based pyramid triangular prism **2D shapes** circular triangular rectangular pentagon hexagon octagon polygon **Position and Direction** straight-line rotate, rotation order, arrange anticlockwise reflection route higher, lower diagonal	**Properties of Shape** right-angle greater than / less than a right angle (90°) layer orientation angles turn degrees perpendicular parallel reflection regular irregular **3D shapes** hemisphere prism hexagonal prism pentagonal prism polyhedron **2D shapes** semi-circle pentagonal hexagonal octagonal quadrilateral **Position and Direction** Embed previous vocabulary	**Properties of Shape** construct sketch acute obtuse square-based classify **3D shapes** three-dimensional spherical cylindrical tetrahedron polyhedron **2D shapes** two-dimensional rhombus trapezium parallelogram kite equilateral triangle isosceles triangle oblong heptagon nonagon decagon **Position and Direction** translation, translate co-ordinates scales labels first quadrant plot grid	**Properties of Shape** congruent adjacent opposite reflex dimensions protractor **3D shapes** octahedron tetrahedron **2D shapes** scalene triangle **Position and Direction** identify represent whole turn (360°) half turn (180°) x axis y axis origin	**Properties of Shape** circumference radius diameter intersecting, intersection dissect plane tangram vertically opposite net, open, closed arc **3D shapes** dodecahedron **2D shapes** **Position and Direction** four quadrants negative integers positive integers

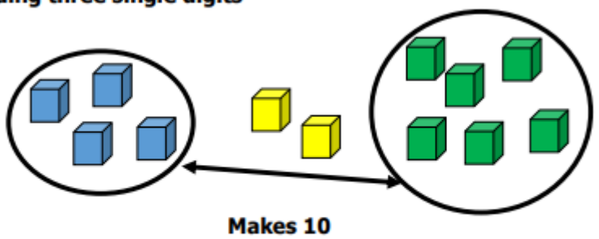
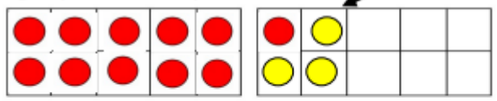
Maths Vocabulary- Statistics and Algebra

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
count sort group same different	set list table vote	tally chart graph block graph / diagram pictogram represent label title scale table data category (ies) most popular, most common least popular, least common Survey questionnaire	chart bar chart frequency table Carroll diagram Venn diagram axis, axes interpret	data continuous data discrete data time graphs	line graph bar line chart maximum / minimum value outcome timetable	mean / average statistics interrogate construct pie chart data set variables convert represent **Algebra** formula / formulae generate linear number sequence express, expression algebraically equation known values unknown values symbol substitute generalisation

Calculation Policy

In KS1, children are encouraged to use the CPA (Concrete, pictorial and abstract) approach to ember their understanding of number and their relationships. Where possible, the concrete, pictorial and abstract are shown alongside each other so that the children can make links between the way the calculation can be represented.

Year 2 Example of CPA (Adding three single digits):

Concrete	Pictorial	Abstract
Adding three single digits  **Makes 10** Combine to make 10 first if possible, or bridge 10 then add third digit. 10 and two more makes 12.	**Adding three single digits**  Regroup and draw representation.  Then add the three more (shown in a different colour here). N.B. Children may not need to draw a tens frame here.	**Adding three single digits** Combine the two numbers that make/bridge ten then add on the third. 4 + 7 + 6 = 10 + 7 = 17

In KS2, children are encouraged to consider whether they can calculate mentally, with or without jottings before using a written method. In Year 3, CPA are shown alongside each other so children can continue to make links between the way calculations can be represented.

In upper KS2, the CPA approach may still be used to support children's understanding where needed.

Year 4 Example of progression (Adding up to four digit numbers) :

Stage One	Stage Two	Stage Three	Stage Four
STAGE 1 - 6234 + 54 No exchange 6234 + 54 6288	**STAGE 2 - 6239 + 54** Exchanging ones 6239 + 54 6293 1	**STAGE 3 - 6272 + 54** Exchanging tens 6272 + 54 6226 1	**STAGE 4 - 6278 + 54** Exchanging ones and tens 6278 + 54 6332 1 1

Pre and Post Assessments

Before teaching each strand of the Maths curriculum, teachers set children 'Pre-Assessments.' These are tools for teachers to gage what children already know about a topic. Children are given questions from the previous year group in order to determine what has been retained and then questions from their current year group, to establish what they already know.

Teachers then use 'Pre-Assessments' to inform their planning. Children then visit the assessments again after the teaching of the topic to allow teachers to gage children's understanding of each skill.

Sam makes a number on a place value grid.

Thousands	Hundreds	Tens	Ones
1000 1000	100 100 100 100	10 10 10 10 10 10 10	1 1 1 1

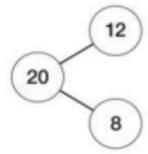
Sam adds some hundred counters.

He has now made the number **2,974**.

How many hundred counters did Max add?

Here is a part-whole model.

Use the model to write four different number sentences.



..... + ... = ...

..... + ... = ...

..... - ..... = ...

..... - ..... = ...

Cold Maths

Cold Maths is an assessment tool used by our teachers. It is a 15/20minute daily session where children complete a Math activity without the support or guidance from an adult. It allows children to retain their knowledge by frequently revisiting topics outside of their Maths lessons.

It also allows teachers to be able to build on what the child already knows. Teachers use the Cold Maths activities to find out children's knowledge in order to adjust their planning to ensure gaps in children's knowledge are addressed.

There are great benefits for the learners as they're able to see the difference between what they could do before and afterwards.

Online Platforms

To supplement our learning here at Gosberton Academy, children have access to various learning platforms including Times Table Rock Stars and NumBots.

By Year 4, children should be able to recall their multiplication facts up to 12 x 12. To help them develop these skills, children can log on to TTRS using their username and password.

On Times Table Rockstars, pupils can practice their tables. They are then able to improve their Rock Speed and climb the Rockstar ranks! The online games reward children with virtual coins for each correct answer, which they enjoy spending on upgrading their personal rock avatar.

NumBots is an online game and playing little and often will significantly improve our learner's recall and understanding of number bonds and addition and subtraction facts. Children can access NumBots using their username and password for TTRS.

Children access these both at home and in school

Times Table Progression

At Gosberton Academy, we believe that it is important that children are given the opportunity to see, explore, and understand the mathematical structures and patterns of times tables for real deep, embedded learning. We want our children to know their times tables really well and be able to apply these facts (and their inverse - up to 12x12). Being fluent in times tables facts means that working memory is freed up and leaves space to explore new mathematical ideas and solve more complex problems.

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Doubling and Halving	Counting in 2s, 5s, and 10s Beginning to multiply and divide by 2, 5 and 10	Multiplying and dividing by 2, 5 and 10 Counting in 3s	Multiplying and dividing by 3, 4, and 8 Patterns withing the 2, 4 and 8 times tables	Multiplying by 6, 7, 9, 11 and 12 Recalling times tables facts	Recalling all times tables facts up to 12 x 12	Recalling all times tables facts up to 12 x 12

These facts are assessed through weekly tests, taken in a set time period of 5 minutes. Certificates, badges and medals are awarded when children complete each challenge within the time frame.

Addition and Subtraction Fluency

Being fluent in basic addition and subtraction allows children's working memory is freed up and leaves space to explore new mathematical ideas and solve more complex problems. By the end of KS1, we aim for children to be able to fluency add and subtract 1 digit numbers, this will then support them when moving onto more complex problems in KS2. At Gosberton Academy, we use the core facts addition and subtraction grid which supports this fluency and make connections.

Adding 1 | Bonds to 10 | Adding 10 | Bridging/ compensating

Adding 2 | Adding 0 | Doubles | Near doubles

Y1 facts

Y2 facts

+	0	1	2	3	4	5	6	7	8	9	10
0	0 + 0	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9	0 + 10
1	1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9	1 + 10
2	2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9	2 + 10
3	3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7	3 + 8	3 + 9	3 + 10
4	4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6	4 + 7	4 + 8	4 + 9	4 + 10
5	5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5	5 + 6	5 + 7	5 + 8	5 + 9	5 + 10
6	6 + 0	6 + 1	6 + 2	6 + 3	6 + 4	6 + 5	6 + 6	6 + 7	6 + 8	6 + 9	6 + 10
7	7 + 0	7 + 1	7 + 2	7 + 3	7 + 4	7 + 5	7 + 6	7 + 7	7 + 8	7 + 9	7 + 10
8	8 + 0	8 + 1	8 + 2	8 + 3	8 + 4	8 + 5	8 + 6	8 + 7	8 + 8	8 + 9	8 + 10
9	9 + 0	9 + 1	9 + 2	9 + 3	9 + 4	9 + 5	9 + 6	9 + 7	9 + 8	9 + 9	9 + 10
10	10 + 0	10 + 1	10 + 2	10 + 3	10 + 4	10 + 5	10 + 6	10 + 7	10 + 8	10 + 9	10 + 10

Maths at Gosberton

"I always challenge myself to find patterns in Maths. I know 7 +3 = 10, so I know 17 + 3= 20!"
Year 1

"I can use what I've learnt in other years to help me with my new learning."
Year 3

"I like that we have lots of resources to help us in Maths like Numicon, base 10 and number lines."
Year 2

What do we love about Maths at Gosberton?

"Maths is so important as we need to use these skills in other subjects. For example, we use maths when we plot graphs in Science and when we compare the size of countries in Geography."
Year 5

"I enjoy the practical activities in maths. To help us understand ratio and proportion, we had the opportunity to create our own mocktails using different ingredients!"
Year 6

Progressive Curriculum building on

Pre and Post Assessments

Quizzes, Questioning and Quick fire

Use of practical equipment

Capturing Our Knowledge

Application of knowledge through cross curricular

Learning by Questions

Varied Fluency, Problem Solving & Reasoning

Transition preparation for Secondary School

Use of technology to record learning

GOSBERTON ACADEMY