Scholes (Elmet) Primary
St James' CE Primary
Moortown Primary

Our curriculum guide: Maths

Date: reviewed on an on-going basis (see document label for most recent update)

Introduction

This Curriculum Guide relates to Maths. It sits alongside similar documents for Early Years, Reading, Writing, Science, Topics and others.

We want Sphere Federation schools to be happy and healthy places to learn. This core aim permeates our schools and their ethos, whether in the classroom or around and about school. (*At St James' CE Primary, this is expressed with one additional element: 'happy and healthy place to achieve and believe'.*)

> ***'Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.'***
> National curriculum in England (Department for Education, 2013)

Curriculum structure

The aims of the National Curriculum are to develop fluency and the ability to reason mathematically and solve problems:

fluency	reasoning	problem-solving
• quick and efficient recall of facts • quick and efficient recall of procedures • flexibility to move between different contexts and representations of mathematics	• following a line of enquiry • conjecturing relationships and generalisations • developing an argument, justification or proof using mathematical language	• applying mathematics to a variety of routine and non-routine problems with increasing sophistication • breaking down problems into a series of simpler steps • persevering in seeking solutions.

The following pages provide an overview of our long-term plans. These are based closely on materials from NCETM (National Centre for Excellence in Teaching Mathematics). The plans are a starting point: teachers use professional judgement to adapt these to meet the needs of each class.

In some Sphere Federation classes, children are in mixed age classes: Years 1 and 2, Year 3 and 4, or Years 5 and 6. Where this is the case, teachers follow NCETM long-term plans which are specifically and expertly adapted for mixed age classes.

Year 1

Autumn 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**
Assessment of counting within 100	**Comparison of quantities and part-whole relationships**			**Numbers 0 to 5**		**Recognise, compose , decompose and manipulate 2D and 3D shapes**	

Autumn 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Recognise, compose, decompose and manipulate 2D and 3D shapes (cont)	**Numbers 0 to 10**			**Additive structures**		**Consolidation and MN assessment**	

Spring 1						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Additive structures (cont)		**Addition and subtraction facts within 10**			**Consolidation and Mastering Number assessment**	

Spring 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Numbers 0 to 20					**Consolidation and Mastering Number assessment**	

Summer 1					
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	
Unitising and coin recognition				**Consolidation and Mastering Number assessment**	

Summer 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Position and direction	**Time**		**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation and Mastering Number assessment**	**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**	

Year 2

Autumn 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**
Numbers 10-100				**Calculations within 20**			**Ready-to-progress based consolidation**

Autumn 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Add and subtract fluently within 10	**Addition and subtraction of 2 digit numbers**		**Introduction to multiplication**				

Spring 1						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Introduction to multiplication (cont)			**Introduction to division structures**		**Ready-to-progress based consolidation**	

Spring 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Shape		**Addition and subtraction of 2 digit numbers**			**Ready-to-progress based consolidation**	

Summer 1					
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	
Money	**Fractions**		**Time**	**Position and direction**	

Summer 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**
Multiplication and division – doubling, halving, quotitive and partitive division			**Sense of measure – capacity, volume, mass**		**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**

Year 3

Autumn 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**
Adding and subtracting across 10 (if required)		**Numbers to 1000**					

Autumn 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Numbers to 1000 (cont)		**Right angles**		**Manipulating the additive relationship and securing mental calculation**			

Spring 1						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Manipulating the additive relationship and securing mental calculation (cont)	**Column addition**		**2, 4, 8 times tables**			

Spring 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Column subtraction	**Unit fractions**					

Summer 1					
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	
Non-unit fractions				**Ready-to-progress based consolidation**	

Summer 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**
Parallel & perpendicular sides in polygons		**Time**	**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**

Year 4

Autumn 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**
Review of column addition and subtraction			**Numbers to 10,000**				

Autumn 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Perimeter		**3, 6, 9 times tables**				**Ready-to-progress based consolidation**	

Spring 1						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
7 times tables and patterns		**Understanding and manipulating multiplicative structures**				

Spring 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Understanding and manipulating multiplicative structures (cont)	**Co-ordinates**		**Review of fractions**	**Fractions greater than 1**		

Summer 1					
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	
Fractions greater than 1 (cont)			**Symmetry in 2D shapes**		

Summer 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**
Time	**Division with remainders**		**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**	**Ready-to-progress based consolidation**

Year 5

Autumn 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**
Decimal fractions					**Money** 1.25 Addition and subtraction: money		**Ready-to-progress based consolidation**

Autumn 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Negative numbers		**Short multiplication and short division**					

Spring 1						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Short multiplication and short division (cont)	**Area and scaling**					

Spring 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	
Calculating with decimal fractions			**Factors, multiples and primes**			

Summer 1					
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	
Factors, multiples and primes (cont)	**Fractions**				

Summer 2						
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**
Fractions (cont)			**Converting units**		**Angles**	

Year 6

Autumn 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	**Week 8**
Multiples of 1000		**Numbers up to 10,000,000**				**Draw, compose and decompose shapes**	
Autumn 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Multiplication and division				**Area, perimeter, position and direction**		**Mean average**	
Spring 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**		
Fractions and percentages							
Spring 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**		
Statistics	**Ratio and proportion**		**Solving problems with 2 unknowns**		**Order of operations**		
Summer 1							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**			
SATs-based consolidation	**SATs-based consolidation**	**SATs-based consolidation**	**SATs week**	**Post SATs consolidation**			
Summer 2							
Week 1	**Week 2**	**Week 3**	**Week 4**	**Week 5**	**Week 6**	**Week 7**	
Calculating using knowledge of structures (1 and 2) *(moved from the start of the year)*							

Mixed age class only: Year 3,4 (cycle A)

Autumn 1							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Adding and subtracting across 10 (if required)		Numbers to 1,000					
Autumn 2							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	
Numbers to 1,000 (cont)				Numbers to 10,000			
Spring 1							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6		
Numbers to 10,000 (cont)		Column addition		Column subtraction	Ready-to-progress based consolidation		
Spring 2							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6		
3, 6, 9 times tables				7 times tables and patterns			
Summer 1							
Week 1	Week 2	Week 3	Week 4	Week 5			
Review of fractions	Unit fractions	Fractions greater than 1 Non-unit fractions	Parallel and perpendicular sides in polygons				
Summer 2							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	
Symmetry in 2D shapes	Time	Ready-to-progress based consolidation	Ready-to-progress based consolidation	Ready-to-progress based consolidation	Ready-to-progress based consolidation	Ready-to-progress based consolidation	

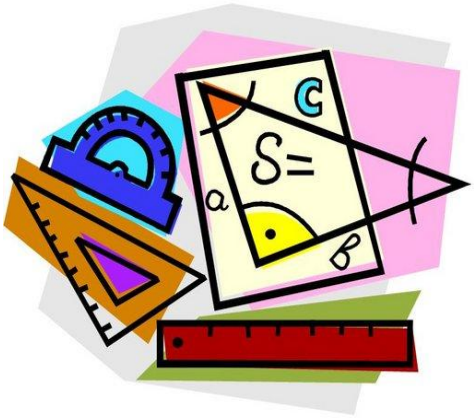
Mixed age class only: Year 3,4 (cycle B)

Autumn 1							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Adding and subtracting across 10 (if required)		Numbers to 1000		Manipulating the additive relationship and securing mental calculation			
Autumn 2							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	
Column addition		Column subtraction	2, 4, 8 times tables			Understanding and manipulating multiplicative structures	
Spring 1							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6		
Understanding and manipulating multiplicative structures (cont)				Unit fractions			
Spring 2							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6		
Unit fractions (cont)			Non-unit fractions				
Summer 1							
Week 1	Week 2	Week 3	Week 4	Week 5			
Non-unit fractions (cont)	Fractions greater than 1		Right angles				
Summer 2							
Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	

Key features

Children in Key Stage 1 and Key Stage 2 have a daily Maths lesson of between 50 and 60 minutes in which they teach the core Maths curriculum (as set out in the long-term plans above). Children also have a maths fluency session four or five times a week, either following the Mastering Number programme (Early Years to Year 5) or focusing on key arithmetic skills (Year 6).

The following are other features of our Maths curriculum which support learning.



The importance of mastery

A mastery approach is a set of principles and beliefs. Mastery is the belief that all pupils are capable of understanding and doing mathematics, given sufficient time. With good teaching, appropriate resources, effort and a 'can do' attitude, all children can achieve in and enjoy Maths.

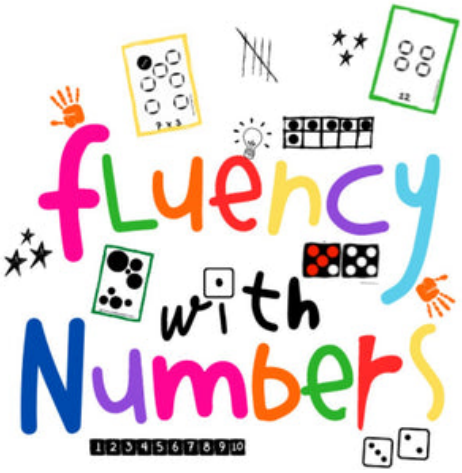
Children's chances of success are maximised if they have a deep and lasting understanding of mathematical procedures and concepts. We use the phrase 'teaching for mastery' to describe elements of classroom practice that give pupils the best chances of mastering Maths. The essential idea behind mastery is that all children need a deep understanding of the mathematics they are learning so that future mathematical learning is built on solid foundations which do not need to be re-taught.

The importance of fluency

The NCETM's *Mastering Number* programme is used from Early Years to Year 5 to develop children's fluency in key number facts.

For children to be fluent in key number facts they need to:

- recall facts with automaticity - effortlessly recall key facts (within six seconds)
- have procedural fluency - confidently and accurately use procedures in the most efficient method way
- have flexibility and adaptability - recognising connections and moving between contexts



When children are fluent in key facts, they can calculate more efficiently, making it easier for them to complete calculations. For example, children who are fluent in addition facts within 20 will find it less effortful to complete a column addition calculation than a child who is not yet fluent. Fluency in key facts is also useful for children accessing broader concepts. For example, a child who is fluent in times tables facts will find it easier to find equivalent fractions.

Mastering Number for Early Years and Key Stage 1 focuses on addition and subtraction facts within 20. Pictures are used to represent the maths which enables children to develop automatic recall of key facts, to use pictures to explain their reasoning and to develop their sense of number.

Mastering Number for Key Stage 2 focuses on the structures of multiplication and division. In Year 4, children use the aural, rhythmic pattern of reciting multiplication facts to develop automatic recall of key facts. (These are the same skills which help us to remember song lyrics.) Children also use pictures and actions to help them understand the structure of multiplication so that they can reason beyond the facts they already know.

The importance of reasoning

The teaching of Maths focuses on fluency, reasoning and problem-solving.

Research by Nunes (Development of Maths Capabilities and Confidence in Primary School, 2009) identified the ability to reason mathematically as the most important factor in a pupil's success in Maths. Opportunities to develop mathematical reasoning skills are therefore integrated fully into the curriculum, enabling pupils to become more proficient at reasoning throughout all of their mathematics learning.

The importance of vocabulary and mathematical language

The quality and variety of language that pupils hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof.

We support children to use precise mathematical vocabulary and to express their mathematical thinking in complete sentences. The ‘I say, you say, you say, you say, we all say’ technique enables us to provide a sentence-stem for children to communicate their ideas with mathematical precision and clarity. These sentence structures often express key conceptual ideas or generalities and provide a framework to embed conceptual knowledge and build understanding.

Cross-curricular links

Maths is mainly taught in discrete lessons. However, there are opportunities to use, apply and practise Maths learning in other subjects. In addition, some specific aspects of the Maths curriculum are taught in different subjects. For example, Roman numerals are taught in Latin lessons; and constructing and presenting data in Science and topic subjects.

Revisiting prior learning

Revisiting previous mathematical learning, usually at the start of a lesson or unit, is important. This practice strengthens pupils’ long-term memory by helping them recall and connect prior knowledge. It ensures that any gaps are addressed early, providing a secure foundation for new learning. Revisiting concepts also encourages fluency and flexibility, allowing children to build deeper, connected understanding and make links between different areas of mathematics. This supports all learners to move forward with confidence and develop mastery over time.

Appendix: Resources

TIMES TABLES

2 x 2 = 4										
2 x 3 = 6	3 x 3 = 9									
2 x 4 = 8	3 x 4 = 12	4 x 4 = 16								
2 x 5 = 10	3 x 5 = 15	4 x 5 = 20	5 x 5 = 25							
2 x 6 = 12	3 x 6 = 18	4 x 6 = 24	5 x 6 = 30	6 x 6 = 36						
2 x 7 = 14	3 x 7 = 21	4 x 7 = 28	5 x 7 = 35	6 x 7 = 42	7 x 7 = 49					
2 x 8 = 16	3 x 8 = 24	4 x 8 = 32	5 x 8 = 40	6 x 8 = 48	7 x 8 = 56	8 x 8 = 64				
2 x 9 = 18	3 x 9 = 27	4 x 9 = 36	5 x 9 = 45	6 x 9 = 54	7 x 9 = 63	8 x 9 = 72	9 x 9 = 81			

2 x 11 = 22	3 x 11 = 33	4 x 11 = 44	5 x 11 = 55	6 x 11 = 66	7 x 11 = 77	8 x 11 = 88	9 x 11 = 99	10 x 11 = 110	11 x 11 = 121	
2 x 12 = 24	3 x 12 = 36	4 x 12 = 48	5 x 12 = 60	6 x 12 = 72	7 x 12 = 84	8 x 12 = 96	9 x 12 = 108	10 x 12 = 120	11 x 12 = 132	12 x 12 = 144

Top tips when you're learning your tables:
Turn around facts eg 3 x 4 = 4 x 3 (this halves the amount of facts you need to learn).
Say the smallest factor first.
If you don't know the product, say the factors out loud and see if the product just comes out.
Look for patterns in the table.
Picture a number line to help you work out 9x and 12x
Use doubling: double the 2s to help you know the 4s; double the 3s to help with the 6s; double the 4s to help with the 8s; double the 6s to help with the 12s
Learn the square numbers – they're the ones shaded in grey.

100 SQUARE

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29
30	31	32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79
80	81	82	83	84	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99

MENTAL CALCULATIONS

Addition

Number bonds
Knowing (not working out) pairs of numbers which total to 10, 20 and 100
3 + 7, 13 + 7, 30 + 70…

Counting on and back
Counting in steps of 1, 10, 100, 1000…
86 + 52 = 138 by counting on in 10s then in 1s

Rounding and adjusting
Add the nearest multiple of 10, 100, 1000 and adjust
24 + 19 = 24 + 20 - 1 = 43

Relationships
Addition and subtraction are inverse operations so you can 'work backwards'
23 - 17 = 6 so we know 17 + 6 = 23

Doubles and near doubles
6 + 6 = 12, 6 + 7 = double 6 and 1 more = 13

Partitioning
Splitting a number up and then recombining it
34 + 45 = (30 + 40) + (4 + 5) = 70 + 9 = 79

Bridging
Using number bonds to split numbers
17 + 7 → 17 + (3 + 4) = 20 + 4 = 24

Using related facts
4 + 9 = 13 so we know 40 + 90 = 130

Equivalent calculations
Use knowledge of structure: increase one number and decrease the other by the same amount
49 + 6 = 50 + 5

Multiplication

Times tables
Knowing (not working out) facts
Y2 → x2, x5 x10 **Y3** → x3, x4, x8
Y4 → all facts up to 12 x 12 quickly
Knowing the effect of x0 and x1

Doubling… and doubling again
13 x 2 = 26, so 13 x 4 = 52 and 13 x 8 = 104

Using related facts
8 x 6 is double 4 x 6
24 x 5 = (24 x 10) then half it = 120
12 x 15 = 12 x 5 x 3 = 60 x 3 = 180

Multiplying by 10, 100, 1000…
63 x 10 = 630 (and 6.3 x 10 = 63 etc)

Partitioning
23 x 6 → (20 x 6) + (3 x 6) = 120 + 18 = 138
13 x 12 → (13 x 10) + (13 x 2) = 130 + 26 = 156

Relationships
Multiplication is repeated addition
14 x 3 = 14 + 14 + 14 = 42
Multiplication and division are inverse operations so you can 'work backwards'

Rounding and adjusting
99 x 5 → 100 x 5 - 5 = 495

Equivalent calculations
Use knowledge of structure: apply a multiplicative increase to one factor and a corresponding decrease the other
18 x 6 = 9 x 12

Subtraction

Number bonds
Using number facts we know
20 - 17 = 3, 100 - 70 = 30

Counting on and back
Counting on and back in repeated steps of 1, 10, 100…
86 - 32 = 54 by counting back in 10s and in 1s
Find a small difference by counting up
101 – 98 → from 98, jump to 99, 100, 101…three jumps

Rounding and adjusting
Subtract the nearest multiple of 10, 100… and adjust
74 - 19 = 74 – 20 and then add the 1 back on = 55

Relationships
Addition and subtraction are inverse operations so you can 'work backwards'
17 + 6 = 23 so we know 23 - 6 = 17

Partitioning
Splitting a number up then recombining it
89 – 36 → (80 - 30) + (9 - 6) = 50 + 3 = 53

Bridging
Using number bonds to split numbers up
14 – 6 → 14 – 4 – 2 = 10 – 2 = 8

Equivalent calculations
Use knowledge of structure: increase **or** decrease both numbers by the same amount
601 - 278 = 599 – 276

Division

Times tables
Multiplication and division are inverse operations so you can 'work backwards'
8 x 7 = 56 so we know 56 ÷ 8 = 7

Halving
Halving is ÷2
Halving and halving again is ÷4 (and finding ¼ or 25%)
64 ÷ 4 = 64 halved (32) and then halved again = 16

Dividing by 10, 100, 1000…
750 ÷ 10 = 75 (and 750 ÷ 100 = 7.5)

Relationships
Division can be seen as repeated subtraction
24 ÷ 6 → starting at 24, we take off 6s → 18, 12, 6, 0 = 4 groups
Division can be worked out by repeatedly adding, too
24 ÷ 6 → from 0, we jump to 6, 12, 18, 24…
4 jumps = 4
If I know 3 x 7 = 21, what else do I know?
30 x 7 = 210,
0.3 x 7 = 2.1 etc

Equivalent calculations
Use knowledge of structure: apply a multiplicative increase **or** decrease to both numbers
600 ÷ 50 = 60 ÷ 5

SPHERE FEDERATION

ADDITION FACTS

Year 1 *the 87 facts contained in the outer rectangle*
Adding 1 (eg 7 + 1 *and* 1 + 7)
Doubles of numbers to 5 (eg 4 + 4)
Adding 2 (eg 4 + 2 *and* 2 + 4)
Number bonds to 10 (eg 8 + 2 *and* 2 + 8)
Adding 10 to a number (eg 5 + 10 *and* 10 + 5)
Adding 0 to a number (eg 3 + 0 *and* 0 + 3)
The ones without a family: 5 + 3, 3 + 5, 6 + 3, 3 + 6

Year 2 *the 34 facts in the inner 'triangle'*
Know or derive a quick strategy (not counting):
Near doubles: 8 + 9 = 8 + 8 + 1
Bridging: 8 + 9 = 8 + 2 + 7
Compensation: 8 + 9 = 8 + 10 – 1
Doubles: 7 + 7
Near doubles: 5 + 6

+	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

Colours represent:

- adding 1 and 2
- bonds to 10
- adding 10
- adding 0
- doubles
- near doubles
- bridging / compensating