Achieving Happily Together
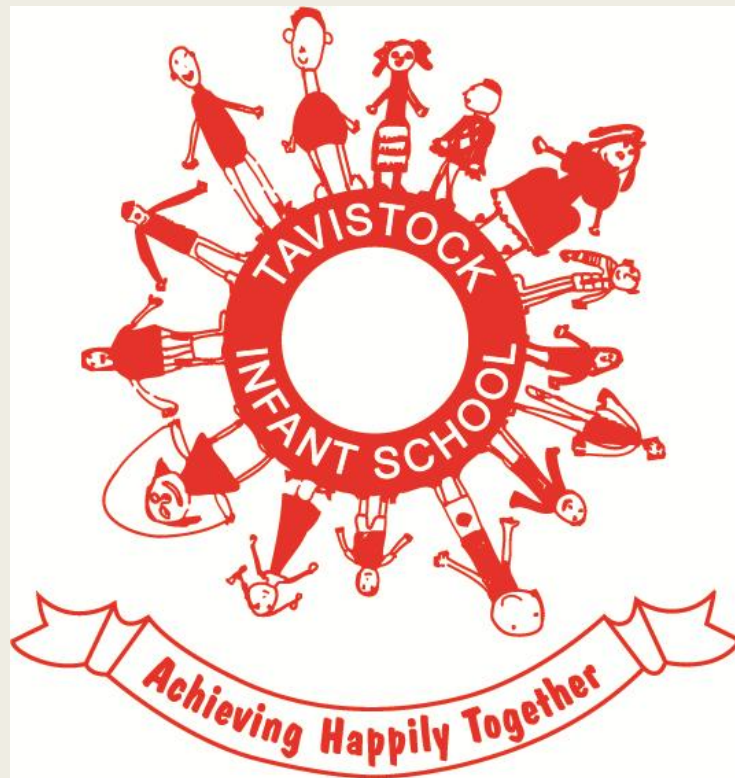
Tavistock Infant School Curriculum.

INTENT to Achieve Happily Together

A mastery approach to teaching and learning where all children can succeed.
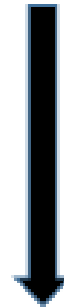
IMPLEMENTATION through

Visible Learning

Adults see learning through the eyes of the children

Adults help children to become their own teachers

Children become lifelong learners who want to find out more

Children develop positive mind-sets and build their confidence and resilience to celebrate challenge

IMPACT

Children develop knowledge, skills and understanding to succeed in life.

The National Curriculum

Core subjects

- ■ English, maths and science

Foundation subjects

- ■ History, geography, music, PE, D&T, Art, RE, computing and PSHE

The National Curriculum & Maths

■ Mental fluency

■ Reasoning

■ Problem solving

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Maths Overview for Year 1

Tavistock Maths Planning Overview for Year 1 Adapted from Hampshire Maths Team documents		
Autumn 1	Spring 1	Summer 1
Number and Place Value Continue and extend counting skills – counting in ones, forwards and backwards to at least 30, then 50. Count, read and write numbers to 20 in numerals, then extending to 30 / 50. Begin to write some numbers to 20 in words. Understand what each digit represents in numbers to 20, and represent these numbers with structured resources. Partition a teens number. Begin to recognize the significance of "ten" in the number system. Begin to recognize multiples of ten and count in tens forwards and backwards. Count in 2's forwards and backwards Represent and order numbers to 20, knowing "one more" and "one less" than any number to 10/20. Begin to start doubling numbers and halving numbers. Estimate objects to 20. **Addition and Subtraction** Understand addition as combining 2 groups and more and start to use symbols + and =. Partition numbers to 10. Eg: 3+3, 2+4, 5+1 Begin to work out number facts for 10 and numbers within 10. Adding 2 or 3 sets of numbers together using apparatus.	**Number and Place Value** Continue and extend counting skills – counting in ones, forwards and backwards to 100. Count in 10's forwards and backwards. Count in 2's forwards and backwards. Writing numbers in words to 20. Count, read and write numbers to 50 in numerals, then extending to 100. Understand what each digit represents in two –digit numbers to 50 and represent these numbers with structured resources. Recognize the significance of "ten" in the number system. Count in multiples of 5. Represent and order numbers to 50, knowing "one more" and "one less" than any number to 50. Begin to extend this to 100. Know the number that is ten more / ten less than any two digit number and explain which digit changes and why. Recall and know securely number facts for 10 and numbers within 10. Begin doubling and halving numbers to 20. Estimate objects to 50. **Addition and Subtraction** Mentally subtract and add 1 from any number to 10 and write the operation. Add/subtract any pair of single digit numbers mentally.	**Number and Place Value** Continue and extend counting skills – counting in ones,2's,5's and 10's forwards and backwards to 100 and beyond (to or from any given number). Understand vocabulary of comparing, ordering and positioning numbers. Count, read and write numbers to 100 in numerals. Understand what each digit represents in two –digit numbers and represent these numbers with structured resources in a variety of ways. Represent and order numbers to 100, knowing "one more" and "one less" than any number to 100. Compare numbers and quantities, using the language of equal to, more than, less than (fewer), most, least Read and write numbers to 20 in words. Halving and doubling numbers to 20. Know the number that is ten more / ten less than any two digit number and explain which digit changes and why. **Addition and Subtraction** Contextual addition and subtraction problems within 30, using "+", "-" and "=" symbols. Know all pairs of numbers for 20. Begin to work systematically to work out corresponding subtraction fact. Use a number line to support addition and subtraction – counting on for addition and counting back for subtraction.

Maths Overview for Year 2

Tavistock Maths Planning Overview for Year 2 Adapted from Hampshire Maths Team documents		
Autumn 1	**Spring 1**	**Summer 1**
Number and Place Value Continue to practice and extend counting skills – practice counting forwards and backwards in one's, count forwards and backwards in steps of 2 and 5 using a class number line for support. Write numbers to at least 100 in numerals and words. Partition numbers into tens and units in different ways. Knowing significance of tens number. Continue to consolidate known number facts. Recognise and use number facts to 20 and halving and doubling facts in simple problems and explain working out. Add/subtract 1 or 10 to any 2-digit number and explain which digit changes and why. Explain using the 100 square. Consolidate secure understanding of "=" as equivalence. Begin to apply knowledge of place value and number facts to solving problems **Addition and Subtraction** Add 2 or 3 sets of numbers together and begin to use an unstructured numberline. Solve problems with addition and subtraction Use practical resources (counting apparatus/Diennes) to model addition/subtraction with 2-digit numbers. Add and subtract 2-digit numbers using an unstructured numberline to support thinking. Use a number line to support mental strategies for addition – jumping in steps of ten and one.	**Number and place value** Read and write numbers to at least 100 with digits consistently placed correctly. Use and apply confidently known and quickly recalled number facts and knowledge of place value to problem solving and investigations Odd and even numbers within 100. Count in multiples of 3. Continue to use and apply knowledge of writing numbers in numerals and words (to at least 100) Routinely practise and check estimation skills Use place value to compare and order numbers to 100, using <, > and = symbols. Know zero as a place holder. Recall and use addition and subtraction number facts to 20. Use number facts to 10 and begin to use to 20 to add and subtract multiples within 100. **Addition and subtraction** Use mental and written methods to add/subtract a 2-digit number and a multiple of 10 and 2 2 digit numbers. Demonstrate knowledge of which way subtraction and addition can/cannot be done. Practise addition and subtraction skills in a range of contexts, problems and investigations.	**Number and Place Value** Practise counting in 2's,3's, 5's and 10's forwards and backwards. Use place value and quickly recalled number facts to 20 to solve problems and apply to investigations. Identify, represent and estimate numbers using different representations, including the number line Confidently compare and order numbers to 100, using <, > = symbols correctly. Read and write numbers to 100 in numerals and words **Addition and subtraction** Solve a range of addition and subtraction problems confidently, choosing a suitable strategy based on the numbers involved (mental methods, number line jottings) Confidently apply known and quickly recalled facts to addition and subtraction calculations. Add and subtract numbers using concrete objects, pictorial representations and mental methods, including a two-digit number and ones, a two-digit number and tens, two two-digit numbers and adding three one-digit numbers. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse to check the reasonableness of an answer and to solve missing number problems.

What does maths look like in KS1?

- Mental and oral- lots of counting and basic skills.

- Reasoning questions- discussions with partners and explanations.

- We introduce the learning and model strategies for working out and recording.

- Children use practical resources and become problem solvers.

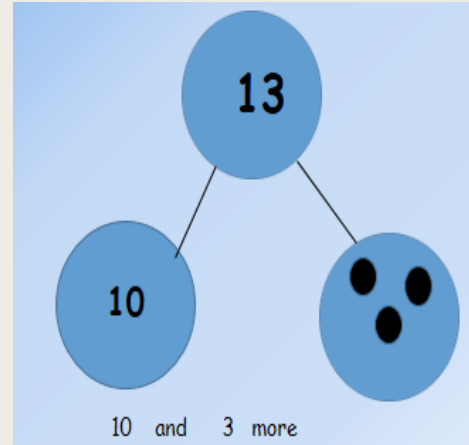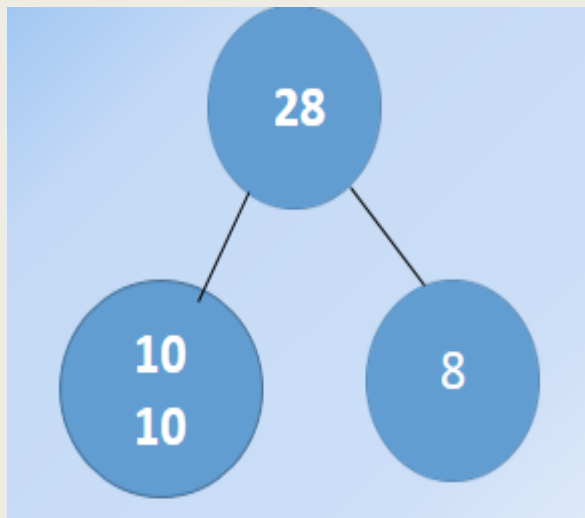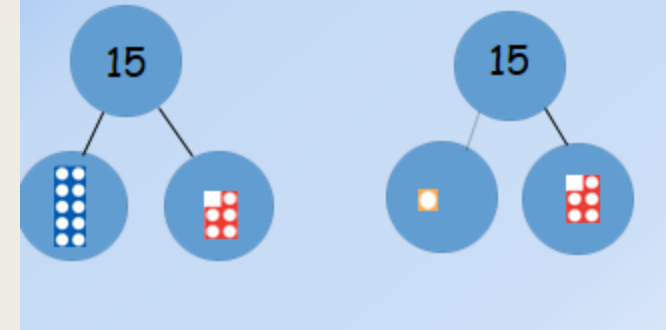- We share learning strategies and discuss the outcomes.

Place Value in KS1

Place Value in Year 1

What is the number?

_____ is made up of _____ ten and _____ left over.

13

10

10 and 3 more

Which is 15? How do you know?
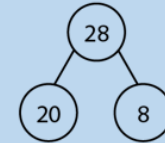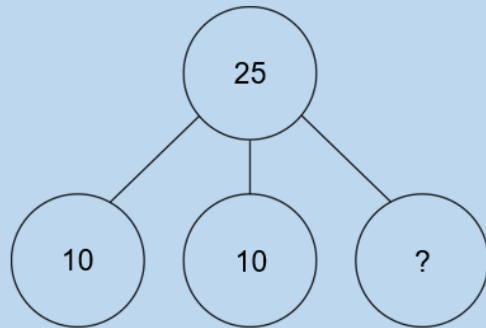
15

15

What is the number? How do you know?

28

10
10

8
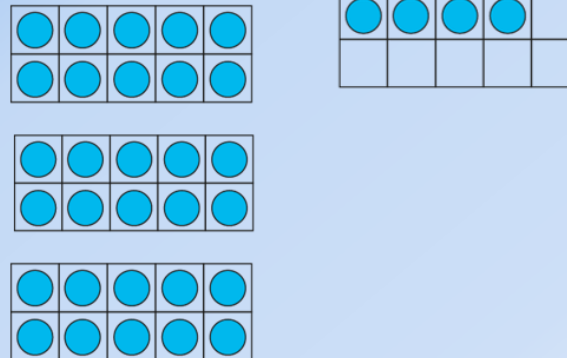
How can we make this 26p?
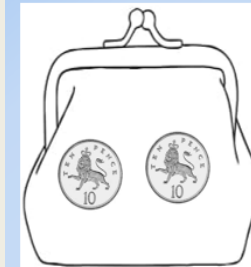
26p is _____10p coins and _____ 1p coins.

Place Value in Year 2

What does this cherry diagram show?
Can you think of a number sentence to match?

25
10 10 ?

28
20 8

28	
20	8

20 + 8 = 28
8 + 20 = 28

28 = 20 + 8
28 = 8 + 20

Partitioning 51

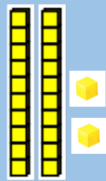51= 50 + 1
51= 40 + 11
51 = 30 + 21

What will the next number sentence be? Use the apparatus to help you.

30 + 21 = 51

Which multiple of 10 fits into this calculation? How do you know?

97- ☐ = 47

84- ☐ = 24

How would you solve a problem like this?

Mrs Hope baked 57 sausages for Year 1 and 25 for Year 2, how many sausages did she bake altogether?
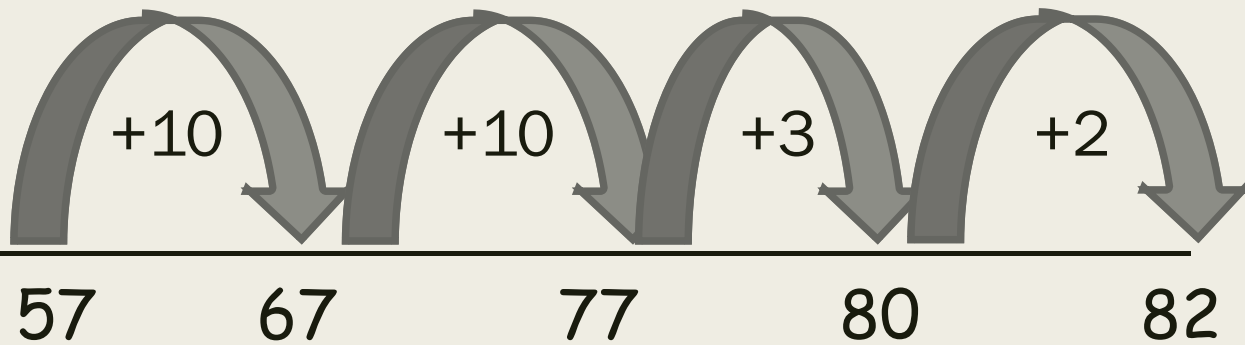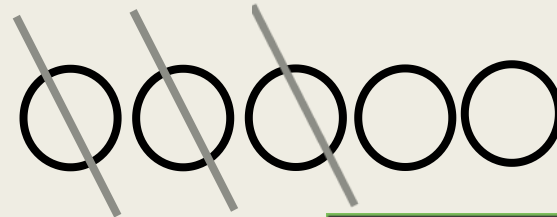
What is the key information?

57+25=
/ \
20 5

◯◯◯◯◯

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	100

57+25=82
/ \
20 5

+ 3 to get to
the next 10.

○̸ ○̸ ○̸ ○ ○

Then you
have 2 units
left to add.

+10   +10   +3   +2

57   67   77   80   82

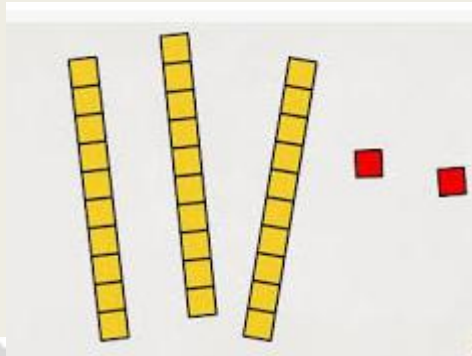| 1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

How to help with Numbers, Counting and Place Value.

- Count objects at every opportunity- don't just recite them.

- Play board games

- Make amounts using 1p and 10p coins to help place value.

- Practise recall of number bonds to 10 and then 20.

- Describe numbers eg- 10 is made of 10 and 2, it has 1 ten and 2 units/ones.

- Count in 10s from any given number, not just zero as this will aid addition and subtraction on the unstructured number line.

■ Please look at the resources