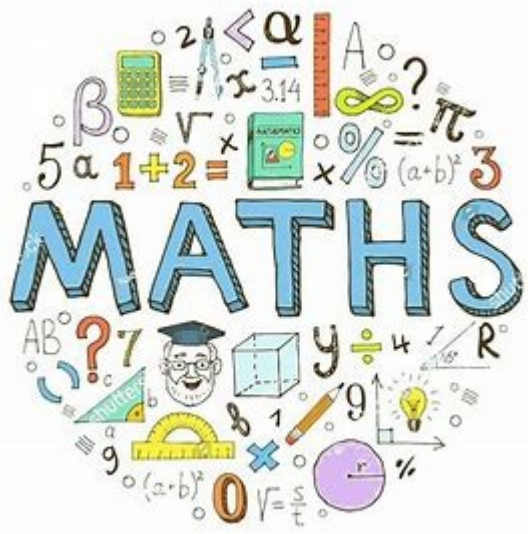


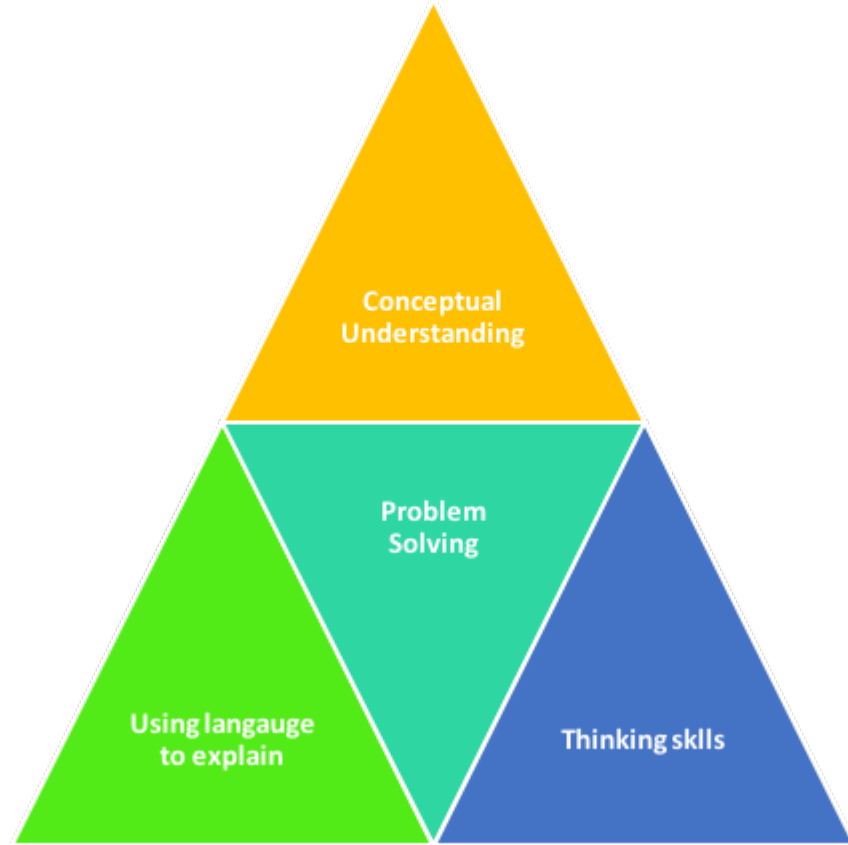


KS1 Maths workshop

Thank you for joining us to find out more about Maths in KS1



Maths at SPPS



- We intend to provide children with a foundation for understanding number, reasoning, thinking logically and problem solving with resilience so that they are fully prepared for the future.
- We enable children to master mathematical concepts and skills by: presenting them in multiple ways; modelling mathematical language to explain ideas; making links between areas of learning and giving opportunities to apply the concept to new problems in unfamiliar situations.

The **White Rose Maths** schemes of learning

Teaching for mastery

Our research-based schemes of learning are designed to support a mastery approach to teaching and learning and are consistent with the aims and objectives of the National Curriculum.

Putting number first

Our schemes have number at their heart. A significant amount of time is spent reinforcing number in order to build competency and ensure children can confidently access the rest of the curriculum.

Depth before breadth

Our easy-to-follow schemes support teachers to stay within the required key stage so that children acquire depth of knowledge in each topic. Opportunities to revisit previously learned skills are built into later blocks.

Working together

Children can progress through the schemes as a whole group, encouraging students of all abilities to support each other in their learning.

Fluency, reasoning and problem solving

Our schemes develop all three key areas of the National Curriculum, giving children the knowledge and skills they need to become confident mathematicians.

Concrete – Pictorial – Abstract (CPA)

Research shows that all children, when introduced to a new concept, should have the opportunity to build competency by following the CPA approach. This features throughout our schemes of learning.

Concrete

Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing.



Pictorial

Alongside concrete resources, children should work with pictorial representations, making links to the concrete. Visualising a problem in this way can help children to reason and to solve problems.



Abstract

With the support of both the concrete and pictorial representations, children can develop their understanding of abstract methods.

An abstract representation of the addition 5 + 7 using a yellow box. Inside the box, the equation $5 + 7$ is written.

If you have questions about this approach and would like to consider appropriate CPD, please visit www.whiterosemaths.com to find a course that's right for you.

Resourcing: we use a range of resources, with White Rose planning to structure the teaching of Maths.

What are the components of a Maths lesson?

All lessons begin with a review of prior learning to address any misconceptions.

All lessons continue with a warm up e.g. times tables, basic fact recall, number fluency review.

Fluency

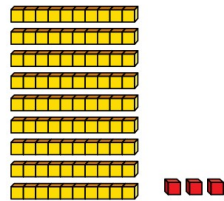
Fluency in maths is about developing number sense and being able to choose the most appropriate method for the task at hand.

10 less	Number	10 more
	25	

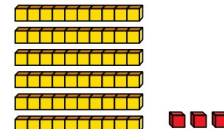
Reasoning

The process of applying logical and critical thinking to a mathematical problem in order to work out the correct strategy to use (and as importantly, not to use) in reaching a solution.

Use base 10 to complete the calculations



$$93 - 30 = 63$$



$$13 + 50 = 63$$

Why do both number sentences give the same answer?

Have a think



Problem solving

The ability to make choices, interpret, formulate, model, and investigate **problems** and communicate solutions effectively.

			
15p	22p	35p	68p

Each piece of fruit is made 10p cheaper.

What are the new prices?



Answer the questions on your whiteboards.

Previous day's learning
recap and recall of
counting in 10s

One more than 14 is

One more than 26

$$12 + 3 =$$

$$11 - 4 =$$



Complete the number track

10	20		40	50			80	90	100
----	----	--	----	----	--	--	----	----	-----

Complete the number track

100	90	80		60			30	20	
-----	----	----	--	----	--	--	----	----	--

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

Previous day's learning
recap and recall of
counting in 10s

**Count backwards
and forwards in
10s.**

**Count on and
back**

**Identify 1 more
than ...**

**Identify 1 less
than**

LO made explicit-
vocabulary modelled
on white board

LO – I am learning to find 10 more and 10 less

Success Criteria:

I can count the dienes to draw ten more and ten less

I can use dienes to find ten more or ten less than any number

I can check that the number in the ones column has not changed

A bakery has been baking bread rolls.

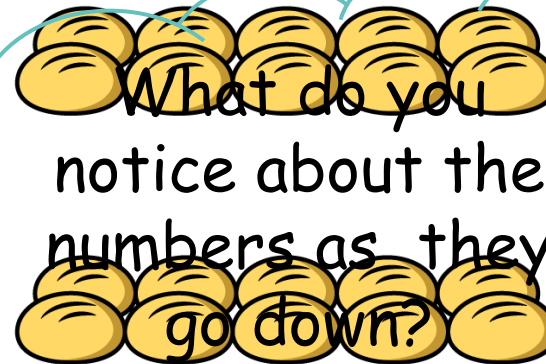
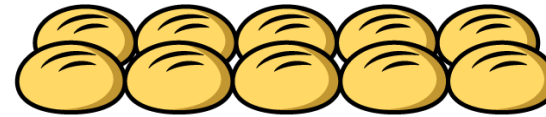
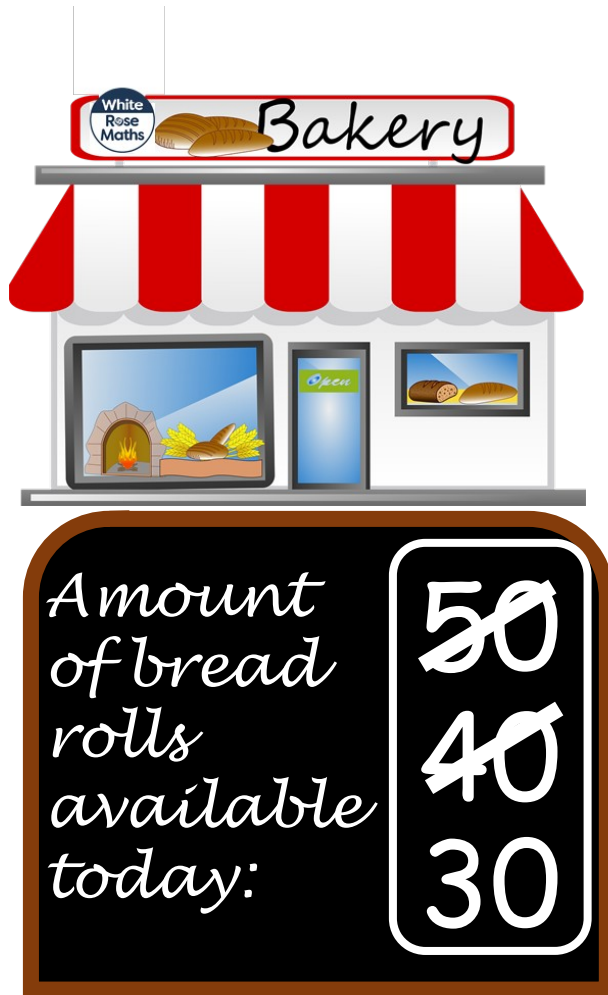
Visuals used to highlight patterns

What do you notice about the numbers as they go up?



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

The bakery sell some of their bread rolls.



Complete the number track

Questions to promote
mathematical language
and reasoning

10	20	30	40	50	60	70	80	90	100
----	----	----	----	----	----	----	----	----	-----

What is the same
about the
numbers in this
number track ?

How are they
different from
each other?

Complete the number track

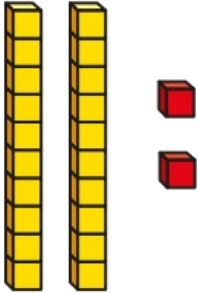
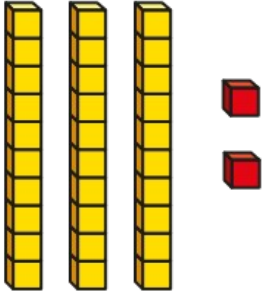
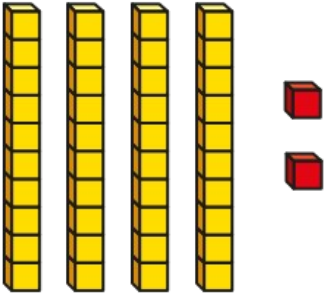
15	25	35	45	55	65	75	85	95
----	----	----	----	----	----	----	----	----

What is the same
about the
numbers in this
number track ?

How are they
different from
each other?

Ron is finding 10 more and 10 less than 32

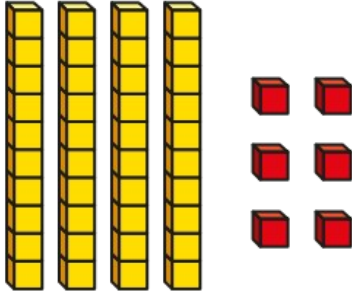
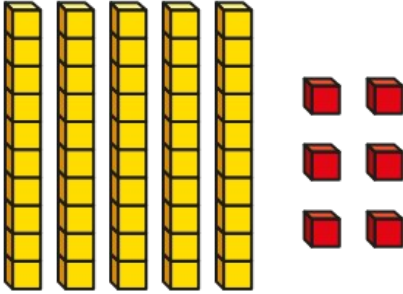
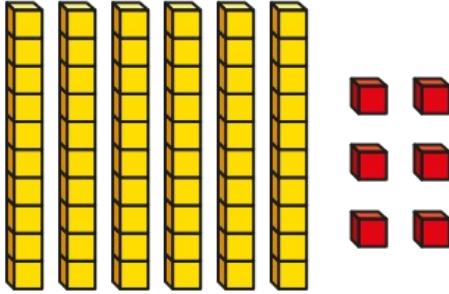
Concrete apparatus used to reinforce teaching point

10 less	Number	10 more
		

What do you notice about the number of tens?

What do you notice about the number of ones?

Use base 10 to find 10 more and 10 less than 56

10 less	Number	10 more
		

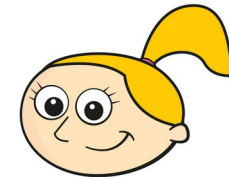
10 more than 56 is 66

10 less than 56 is 46

Eva is finding 10 less and 10 more than 68

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

When I add or subtract 10, the ones digit stays the same.

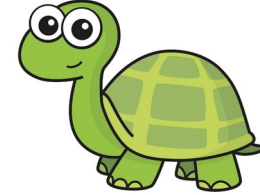


Eva

What do you notice about the position of the numbers on the hundred square?

Tiny is finding 10 more and 10 less than 33

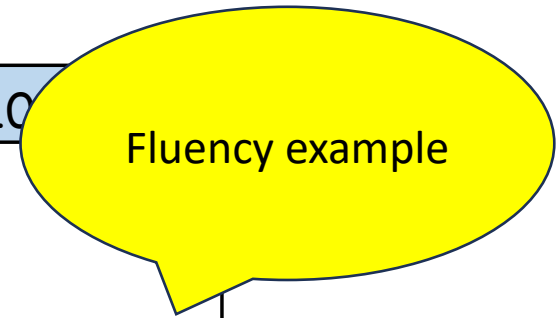
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Do you agree with Tiny? Why?

10 less	Number	10 more
	65	

10 less	Number	10 more
	50	



10 less	Number	10 more
	22	

10 less	Number	10 more
	34	

10 less	Number	10 more
	48	

10 less	Number	10 more
	81	

10 less	Number	10 more
	17	

10 less	Number	10 more
	10	

Have a go at the task sheet

Different scaffold depending on confidence

These are Jo's balloons.



How many?

She gets 10 more.



How many now?

These are Mo's balloons.



How many?

She gives away 10.



How many now?

Draw dienes to complete the tables

10 less	Number	10 more
	21	

10 less	Number	10 more

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

Underline 43. Underline 10 more and 10 less.

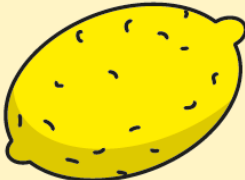
Challenge

10 more than 13 is

10 less than 81 is

Circle 15 on the grid Circle 10 more and 10 less.

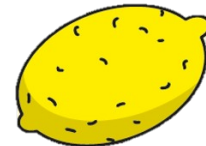
Colour 27 green. Colour 10 more blue and 10 less yellow.

			
15p	22p	35p	68p

Fluency in
context

Each piece of fruit is made 10p cheaper.

What are the new prices?



LO – I am learning to find 10 more and 10 less

Success Criteria:

I can count the dienes to draw ten more and ten less

I can use dienes to find ten more or ten less than any answer

I can check that the number in the ones column has not changed

Progression from EYFS to end of 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
Autumn term	Getting to know you		Match, sort and compare FREE TRIAL VIEW	Talk about measure and patterns VIEW	It's me 1, 2, 3 VIEW		Circles and triangles VIEW	1, 2, 3, 4, 5 VIEW		Shapes with 4 sides VIEW		
Spring term	Alive in 5 VIEW	Mass and capacity VIEW	Growing 6, 7, 8 VIEW	Length, height and time VIEW	Building 9 and 10 VIEW	Explore 3-D shapes VIEW						
Summer term	To 20 and beyond VIEW	How many now? VIEW	Manipulate, compose and decompose VIEW	Sharing and grouping VIEW	Visualise, build and map VIEW	Make connections VIEW	Consolidation					

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
Autumn term	Number Place value (within 10) FREE TRIAL VIEW					Number Addition and subtraction (within 10) VIEW					Geometry Shape VIEW	Consolidation
Spring term	Number Place value (within 20) VIEW	Number Addition and subtraction (within 20) VIEW				Number Place value (within 50) VIEW	Measurement Length and height VIEW	Measurement Mass and volume VIEW				
Summer term	Number Multiplication and division VIEW			Number Fractions VIEW		Geometry Position and direction VIEW	Number Place value (within 100) VIEW	Measurement Money VIEW	Measurement Time VIEW	Consolidation		

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
Autumn term	Number Place value FREE TRIAL VIEW				Number Addition and subtraction VIEW				Geometry Shape VIEW			
Spring term	Measurement Money VIEW		Number Multiplication and division VIEW				Measurement Length and height VIEW		Measurement Mass, capacity and temperature VIEW			
Summer term	Number Fractions VIEW			Measurement Time VIEW		Statistics VIEW		Geometry Position and direction VIEW		Consolidation		

Number facts and times tables

Addition and subtraction facts

The full set of addition calculations that pupils need to be able to solve with automaticity are shown in the table below. Pupils must also be able to solve the corresponding subtraction calculations with automaticity.

+	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

Pupils must be fluent in these facts by the end of year 2, and should continue with regular practice through year 3 to secure and maintain fluency. It is essential that pupils have automatic recall of these facts before they learn the formal written methods of columnar addition and subtraction.

Recall of 2s 5s and 10 times tables by the end of Y2

Websites with activities to support maths skills

- [KS1 Maths - BBC Bitesize](#)
- <https://uk.ixl.com>
- [Learn to Count with fun Counting Games for KS1 Children](#)
- <https://www.thenational.academy>

Any questions?