

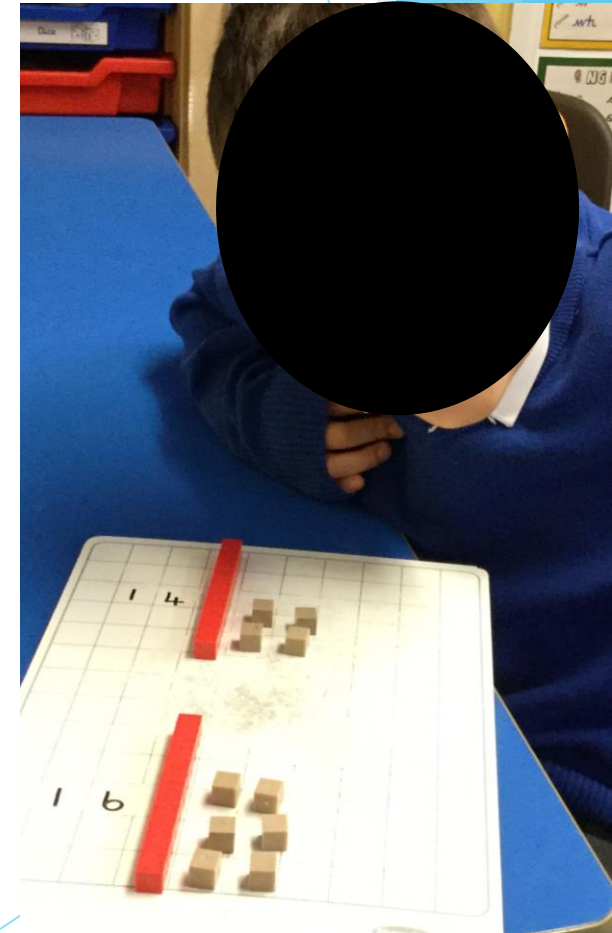
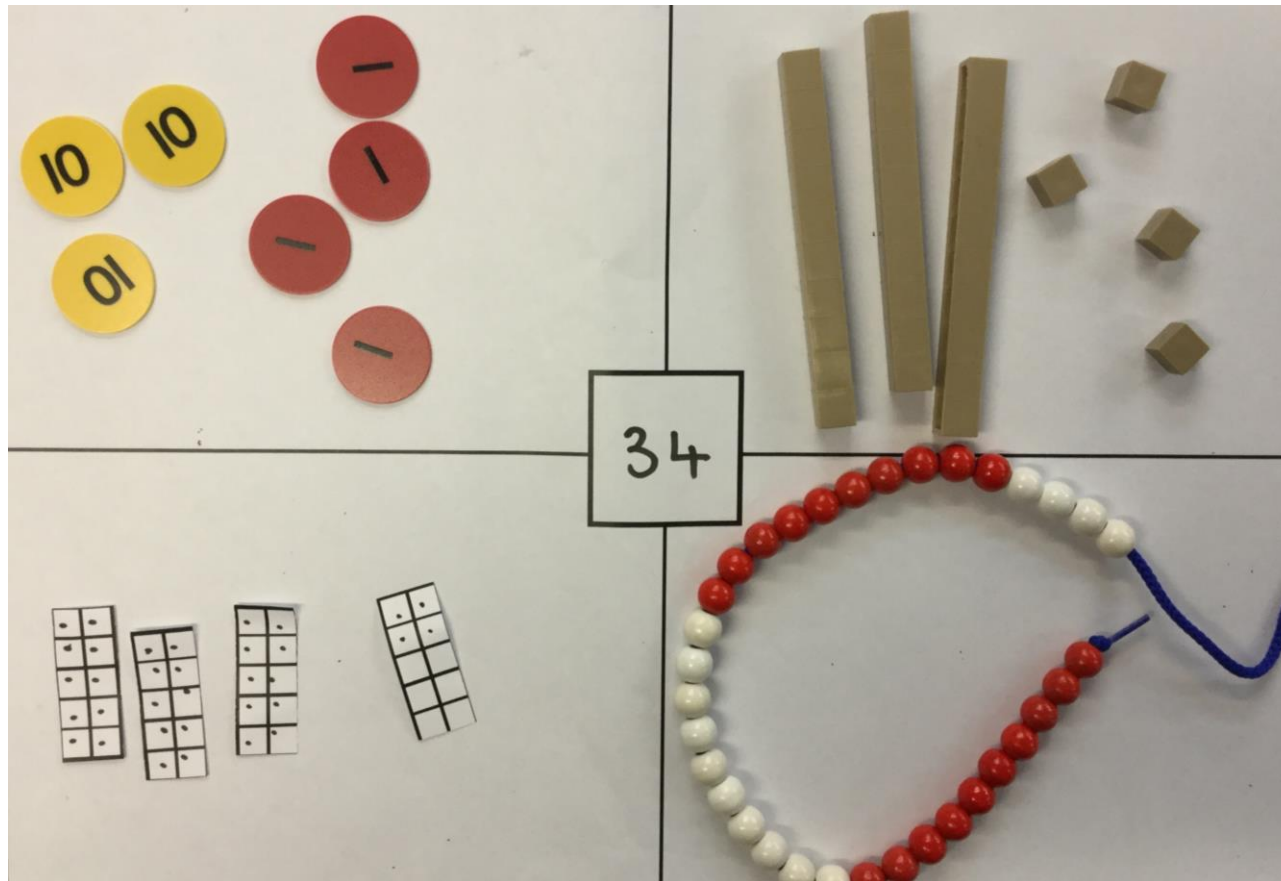
October 2021

What have Year 2
been learning in
maths this half
term?



PLACE VALUE

We've been using different equipment to represent the **tens** and **ones** in a 2-digit number.



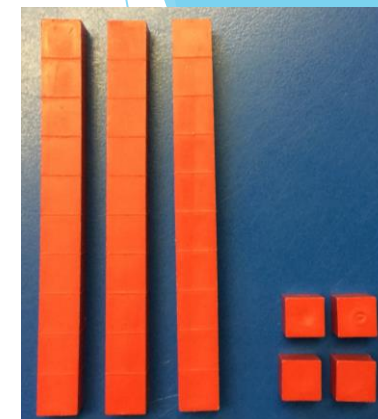
Here's some of the equipment we use...



Arrow Cards



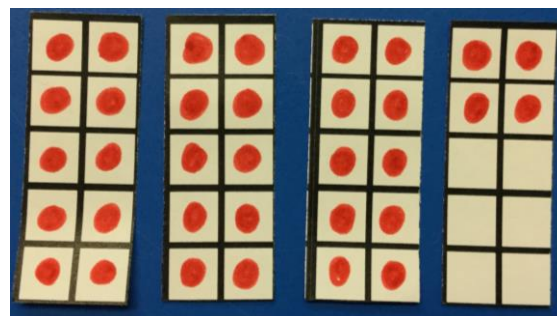
Flip Charts



Dienes Blocks
(Base 10)



10s and 1s Counters



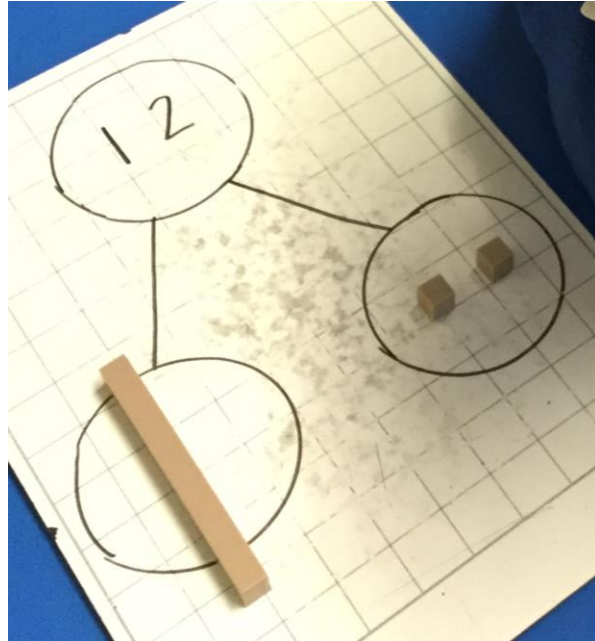
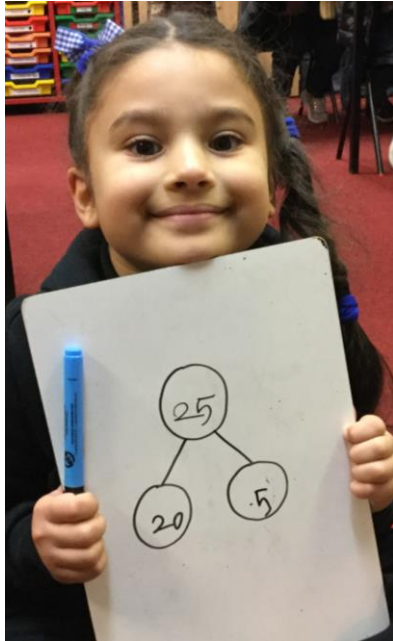
Tens Frames



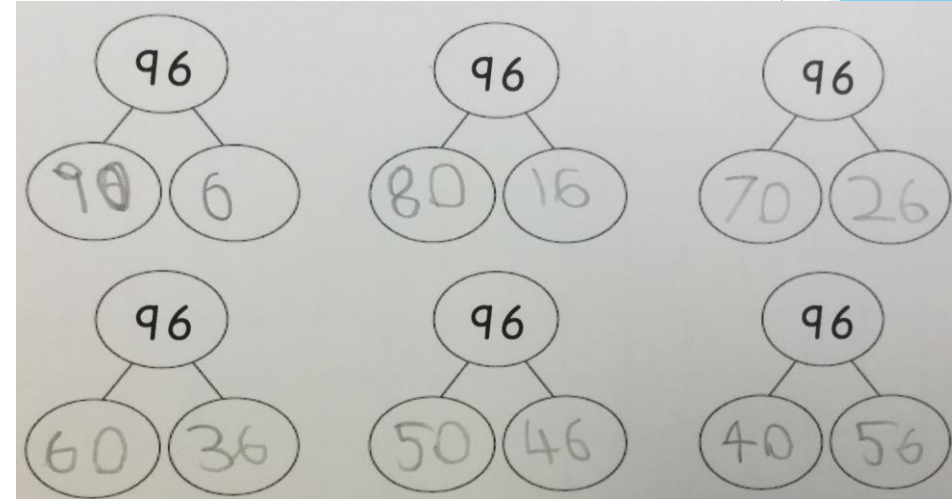
Bead Strings

PART-WHOLE MODELS

We can split 2-digit numbers into 10s and 1s:



We can split the same number in different ways:

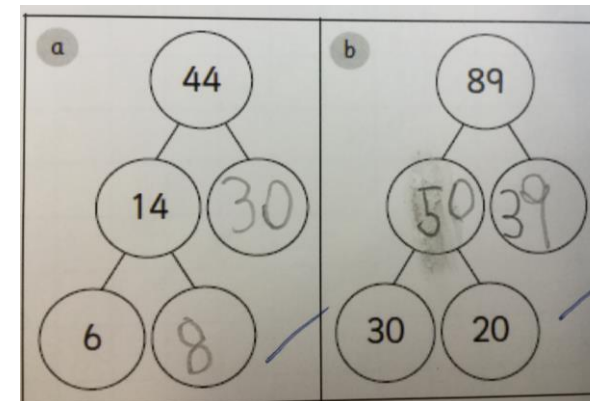
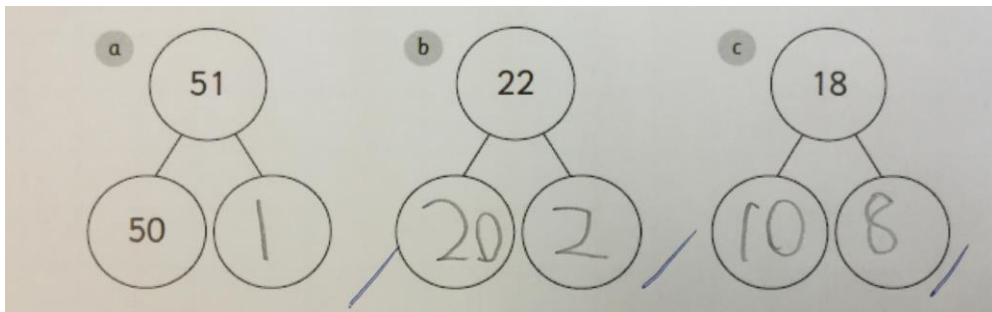


Top Tip!

Just move over a 10s each time.



We can even do **extended** part-whole models:



NUMBER BONDS

It's really important we know these off by-heart as they help with so much of our maths.

We should know our bonds to **10**, **20** and **100**.

$$0 + 10$$

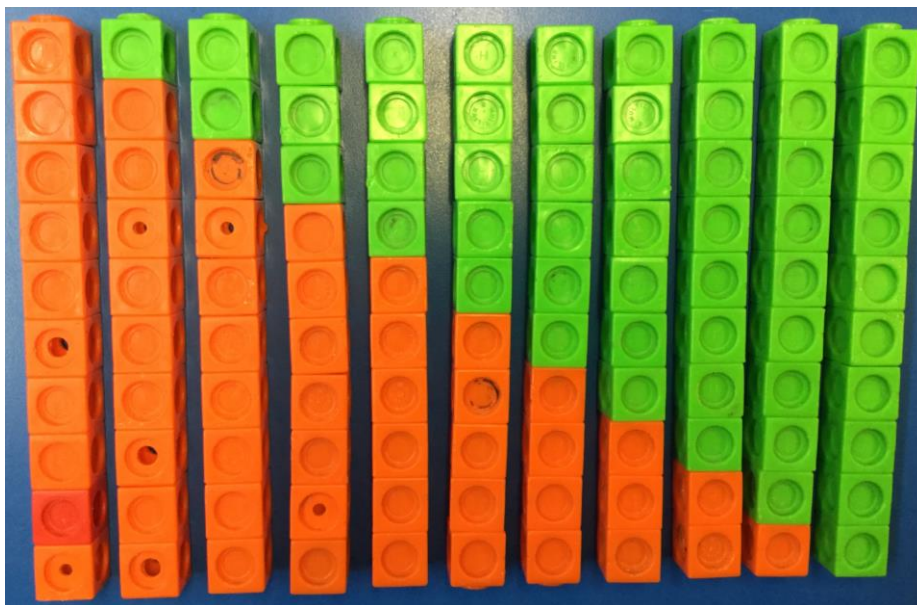
$$1 + 9$$

$$2 + 8$$

$$3 + 7$$

$$4 + 6$$

$$5 + 5$$



Top Tip!

Our bonds to 10 help with bonds to 100.

If $3 + 7 = 10$, then $30 + 70 = 100$

Number Bonds to 20

There are 21 ways to make 20.

$0 + 20 = 20$	$20 + 0 = 20$
$1 + 19 = 20$	$19 + 1 = 20$
$2 + 18 = 20$	$18 + 2 = 20$
$3 + 17 = 20$	$17 + 3 = 20$
$4 + 16 = 20$	$16 + 4 = 20$
$5 + 15 = 20$	$15 + 5 = 20$
$6 + 14 = 20$	$14 + 6 = 20$
$7 + 13 = 20$	$13 + 7 = 20$
$8 + 12 = 20$	$12 + 8 = 20$
$9 + 11 = 20$	$11 + 9 = 20$
$10 + 10 = 20$	

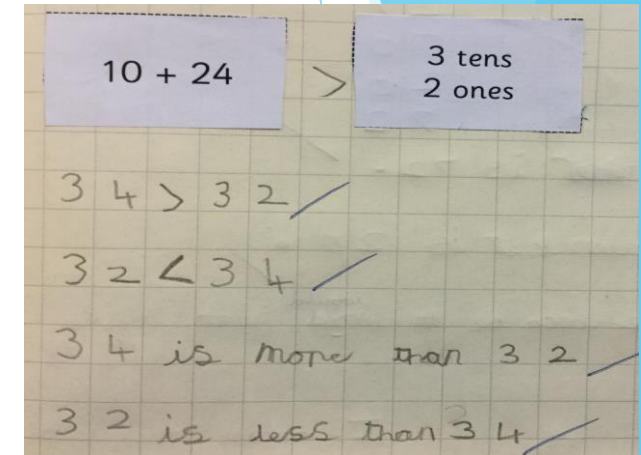
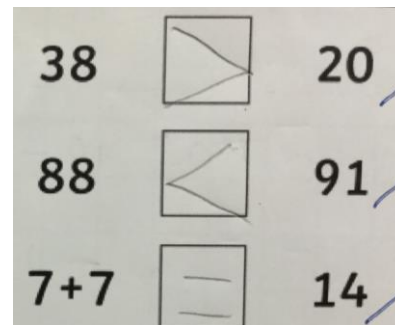
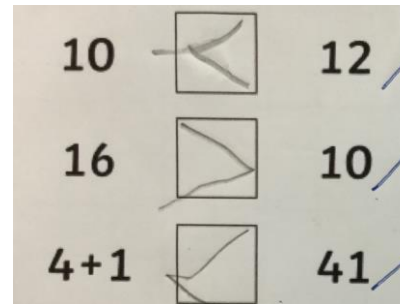
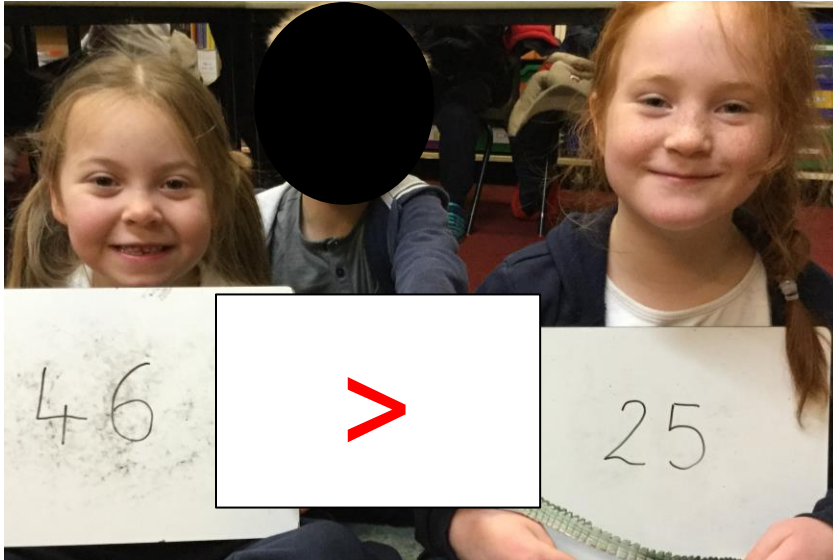
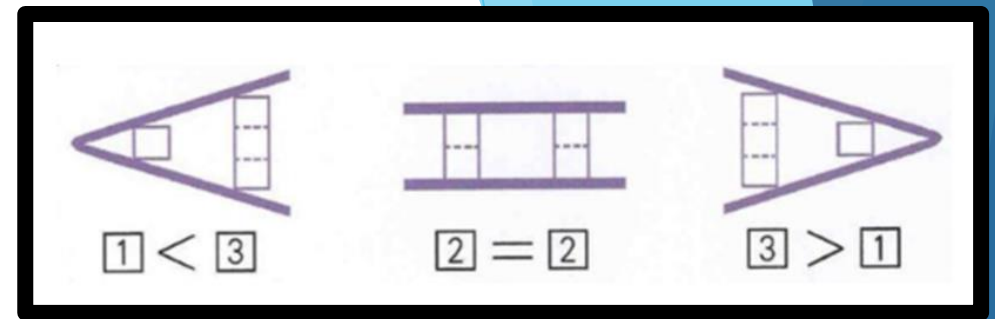


Here's a game you could play at home:

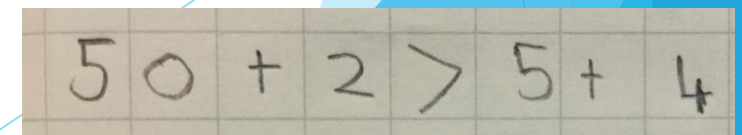
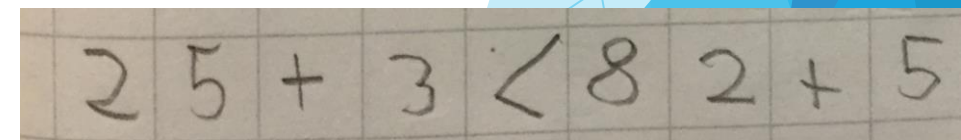
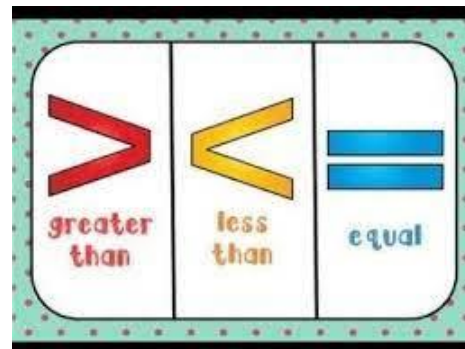
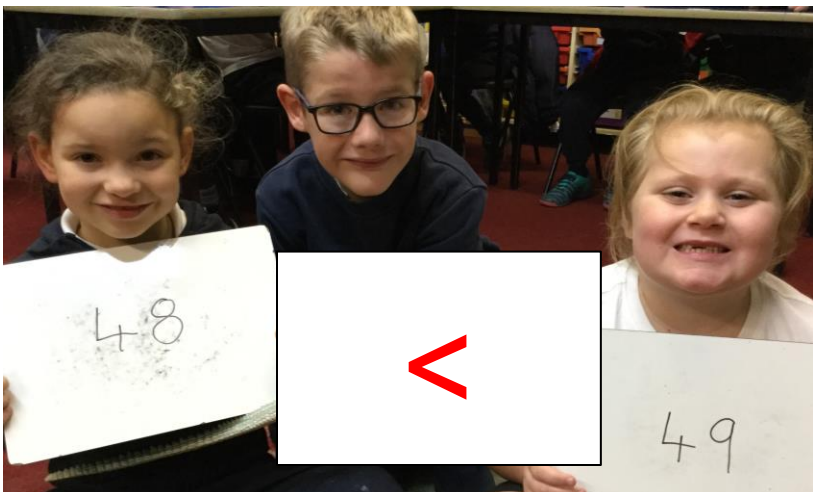
www.ictgames.com/saveTheWhale/index.html

INEQUALITIES

We've learnt to use the **more than** and **less than** signs.



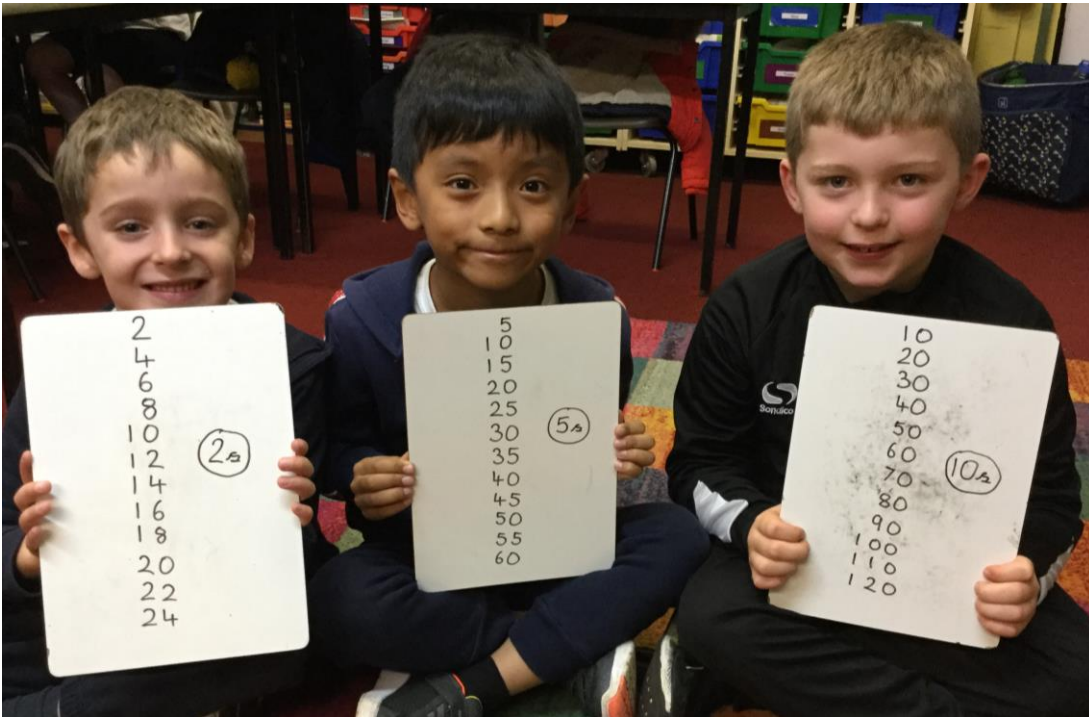
We also learnt to write a number sentence to go on each side of the **more than** or **less than** signs:



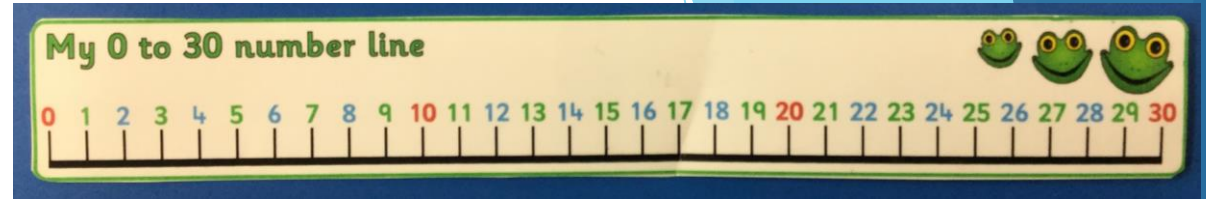
COUNTING

We've been practicing:

- Counting up to and over 100.
- Backwards from 30.
- In multiples (jumps) of 2s, 5s and 10s.



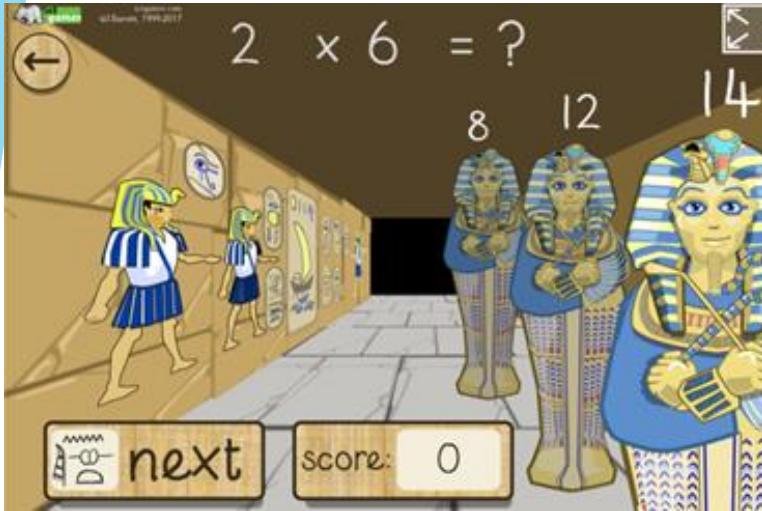
If we're confident counting **forwards** and **backwards** in 2s, 5s and 10s, then we can start learning to count in 3s and 4s.



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

TIMES TABLES

We need to learn our 2, 5 and 10 times tables off by-heart. We'll start with learning our 2s.



<https://ictgames.com/funkyMummy/index.html>

$$4 \times 2 =$$

$$7 \times 2 =$$

$$5 \times 2 =$$

$$6 \times 2 =$$

$$8 \times 2 =$$

$$1 \times 2 =$$

$$2 \times 2 =$$

$$3 \times 2 =$$

$$9 \times 2 =$$

$$10 \times 2 =$$

$$11 \times 2 =$$

$$12 \times 2 =$$



Playing **times table bingo** is a fun way to practise.

REASONING & PROBLEM SOLVING

We've been learning to explain our thinking clearly.



Here are 3 digit cards.

6 7 8

Place the digit cards in the number sentence.

$$\square\square + \square =$$

How many *different totals* can you find?



One doesn't show 23. What is the mistake?

A



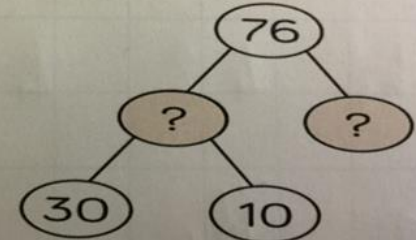
B



C



Complete the extended *part whole* model.



How many 2-digit numbers can you make?

7 0 2

What is the *largest* number?

What is the *smallest* number?

Why can't 0 be used as a tens number?



I am thinking of a two digit number, if I add ones to it, I will only need to change the ones digit.



Tom says "I know 60 more than 32 is 92 because I only have to change the tens digit."

Is he right?



Each piece is *reduced* by 10p.
What are the new prices?



37p



46p



25p



29p



Rosie counts *back* from 50 in 2s.
Amir counts up from 12 in 2s.



50, 48, 46, 44...



12, 14, 16...

They say their numbers together. Who will say 30 first?

REASONING AND PROBLEM SOLVING



L.Q.

- Can I *explain* my thinking about place value clearly?

▲ How many 2-digit numbers can you make?

7 0 2

What is the largest number?

What is the smallest number?

Why can't 0 be used as a tens number?

27

70

20

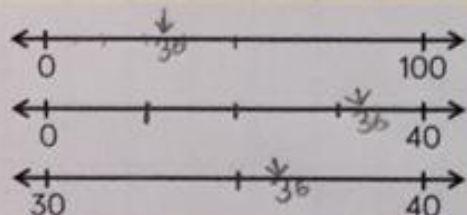
72

The largest number is 72.

The smallest number is 20.

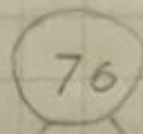
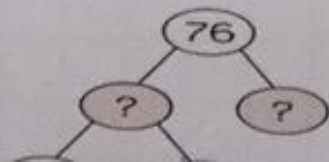
You can't put 02 because it ^{would} just make 2.

▲ Where would 36 go on each of these?

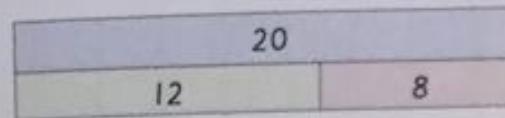


I found the middle number, and it helped me find 36. Great strategy!

Complete the extended part of the model.



▲ How many number sentences can you write using the numbers in this *bar model*?



→ You could also be done:

$$12 + 8 = 20$$

$$8 + 12 = 20$$

$$20 - 8 = 12$$

$$20 - 12 = 8$$

$$20 = 12 + 8$$

$$20 = 8 + 12$$

$$12 = 20 - 8$$

$$8 = 20 - 12$$

▲ Rosie counts *back* from 50 in 2s. Amir counts *up* from 12 in 2s.



50, 48, 46, 44



12, 14, 16

They say their numbers together. Who will say 30 first?

50, 48, 46, 44, 42, 40

38, 36, 34, 32, 30

12, 14, 16, 18, 20, 22

ADDING & SUBTRACTING

We've been practicing putting the bigger number in our heads, then the smaller number on our fingers before counting on or counting backwards...

16

$$16 + 7 =$$



17, 18, 19, 20, 21, 22, 23



FACT FAMILIES

We've been finding the addition and subtraction number sentences we can make with 3 numbers.

$$5 - 3 = 2$$

$$2 + 3 = 5$$

$$5 - 2 = 3$$

$$3 + 2 = 5$$

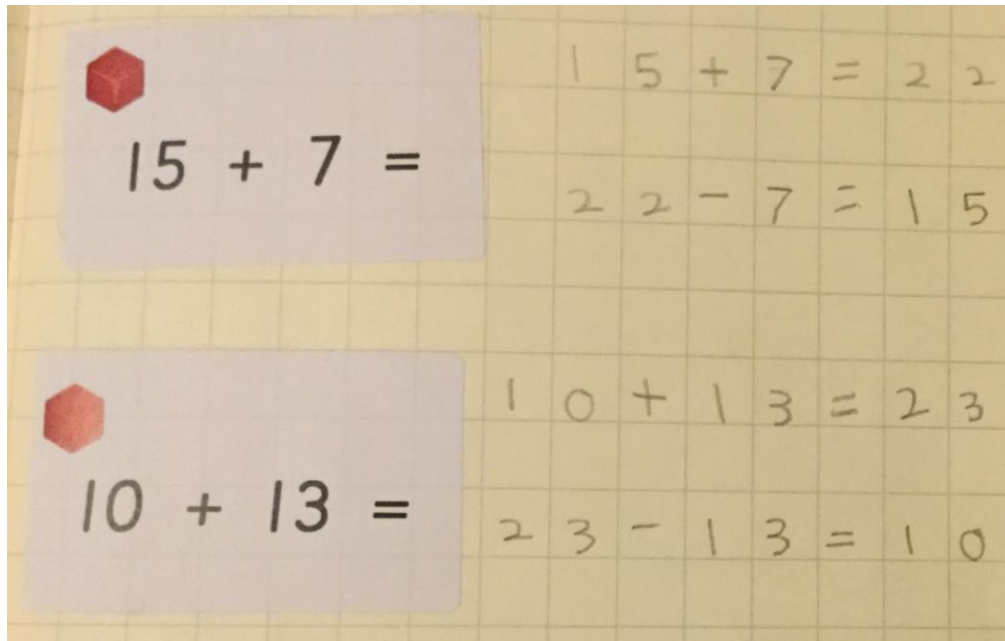



We also learnt the answer can be put at the start of the number sentence:


$$5 = 3 + 2 \text{ etc}$$

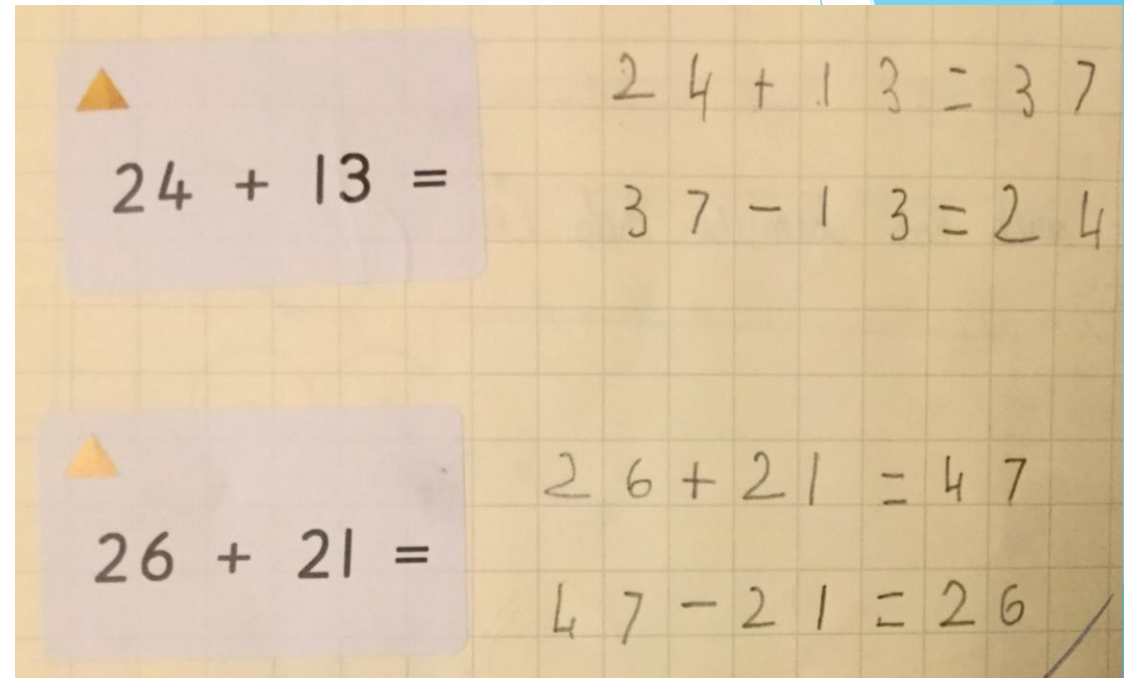
INVERSE


We've learnt that **addition** is the inverse (opposite) of **subtraction**.





 $15 + 7 = 22$
 $22 - 7 = 15$


 $10 + 13 = 23$
 $23 - 13 = 10$




 $24 + 13 = 37$
 $37 - 13 = 24$


 $26 + 21 = 47$
 $47 - 21 = 26$

We can use the **inverse** to check the answers to our calculations:

If $15 + 4 = 19$, then $19 - 4$ should equal 15

$$19 - 3 - 3$$

$$\overset{16}{19 - 3} - 3 = 13$$

$$7 + 3 + 2$$

$$\overset{10}{7 + 3} + 2 = 12$$

$$18 - 3 - 2$$

$$\overset{15}{18 - 3} - 2 = 13$$

$$8 + 2 + 2$$

$$\overset{10}{8 + 2} + 2 = 12$$

L.Q. Can I add and subtract ones?

$$19 - 3 - 3$$

$$\overset{16}{19 - 3} - 3 = 13$$

$$7 + 3 + 2$$

$$\overset{10}{7 + 3} + 2 = 12$$

ADDING & SUBTRACTING 3 NUMBERS

We circle the first two numbers and do that first,
then complete the remaining operation.

10 MORE, 10 LESS

We've been practicing finding 10 more or 10 less than any 2-digit number.

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

a) Colour 10 more than 17 red.

b) Colour 10 less than 45 blue.

c) Colour 10 more than 63 green.

d) Colour 10 less than 84 orange.

e) Colour 10 more than 71 pink.

f) Colour 10 less than 98 purple.

g) Colour 10 more than 49 yellow.

We should be able to start on a 2-digit number and count forwards or backwards in 10s:

26
36
46
56
66
76
86

64
54
44
34
24
14
4

Top Tip!
Colour the number that will be changing to help you.



NUMBERS AS WORDS

We need to learn to spell the numbers to 100 in words.

This is something we could practise at home.

ten	10	twenty	20	hundred	100
nine	9	nineteen	19	ninety	90
eight	8	eighteen	18	eighty	80
seven	7	seventeen	17	seventy	70
six	6	sixteen	16	sixty	60
five	5	fifteen	15	fifty	50
four	4	fourteen	14	forty	40
three	3	thirteen	13	thirty	30
two	2	twelve	12	twenty	20
one	1	eleven	11	ten	10

Top Tip!

Remember to put a hyphen between the tens and ones:

eighty-four



WHAT'S NEXT?

After half term, we'll be learning to add jumps of 10s or 1s to a 2-digit number.

This will be the method we use...

$$24 + 30 = 54$$

2 4
• 3 4
• 4 4
• 5 4

Write your start number (24).

Underline the **tens** (as they will be changing).

Do 3 dots (as we're adding 3 jumps of 10s).

Complete the list.

$$32 + 6 = 38$$

3 2
• 3 3
• 3 4
• 3 5
• 3 6
• 3 7
• 3 8

Write your start number (32).

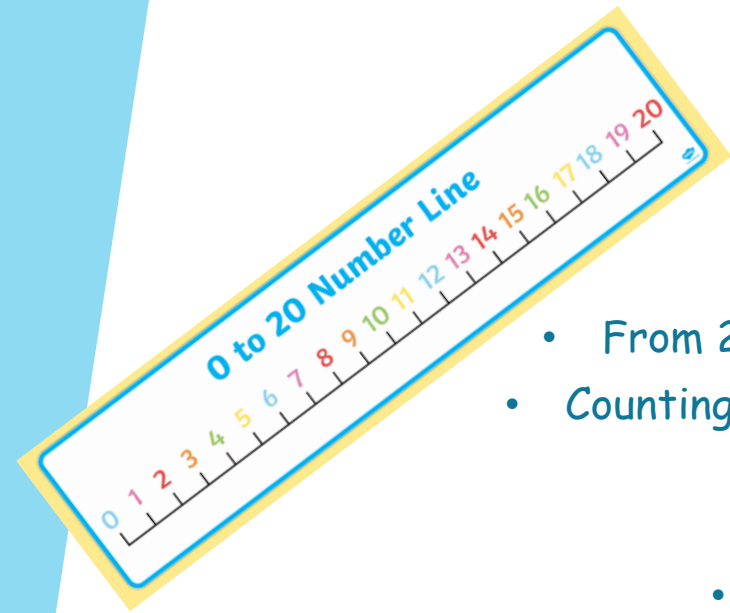
Underline the **ones** (as they will be changing).

Do 6 dots (as we're adding 6 jumps of 1s).

Complete the list.

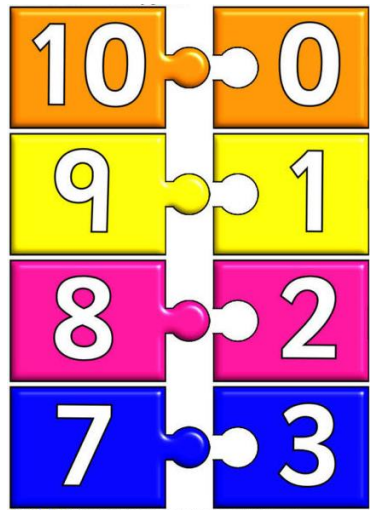
We'll then use the same method for **subtracting** jumps of 10s and 1s.
We'll just count backwards when making our lists.

What can we do at home?



Practise basic counting:

- To 100 forwards.
- From 100 backwards.
- From 20 backwards (teens are hard so practise this a lot).
- Counting in jumps of 2s, 5s and 10s (forwards and backwards).
- Start with learning your 2x off by-heart.
- Practise number bonds to 10, 20 and 100.



Play games:

There are lots of great games on 'Top Marks Maths KS1'
www.topmarks.co.uk/maths-games/5-7-years/counting

2 times table

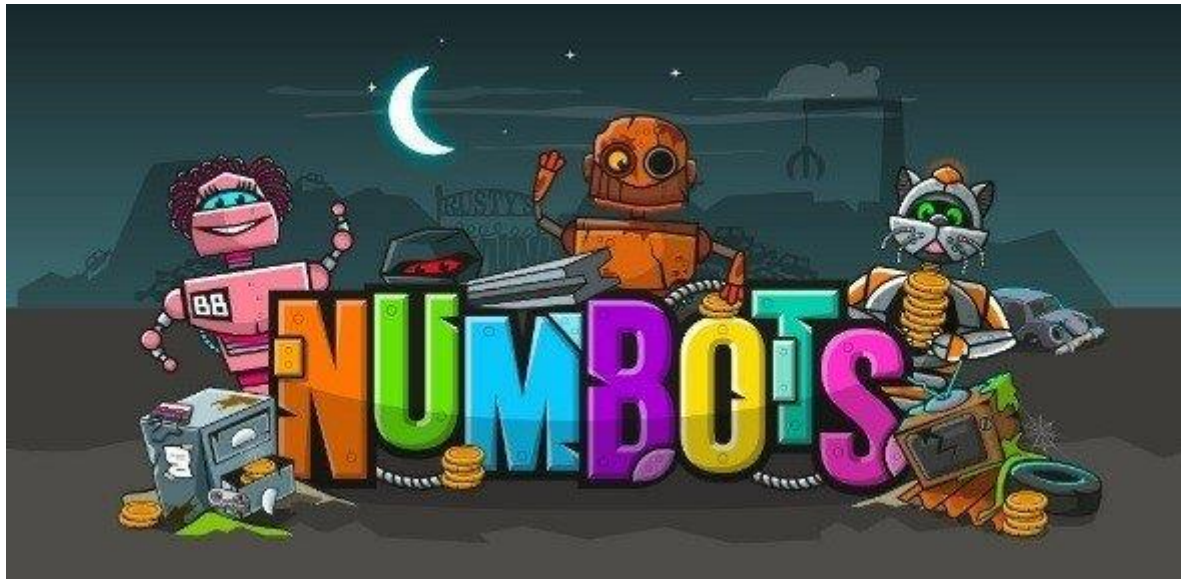
1	x 2	=	2
2	x 2	=	4
3	x 2	=	6
4	x 2	=	8
5	x 2	=	10
6	x 2	=	12
7	x 2	=	14
8	x 2	=	16
9	x 2	=	18
10	x 2	=	20
11	x 2	=	22
12	x 2	=	24

Timestables.co.uk

NUMBOTS

Go on NumBots at home as often as you can. There are lots of brilliant activities to help you with basic fluency. Practising these things will make all the rest of the maths we learn this year feel so much easier.

Your logins are in your Reading Records.



Your Numbots login will also work on **Times Table Rockstars** if you feel you're ready to start learning your tables that way.