Maths

In Year 2

Aims for this session

- To look at the White Rose scheme with a focus on the 4 operations (addition, subtraction, multiplication and division)
- To discuss how mathematics is taught through a CPA approach (Concrete – Pictorial – Abstarct)
- How to support your children at home with their maths learning
- A chance for you to explore the concrete resources

How do we teach maths?

At Owlsmoor we follow the White Rose scheme. This covers all 4 operations as well as fractions, time, shape and money. White Rose also has a focus on developing the children's reasoning and problem solving skills. They are ask to discuss their answers, embedding the correct mathematic vocabulary.

We also use the CPA approach (Concrete – Pictorial – Abstract)

CPA Approach: Concrete Pictorial Abstract

- **Concrete:** 'doing' the maths - introducing real objects that can be manipulated to bring the problem to life. Eg: money, counters.
- **Pictorial** : 'seeing the maths' - making connections between the concrete and the pictorial representations and the pictorial and the abstact. Eg: part whole models, bar models, ten frames.
- **Abstract:** the ultimate goal is for children to understand abstract mathematical concepts, signs and notation. When a child demonstrates with concrete models and pictorial representations that they have grasped a concept, we can be confident that they are ready to explore the abstract.

You can find our calculation policy on the school website

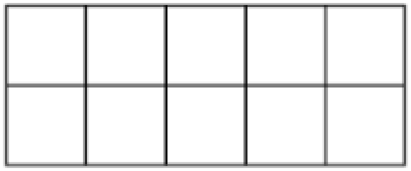
Children now need to understand a concept to then be able to use and apply it in a variety of context.

Addition

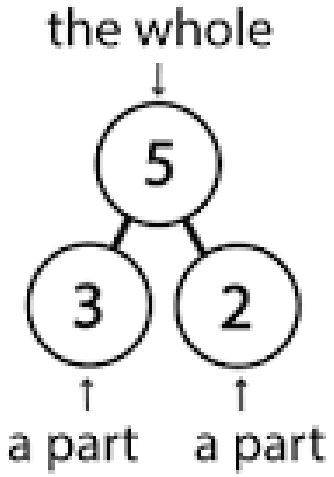
- Number bonds to 20
- Related number facts to 100
- Adding using concrete resources
- Commutative nature of addition (done in any order)
- Counting on using a number line

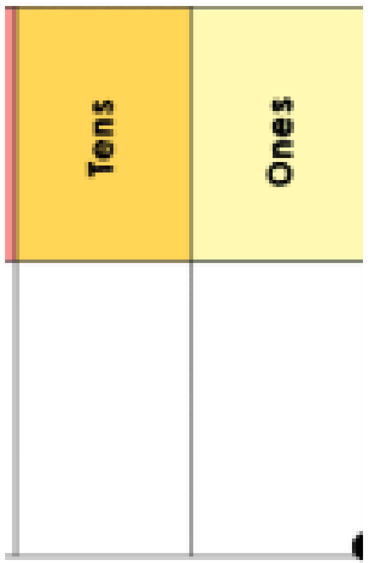
<u>Concrete resources</u>

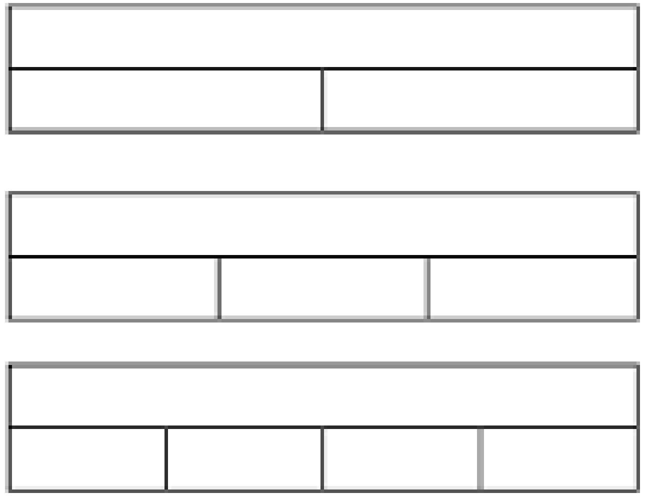
bead strings
dienes
place value
counters
10s frames
Numicon



Pictorial
Part-part whole
Drawing dienes
Bar model
Number lines
Place value chart







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

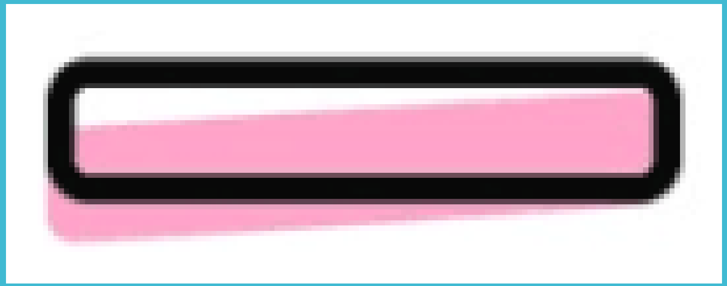
Abstract

Tiny is finding bonds to 10

$1 + \boxed{0} = 10$

Explain the mistake Tiny has made.

What is the missing number?

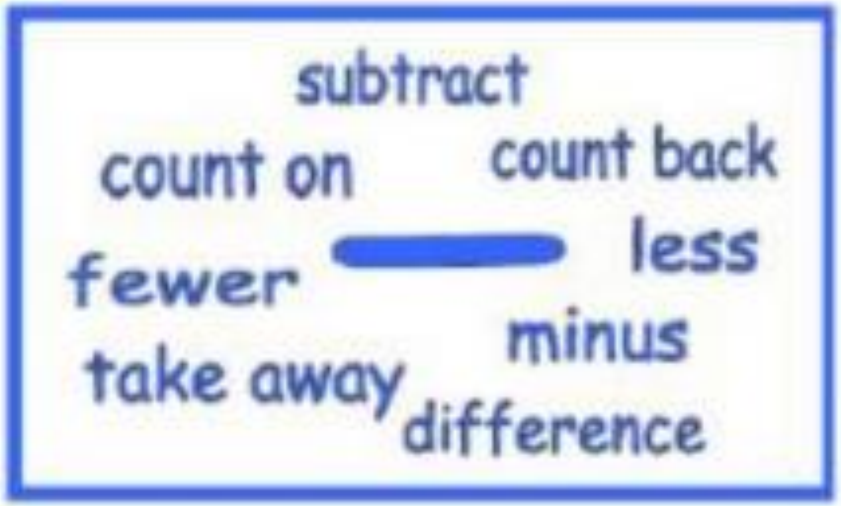


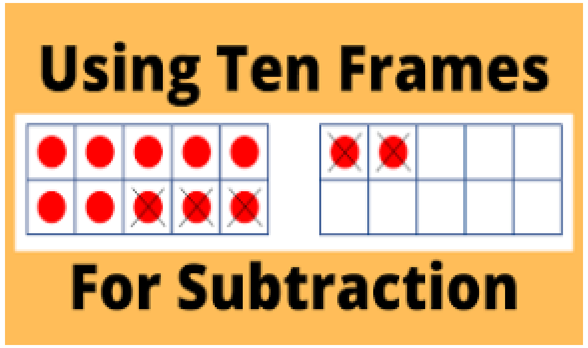
Subtraction

- Partitioning the second number
- Counting back the ones
- Counting back the tens
- Find the difference by counting up
- Recognise the inverse
- Relationship between + and -

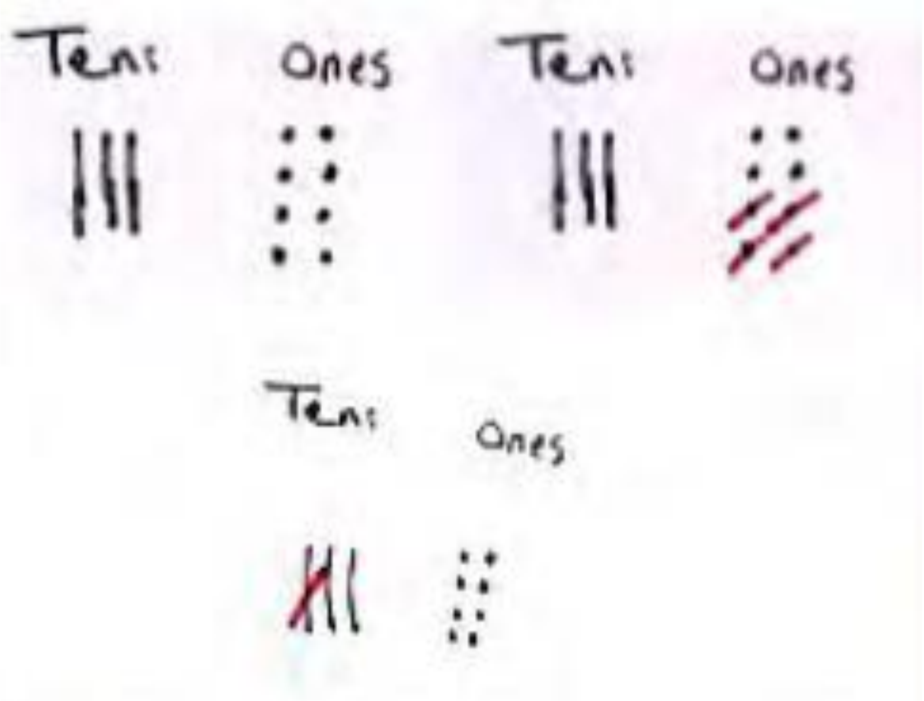
Concrete resources

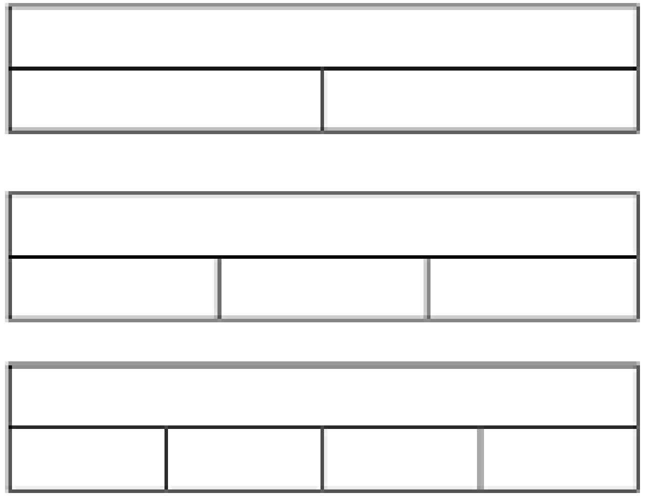
bead strings
dienes
place value counters
10s frames
Numicon

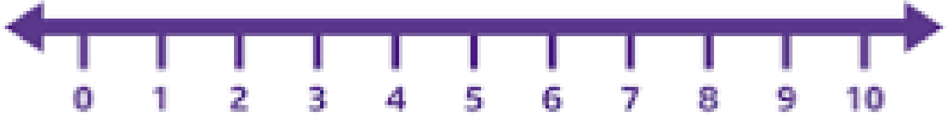




Pictorial
Drawing dienes
Bar model
Number lines







Abstract

Tiny is working out the missing number.

$60 - \boxed{} = 10$

The missing number is 5, because $6 - 5 = 1$

Do you agree with Tiny?

Explain your answer.

Multiplication

Its important that this maths knowledge builds through concrete to meaningful contexts using concrete objects.

- Repeated addition
- Knowing the multiplication facts for the 2, 5 and 10 times tables
- Using the X symbol
- Recognising that multiplication is commutative

Concrete