Year 1 Calculation

Concrete – Pictorial - Abstract

(Addition, Subtraction, Multiplication, Division)

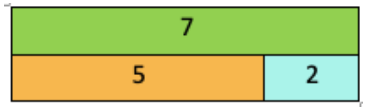
Year 1 – adding **one-digit** and **two-digit** numbers **to 20**

CONCRETE resources developing **ABSTRACT** calculations

Concrete Resource:



Pictorial:

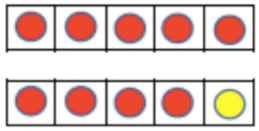


Abstract:

5 + 2 = 7

Building on our learning in EYFS, we can begin counting on with fingers.

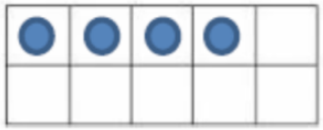
Concrete Resource: ***5 frame:***



5 = 5 + 0

4 = 4 + 1

Concrete Resource ***10 frame:***



Abstract: 4 + 6 = 10

Building on our learning in EYFS, we can use 5 frames (extending to 10 frames).

Concrete Resource: ***Counters/Cubes***



Concrete Resource: ***Base 10:***

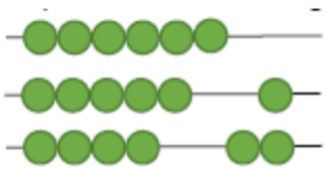


Concrete Resource: ***Everyday Objects:***



Using a Range of Concrete Objects

Concrete - Abstract



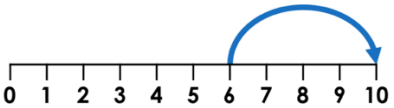
6 = 6 + 0

6 = 5 + 1

6 + 4 + 2

Bead Strings can help us spot patterns

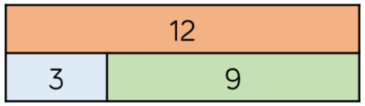
Concrete Resource/Pictorial Representation:



Abstract: 6 + 4 = 10

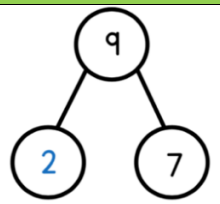
Using a number line to count on.

Pictorial Representation – Abstract Calculation



3 + 9 = 12

Bar Model



7 + 2 = 9

Part Whole Model

Year 1 Calculation

Concrete – Pictorial - Abstract

(Addition, Subtraction, Multiplication, Division)

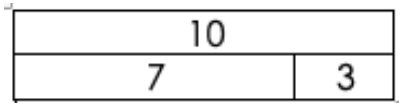
Year 1 – subtract **one-digit** and **two-digit** numbers **to 20**

CONCRETE resources developing **ABSTRACT** calculations

Concrete Resource:



Pictorial:



Abstract:

10 – 3 = 7

Building on our learning in EYFS, we can begin counting back with fingers.

Concrete Resource: **5 frame:**

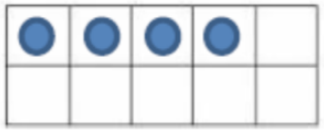


5 – 5 = 0



5 – 4 = 1

Concrete Resource: **10 frame:**



Abstract: 10 - 6 = 4

Building on our learning in EYFS, we can use 5 and 10 frames.

Concrete Resource: ***Base 10*:**



Concrete Resource:

***Everyday Objects*:**



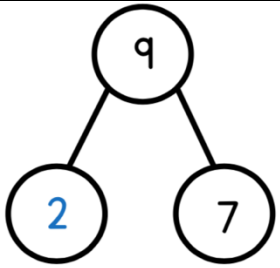
Abstract: 8 – 6 = 2



Abstract: 6 – 2 = 4

Using concrete objects

Pictorial Representation – Abstract Calculation

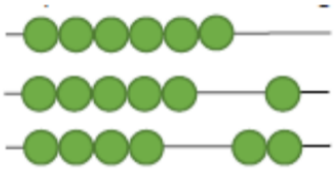


9 – 7 = 2

9 - 2 = 7

Part Whole Model

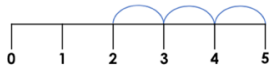
Concrete Resource:



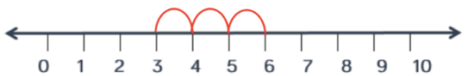
Abstract: 6 - 0 = 6 or 6 – 1 = 5

Bead Strings can help us spot patterns

Concrete/Pictorial:



Abstract: 5 – 3 = 2



Abstract: 6 - 3 = 3

Using a number line to count back.

Concrete/Pictorial:



How many more cakes does Beth have?

Finding the difference – counting on

Year 1 Calculation

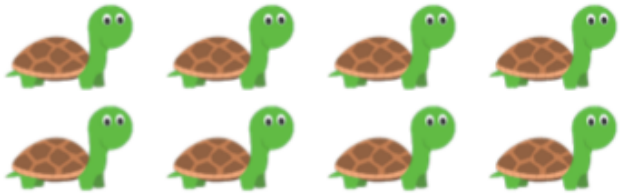
Concrete – Pictorial - Abstract

(Addition, Subtraction, Multiplication, Division)

Year 1 – solve 1 step multiplication calculations using concrete objects, pictorial representations and arrays

Making Arrays – Repeated Addition

Concrete Resources (various objects):



Abstract Calculation:

2 + 2 + 2 + 2 = 10 (4 **equal** groups of 2 is 8)

or

4 + 4 = 8 (2 **equal** groups of 4 is 8)

Making Equal Groups

Concrete Resources (everyday objects):



There are 4 groups of 4 pencils.



There are 4 groups of 2 flowers.

Abstract Calculation:

4 + 4 + 4 + 4 = 16 pencils

or

2 + 2 + 2 + 2 = 8 pencils

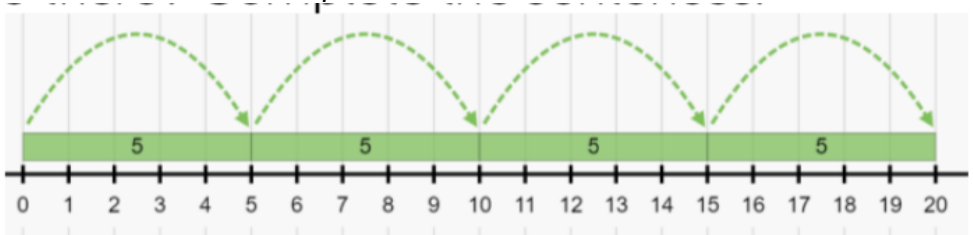
Number Line – Repeated Addition

Concrete Resource:



5 + 5 + 5 + 5 = ____

Pictorial Representation:



Abstract Calculation:

Bar Model

Concrete Resource:

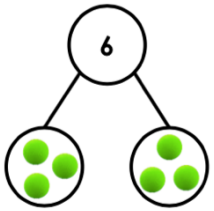


Abstract Calculation:

10 + 10 + 10 + 10 = 40

Bead Strings – Counting in 10s

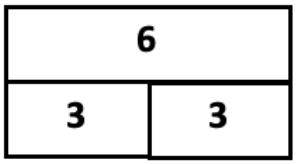
Pictorial Representation – Abstract Calculation



Abstract:

2 group of 3 = 6

Part Whole Model – Making Doubles



Abstract: 2 groups of 3 = 6

Year 1 Calculation

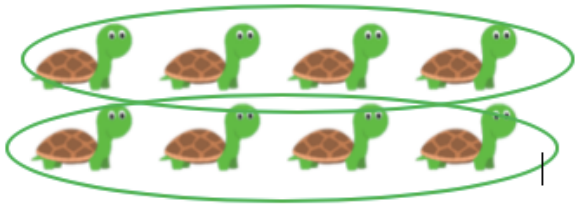
Concrete – Pictorial - Abstract

(Addition, Subtraction, Multiplication, Division)

Year 1 – solve 1 step division calculations using concrete objects, pictorial representations and arrays

Making Arrays – Grouping

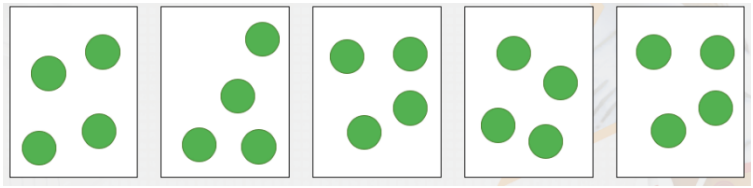
Concrete/Pictorial:



Abstract Calculation:
8 **grouped equally** in 2 is 4

Concrete objects (shared equally)

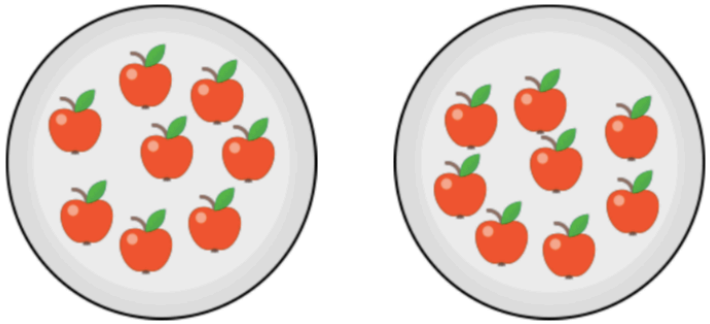
Concrete/Pictorial:



Abstract Calculation:
20 **shared equally** between 5 is 4

Pictorial Objects – Shared Equally

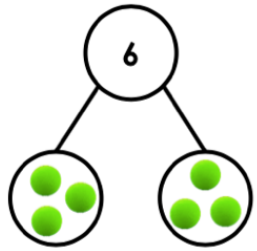
Concrete/Pictorial:



Abstract:

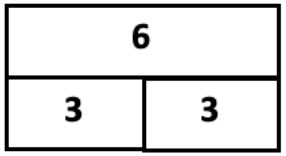
*16 apples **shared equally** between 2 plates.*
There are 8 apples on each plate.

Pictorial Representation – Abstract Calculation



Abstract Calculation:
6 **shared equally** between 2 is 3

Part Whole Model – Making Doubles



Abstract Calculation:
6 **shared equally** between 2 is 3

Bar Model