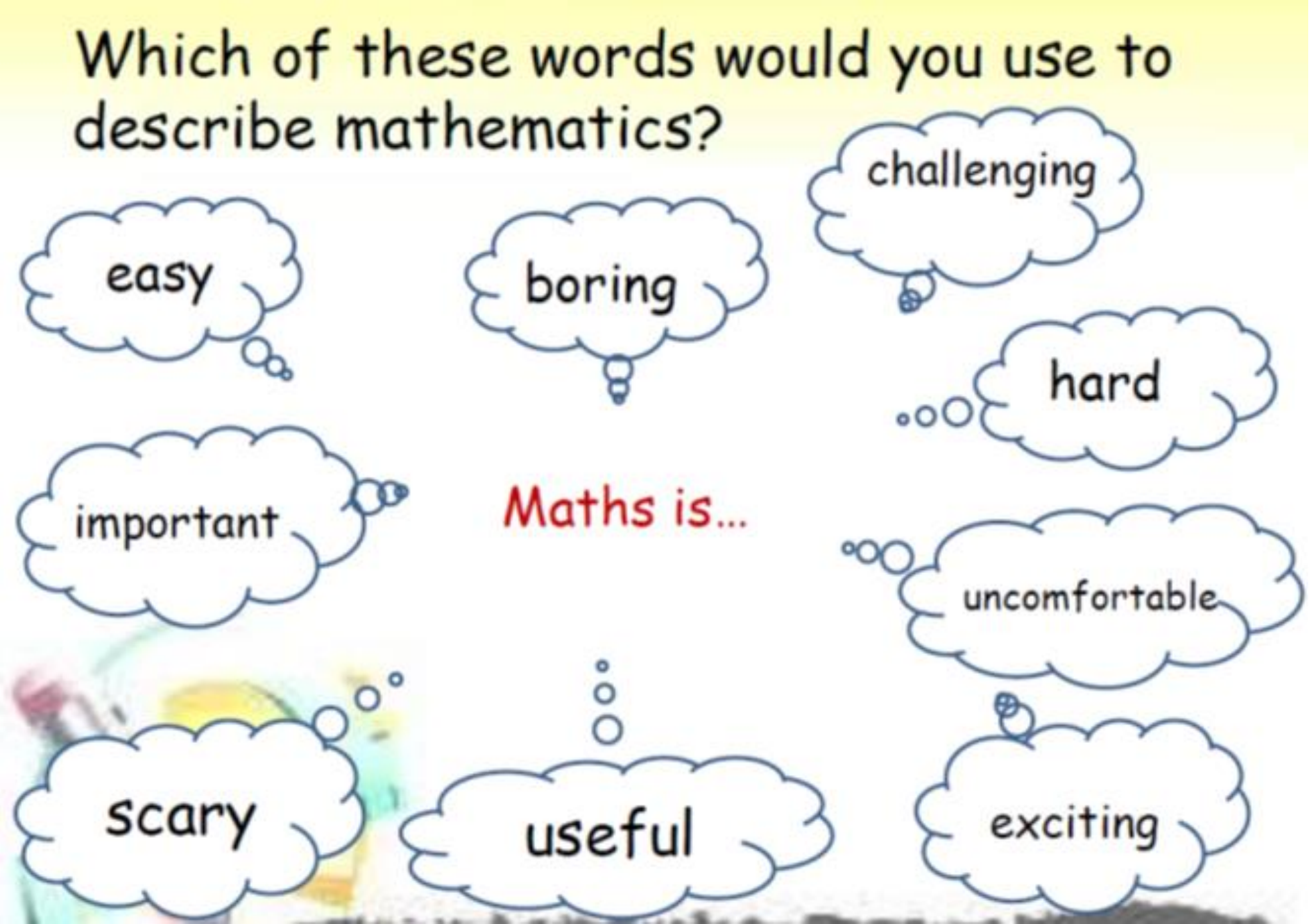
February 2023

Calculation methods

Year 2 Parent Workshop



Be careful what you say - your views about maths will impact on your child's views.

Maths is everywhere around us!

- What time is it?
- When do we need to leave home?
- How long does it take us to walk to school?
- How much is that coffee?

Helping children to see this makes it a little less scary and foreign.

Written Calculations

We need to first develop a sense of number

- There must be a progression which culminates in one method.
- Individual steps within this progression scaffold your children's understanding and should not be rushed through.
- Practical equipment, models and images are crucial in supporting your children's understanding.

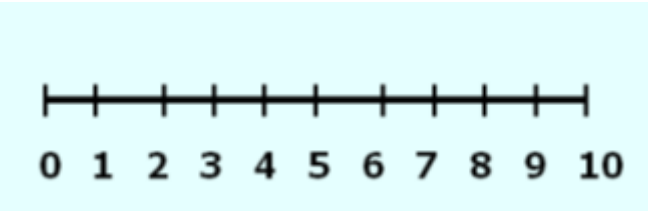
Progression in maths

Please remember that each child is an individual and all children develop their mathematical understanding at a different pace.

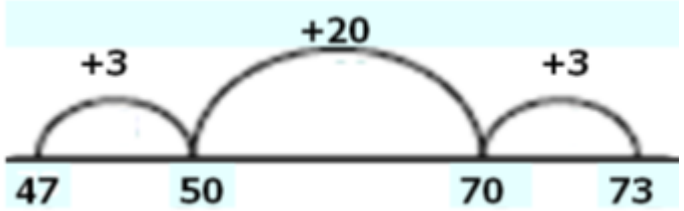
Counting of objects and mental counting.

Early stages of calculation using jottings

Work with **structured number lines**



Work with **larger numbers, unstructured number lines** and informal **jottings**.



e.g. 47 + 26

Progression in maths

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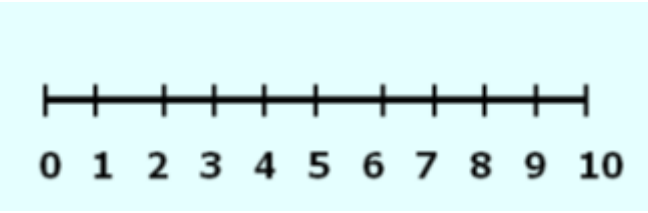

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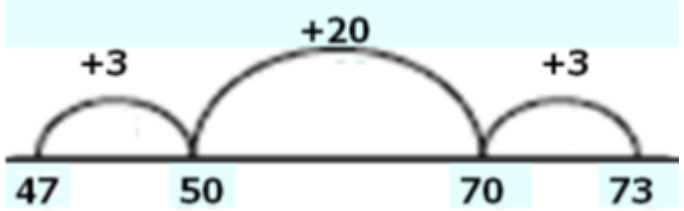


e.g. 47 + 26

Addition (+)

add

more

plus

altogether

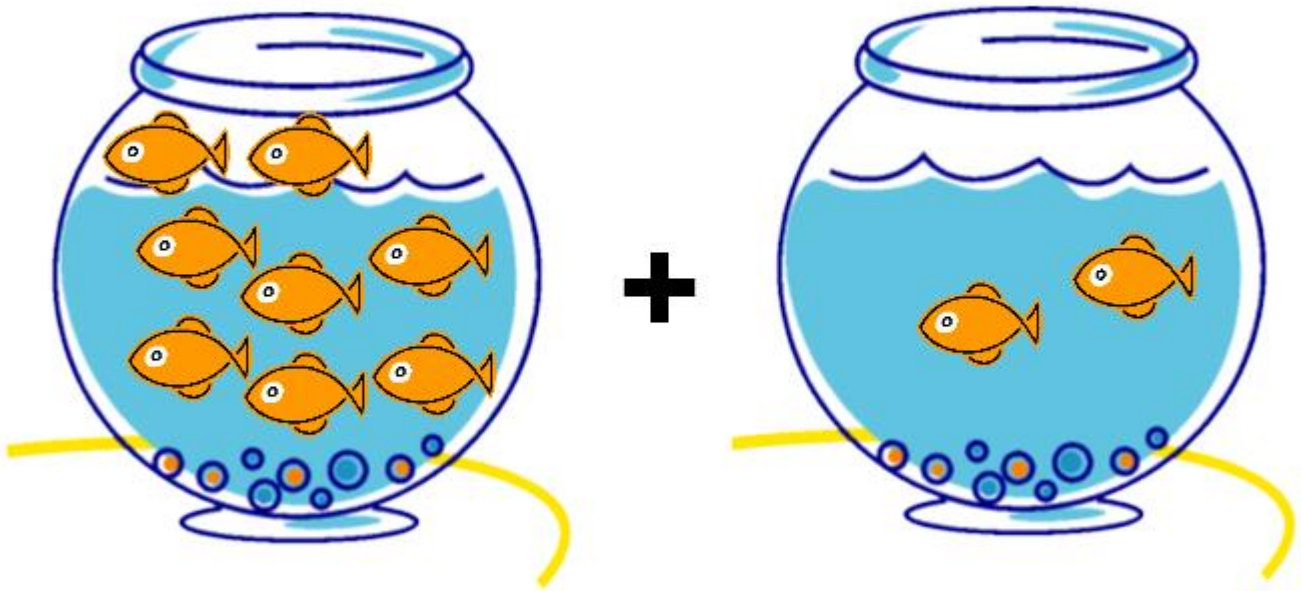
more than

total

sum of

increase

Progression in Addition



$$8 + 2 = 10$$

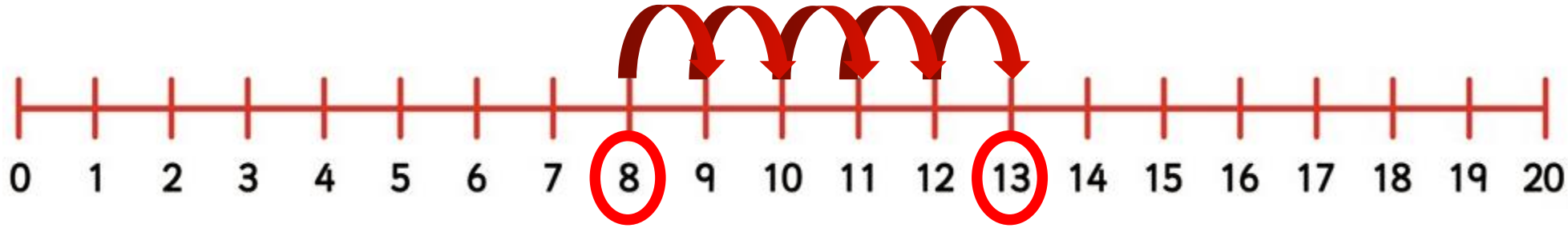
When counting make sure your child points to or touches the objects.

Don't count any twice!

Addition

Children then begin to use number lines to support their own calculations, counting on in ones.

8 + 5 =



More efficient to count on from the larger number (less to work out).
Addition can be done in any order.

Commutative

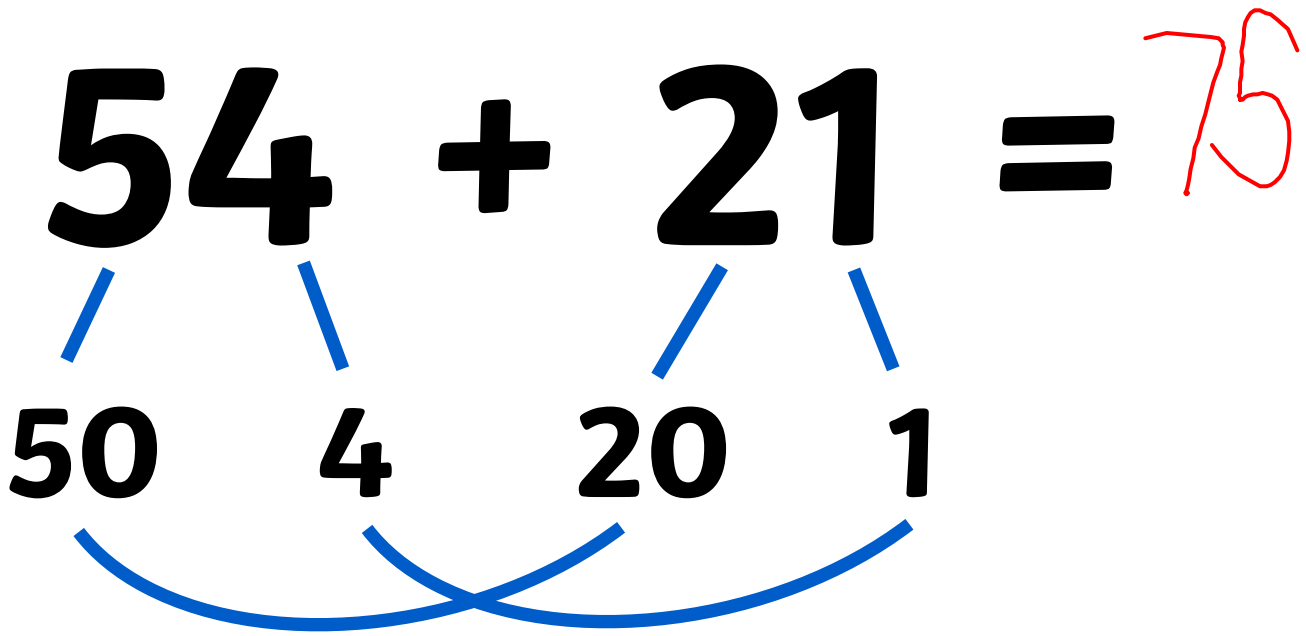
Make sure the children do not miss out any numbers as they go along the number line.

Partitioning

Arrow cards

54 + 21

Partitioning



4 + 1 = 5

50 + 20 = 70

Have a go!

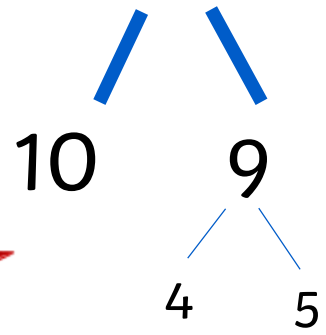
34 + 25 =

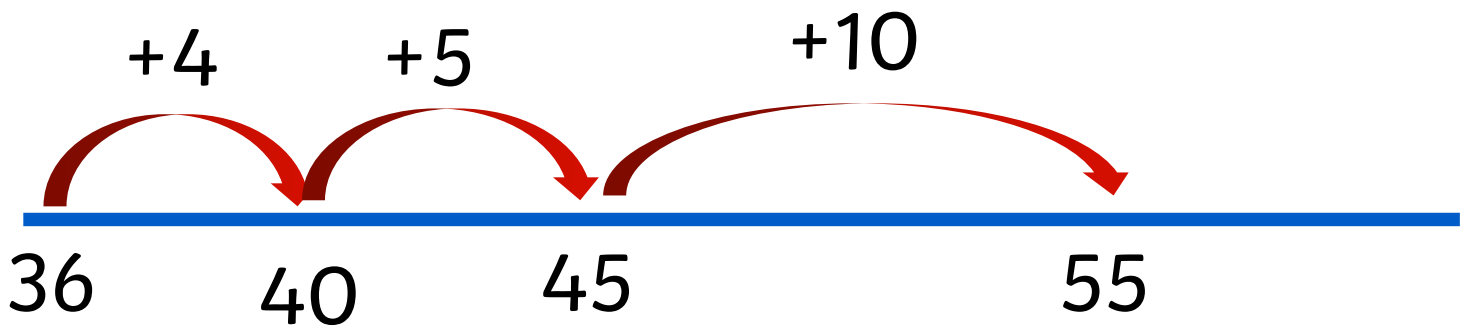
46 + 38 =

Number Lines

Using number knowledge to help (eg. bonds)

19 + 36 =





Have a go!

76 + 13 =

29+ 14 =

Subtraction (-)

take away

minus

fewer than

less than

subtract

difference

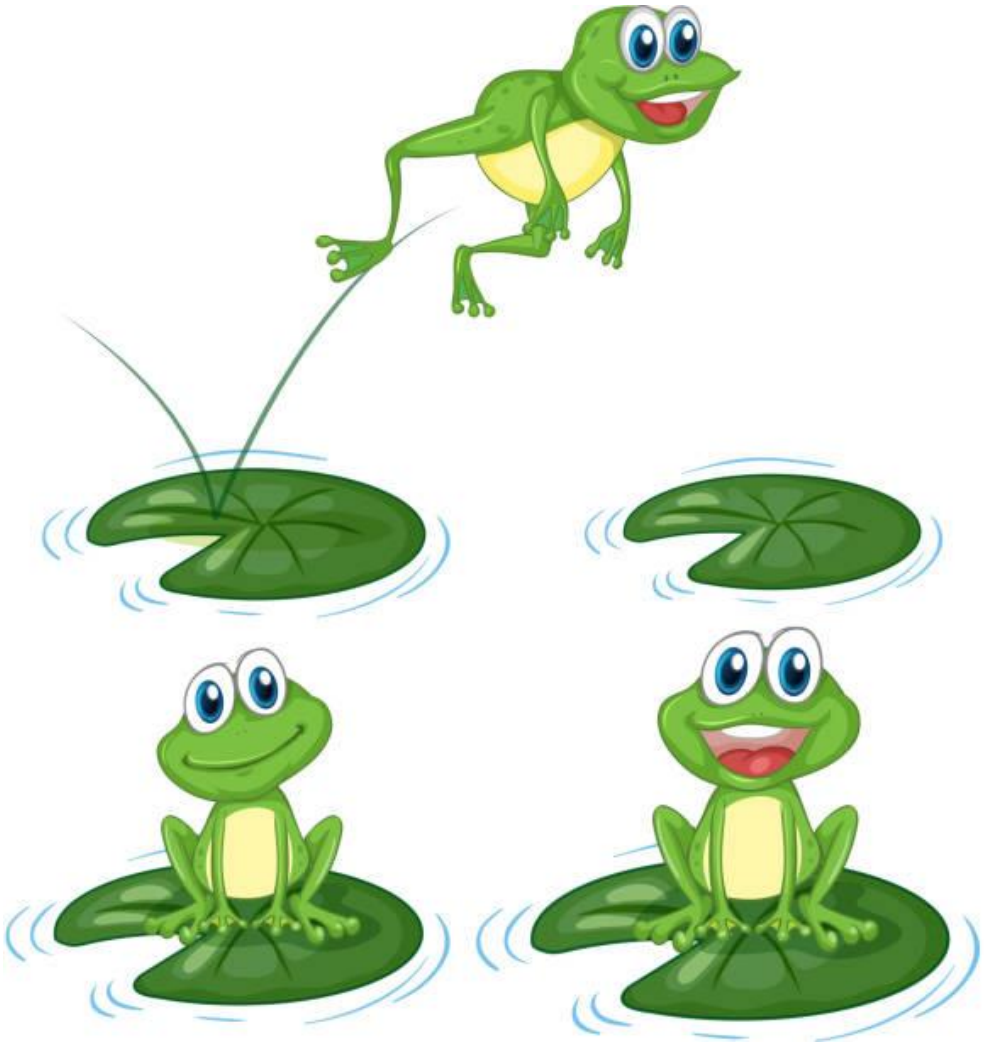
decrease

How much more is ...?

Progression in Subtraction

Counting back – taking away

There were four frogs. Two jumped into the pond.
How many were left?

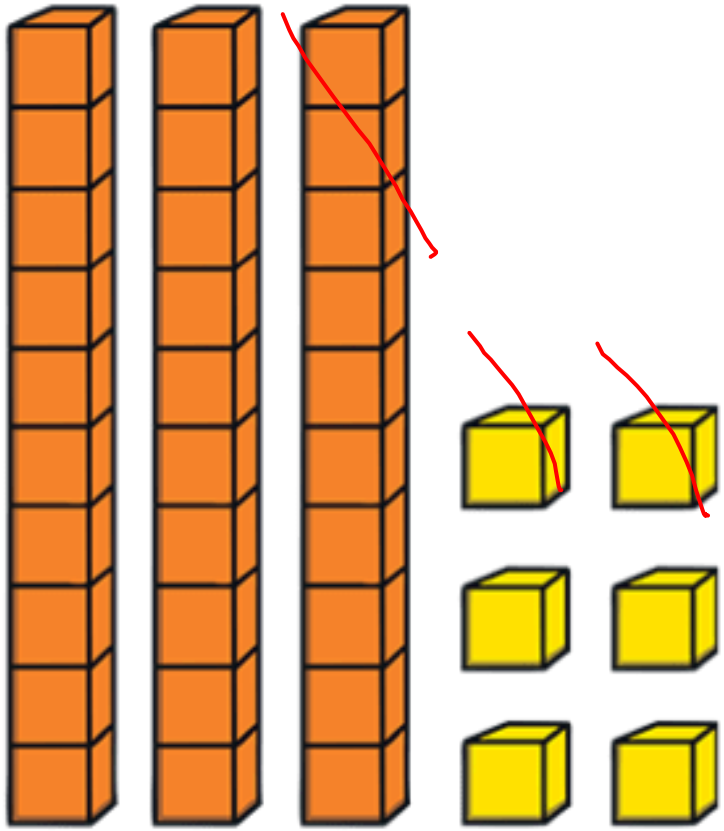


Progression in Subtraction

Base 10

A visual representation

$$36 - 12 =$$



Subtraction

Progression in Subtraction

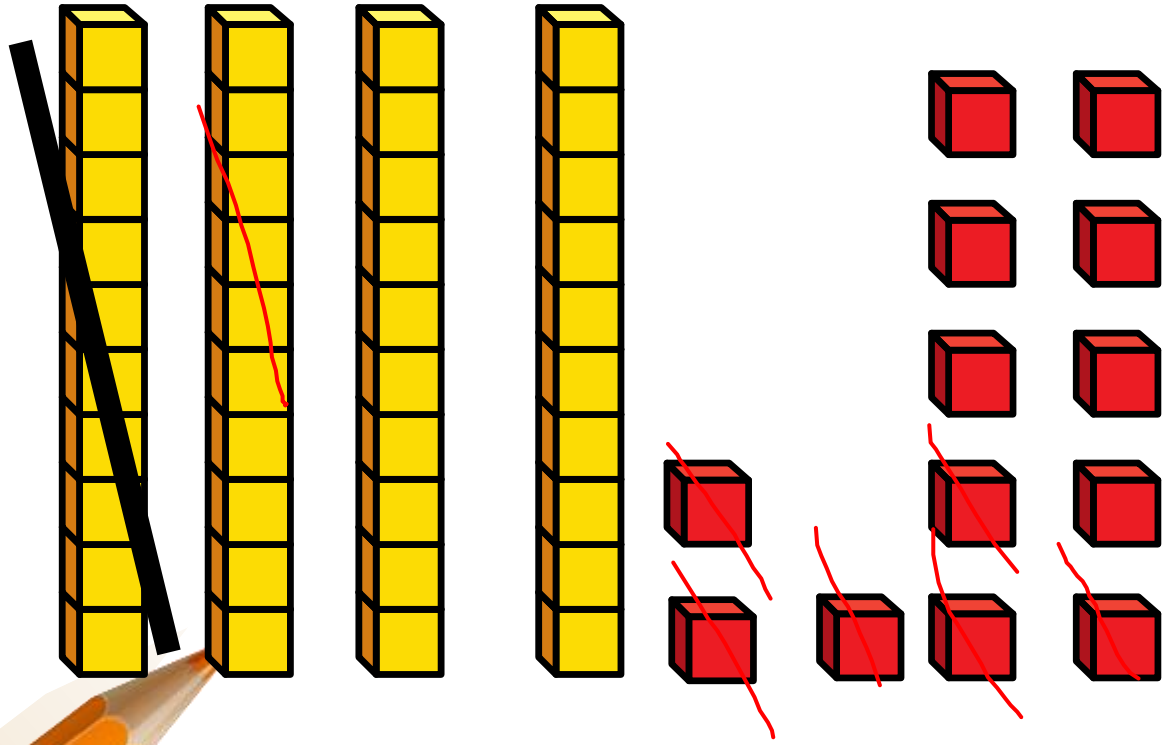
Base 10

A visual representation

43 – 16 =

10 6

Exchange



Have a go!

57 - 22 =

51 - 26 =

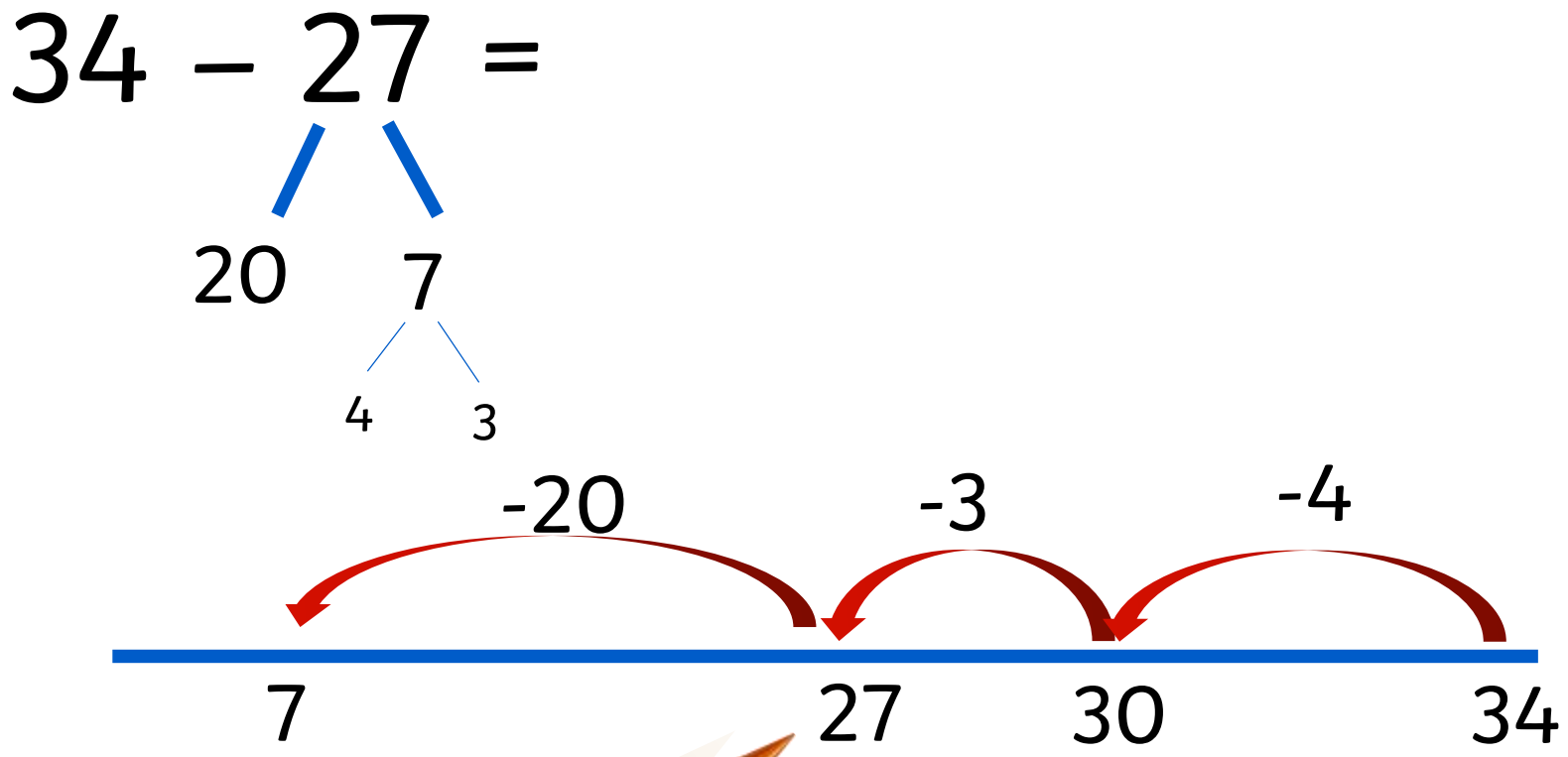
Subtraction

Using number knowledge to help (eg. bonds)

Progression in Subtraction

Number Lines

34 – 27 =



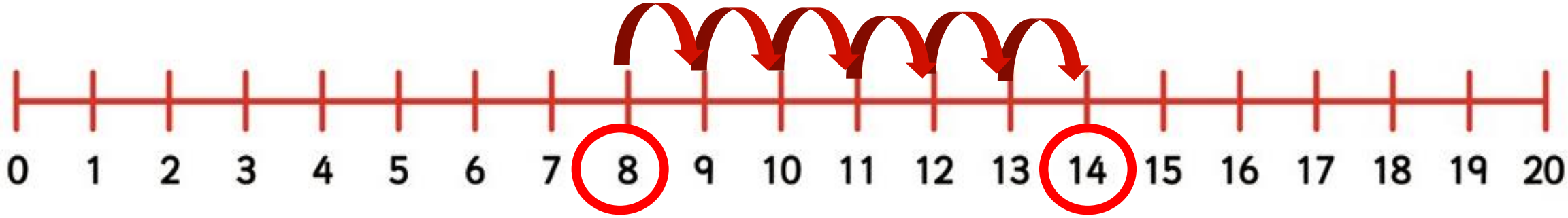
Have a go!

57 – 22 =

51 – 26 =

Finding the difference

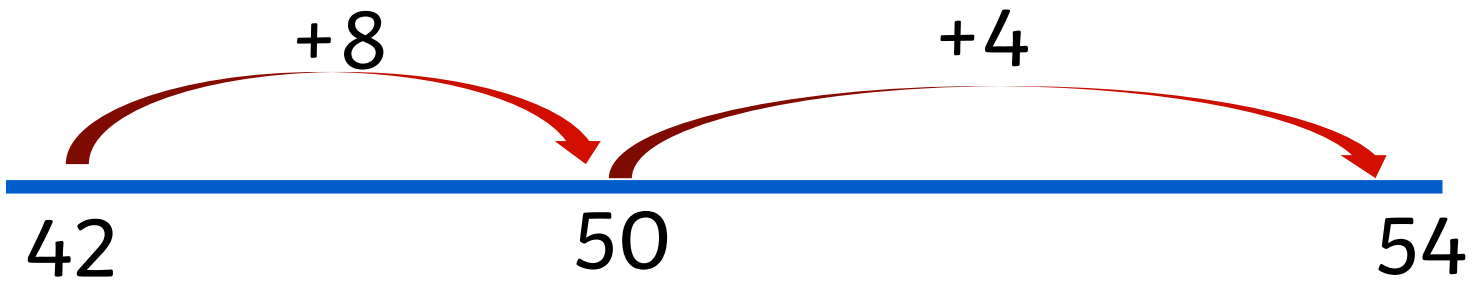
If my friend is 14 and his sister is 8, how much older is my friend?



$$14 - 8 = 6$$

Difference on Number Lines

$$54 - 42 =$$



Multiplication (x)

lots of

times

double

groups of

product

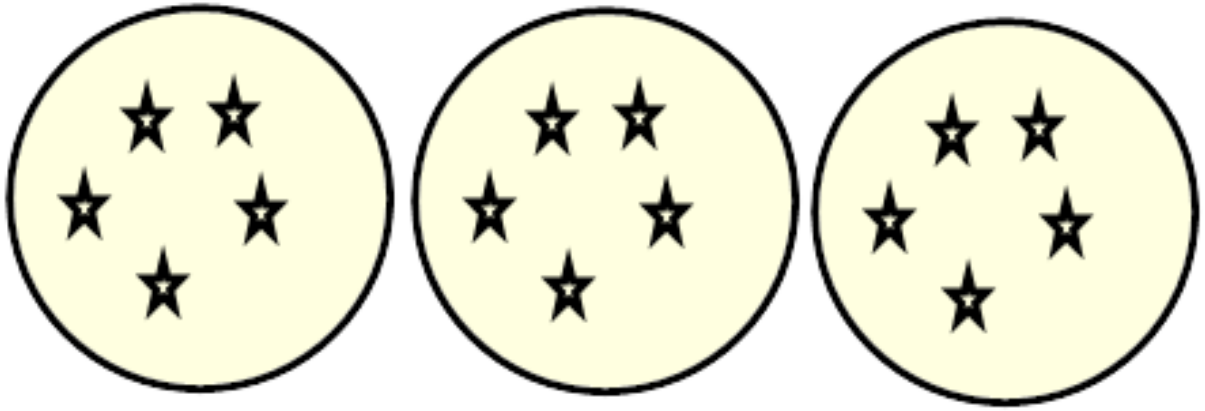
multiply

multiple of

repeated addition

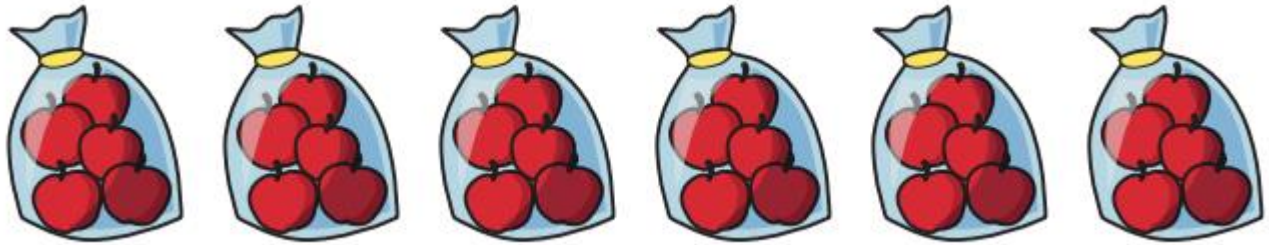
We look at multiplication as 'groups of'

3 x 5 =



We look at multiplication as 'groups of'

6 x 5 =



Progression in Multiplication

Arrays

Children should be able to model a multiplication calculation using an array.

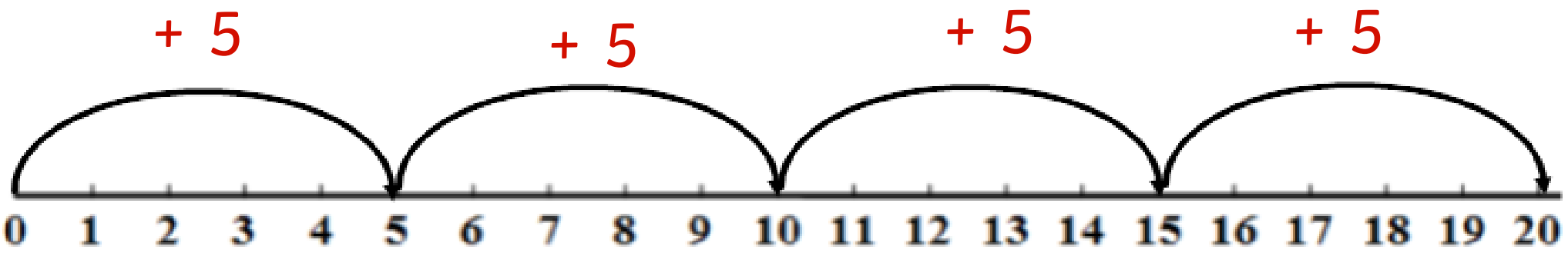
An orderly arrangement, in rows, columns.
A great visual to show how multiplication is repeated addition.

6 x 2 = 12

Repeated Addition

Repeated addition can be shown easily on a number line:

4 x 5 = 5+5+5+5 (4 lots of 5)

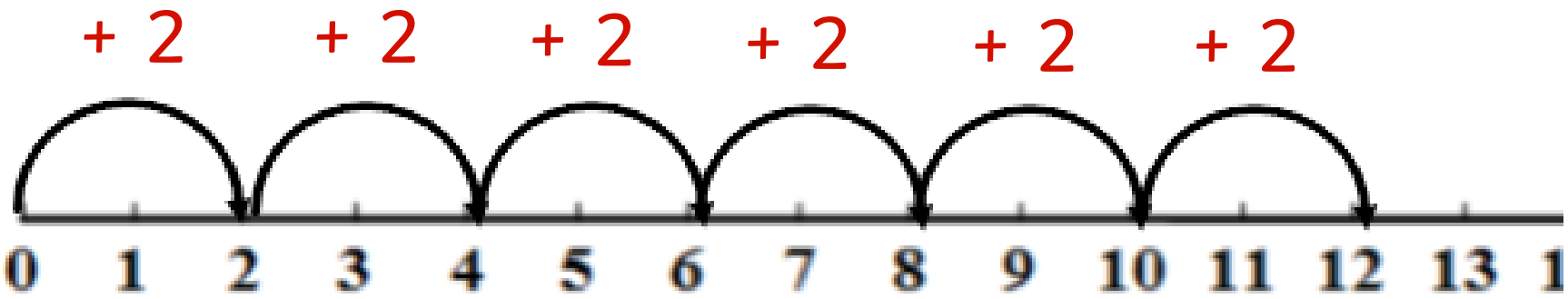


= 20

Repeated Addition

Repeated addition can be shown easily on a number line:

$6 \times 2 = 2 + 2 + 2 + 2 + 2 + 2$



= 12

Division (÷)

share

shared between

divide

divisible by

equal groups

halve

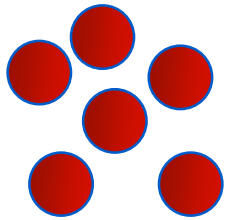
remainder

Progression in Division

Divide by sharing a set of objects

Children will understand equal groups and share items out in play and problem solving.

$6 \div 3 = 2$

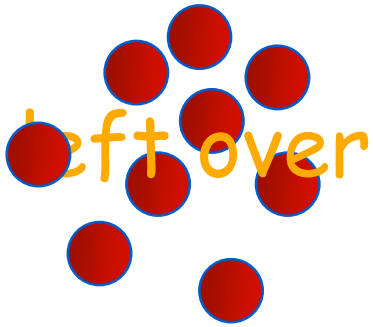


Progression in Division

Divide by sharing a set of objects

Children will understand equal groups and share items out in play and problem solving.

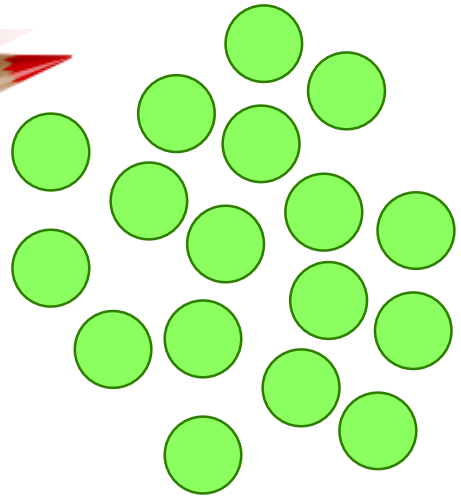
$9 \div 2 = 4$ 1 left over



Equal groups

Have a go!

Share 17 grapes between these 4 people so that they have the same amount each.
How many do they each receive?



$17 \div 4 = 4$ 1 left over

Division

Times Tables

Knowing the times tables by heart helps with fluency when multiplying and dividing.

In Year 2, we focus on 2 times tables first, thinking about doubling and then halving numbers. Children will recognise that even numbers can be shared evenly, while odd numbers cannot (in whole numbers).

$16 \div 2 = 8$

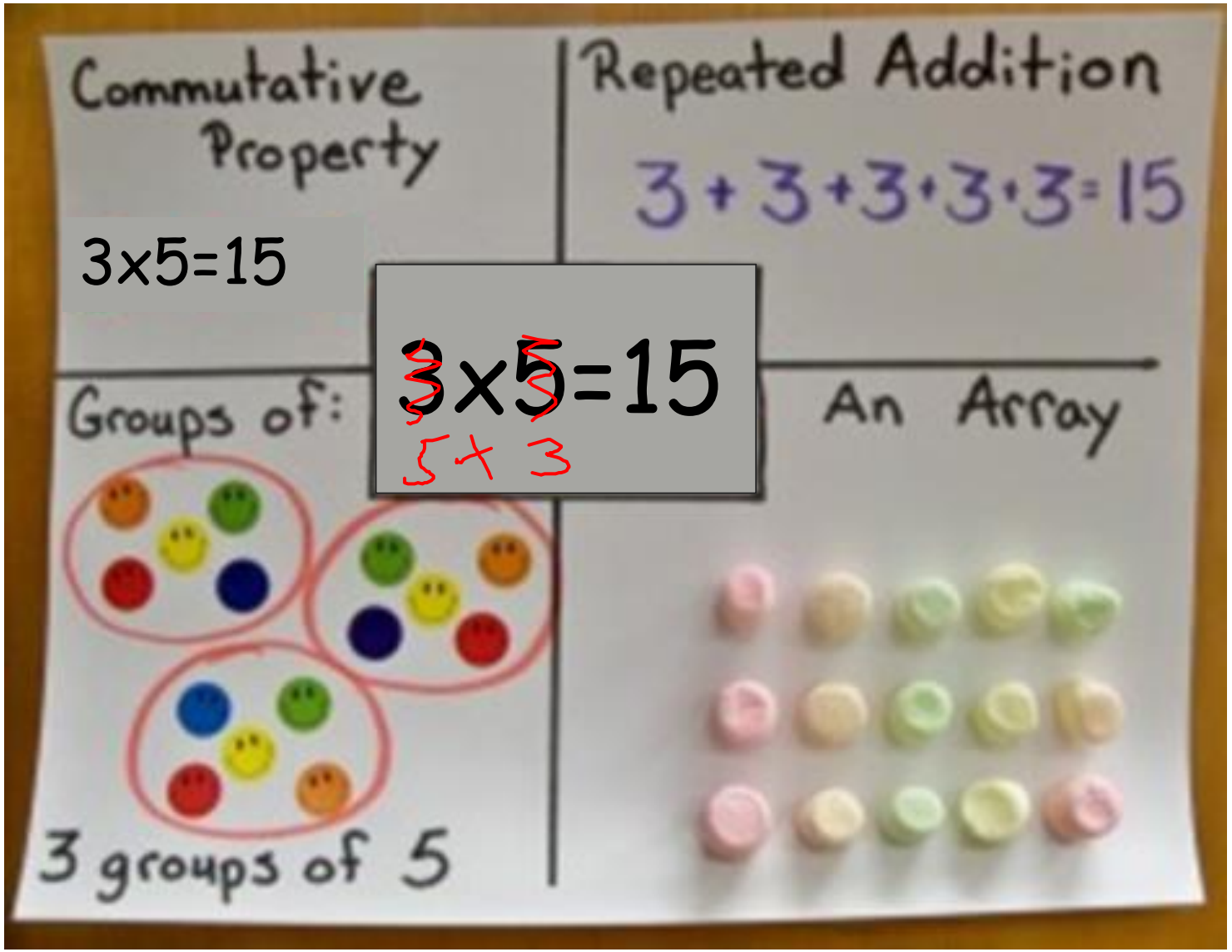
$17 \div 2 = 8$

1 left over

Relationships

Have a go!

7 X 5 = 35



How can you help?

- Look for and talk about numbers in the environment
- Play games
- Out and About - Shopping
- Counting on/back
- Number bonds
- Doubles/halves
- Times tables and inverse

How can you help?

Talk about *how* you do maths

Be positive

Give praise and encouragement

Ask your child to explain

Make sure maths is fun!