Addition & Subtraction

Foundation 1 & 2

Outline of session

- Unpack the language used with Addition & Subtraction
- Develop an understanding of Curriculum Expectations
- Develop a shared understanding of the how to support your child at home
- Investigate activities/ games that can be played

Victorian Curriculum

- Foundation. Subitise small collections of objects
  Represent practical situations to model addition and subtraction
- •Year 1. Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts
- •Year 2. Explore the connection between addition and subtraction. Solve simple addition and subtraction problems using a range of efficient mental and written strategies
- Count and order small collections of Australian coins and notes according to their value
  Solve problems by using number sentences for addition or subtraction
- •Year 3. Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation.

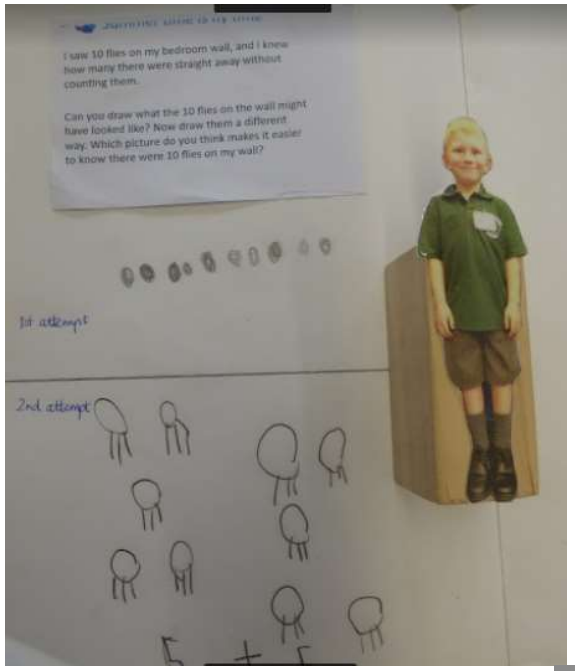
Fast doesn’t mean fluent

- Fluency does involve being fast and accurate but the often missing part of fluency is flexibility. Flexibility is the most important aspect in developing true math fluency.

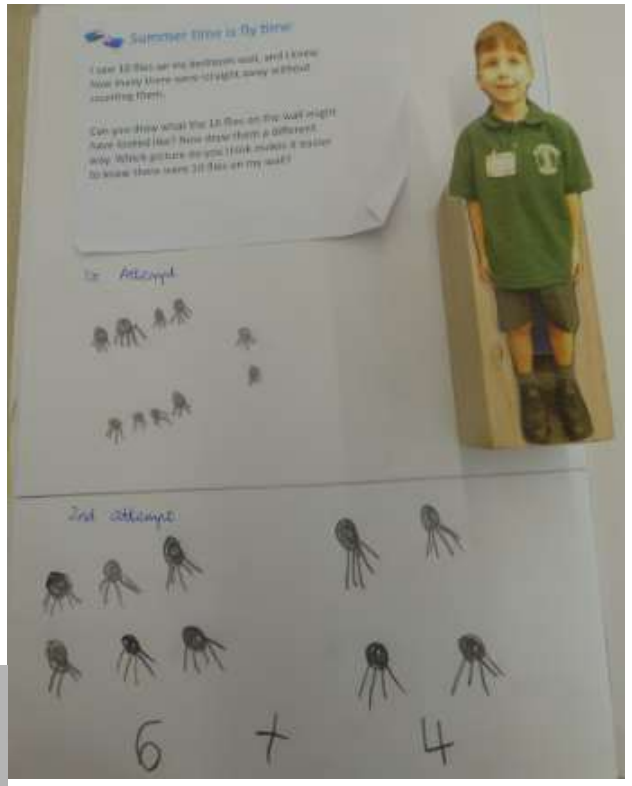
- By focusing our games and tasks on building children’s flexibility, we’ll be starting with the foundation of number knowledge that will help children build connections to all other areas of math. We will be building math minds and not just create calculators

- We want our children to leave primary school with number sense, fluency and understanding.

Subitiise

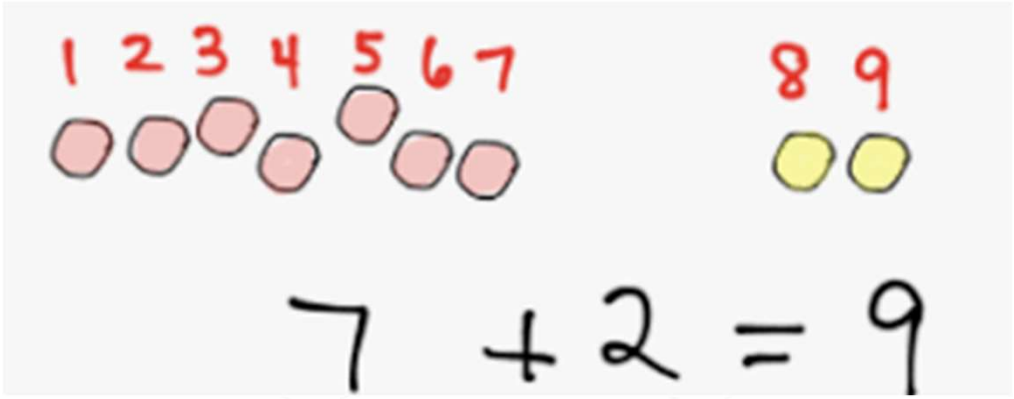

I saw 10 flies on my bedroom wall, and I knew how many there were straight away without counting them.
Can you draw what the 10 flies on the wall might have looked like? Now draw them a different way. Which picture do you think makes it easier to know there were 10 flies on my wall?
1st attempt
2nd attempt


1st attempt
4+4

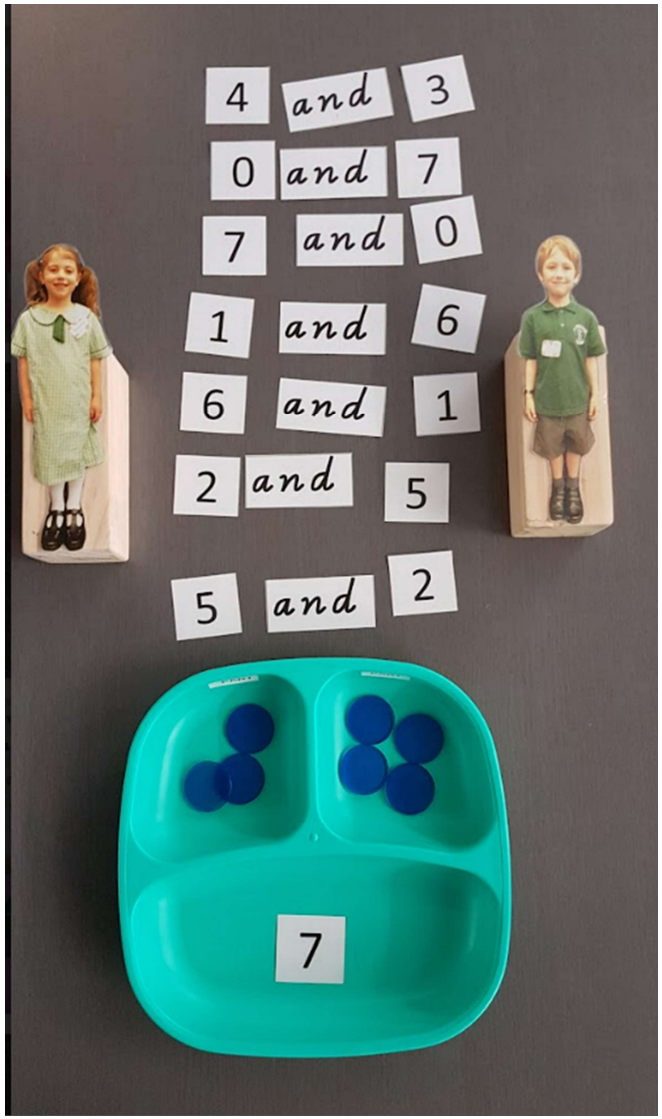

2nd attempt
6 + 4

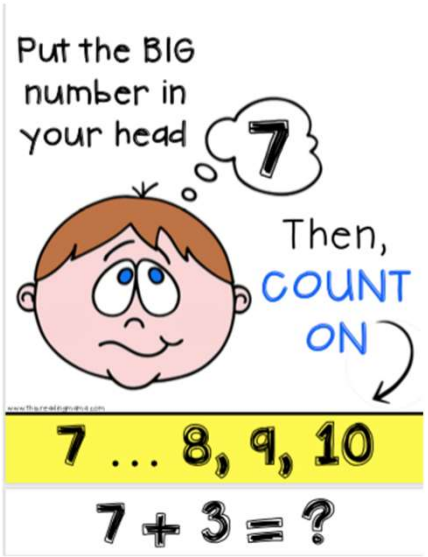
Count all Foundation

Students can see each item and touch as they count all to find out the total . They know to combine both groups and count all.

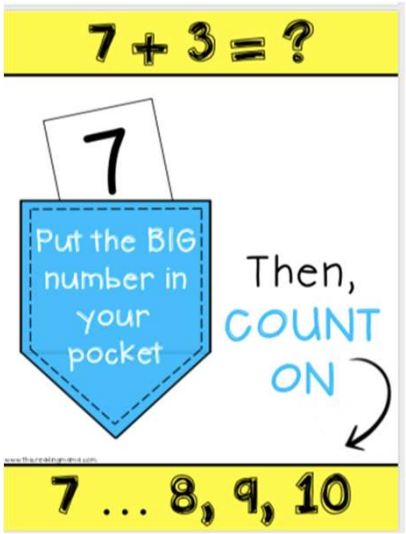


Part/part/ whole





Count on year 1



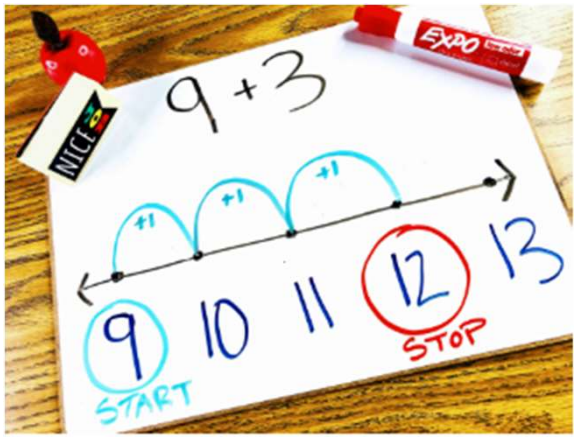
To move to this we need to cover(hide) one of

the parts being added (put in our head/ pocket)

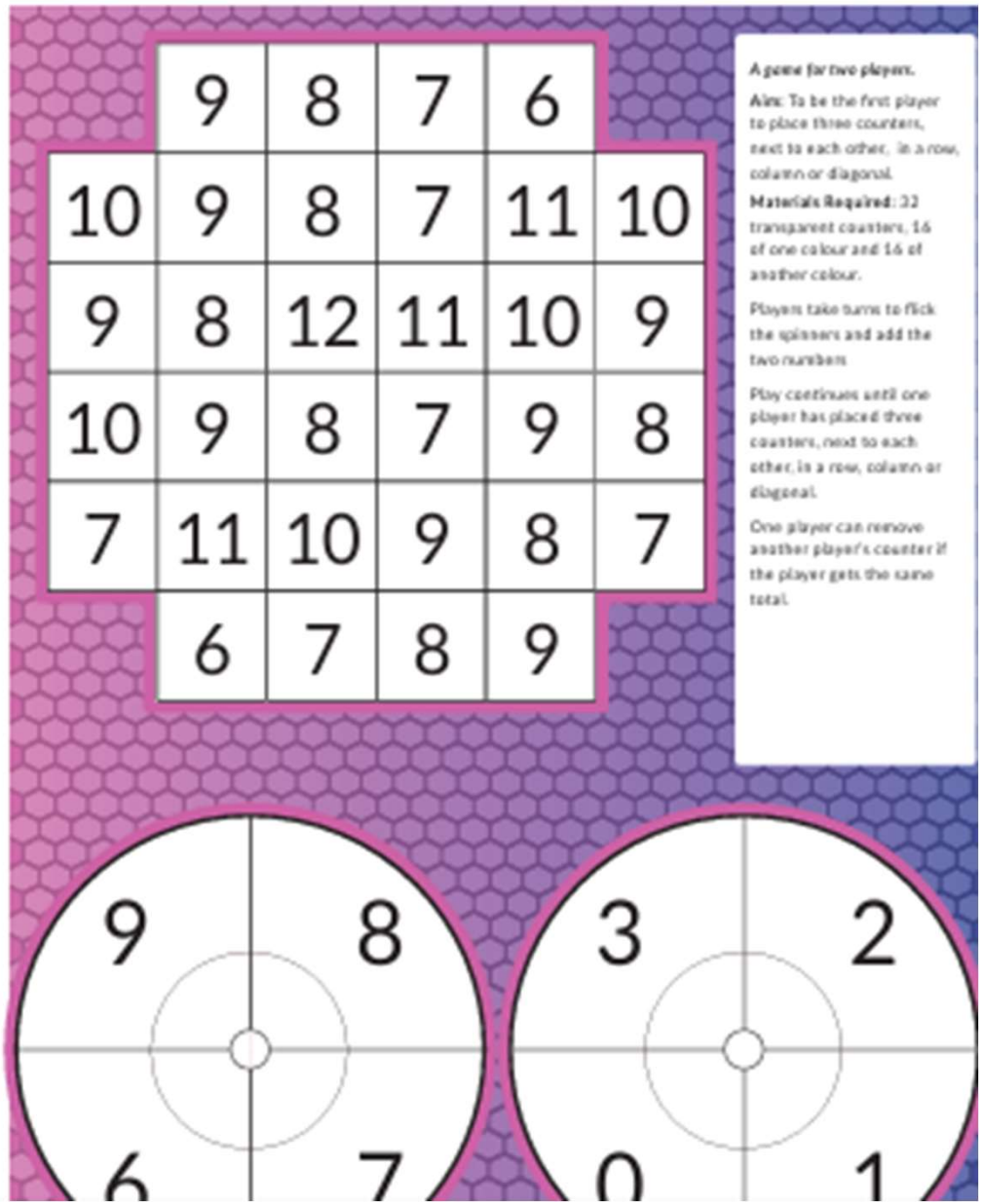
Students need to be able to break the count when counting to do this.

Use 2 dice, one dot one numeral, then add on the dot dice

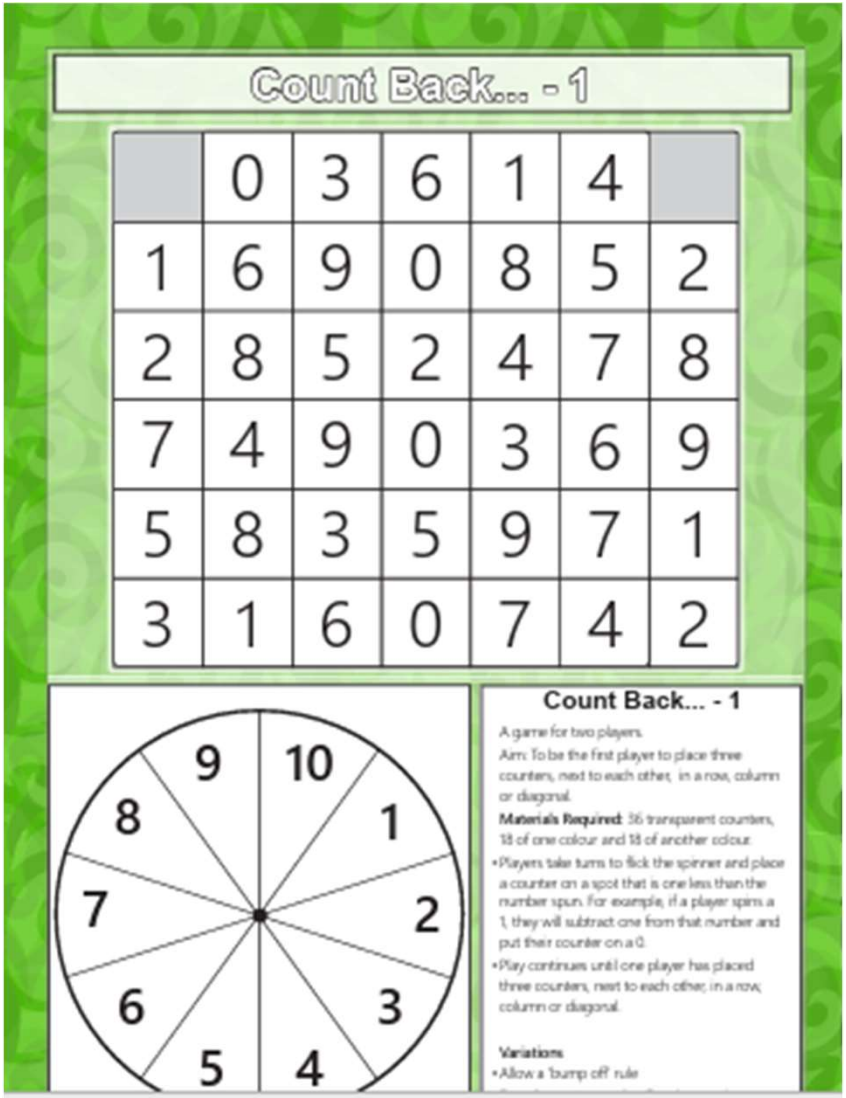
Cover one part and count on second part



Think Big, Count Small



Count back one



Count Back... - 1

	0	3	6	1	4	
1	6	9	0	8	5	2
2	8	5	2	4	7	8
7	4	9	0	3	6	9
5	8	3	5	9	7	1
3	1	6	0	7	4	2

Count Back... - 1

A game for two players.

Aim: To be the first player to place three counters, next to each other, in a row, column or diagonal.

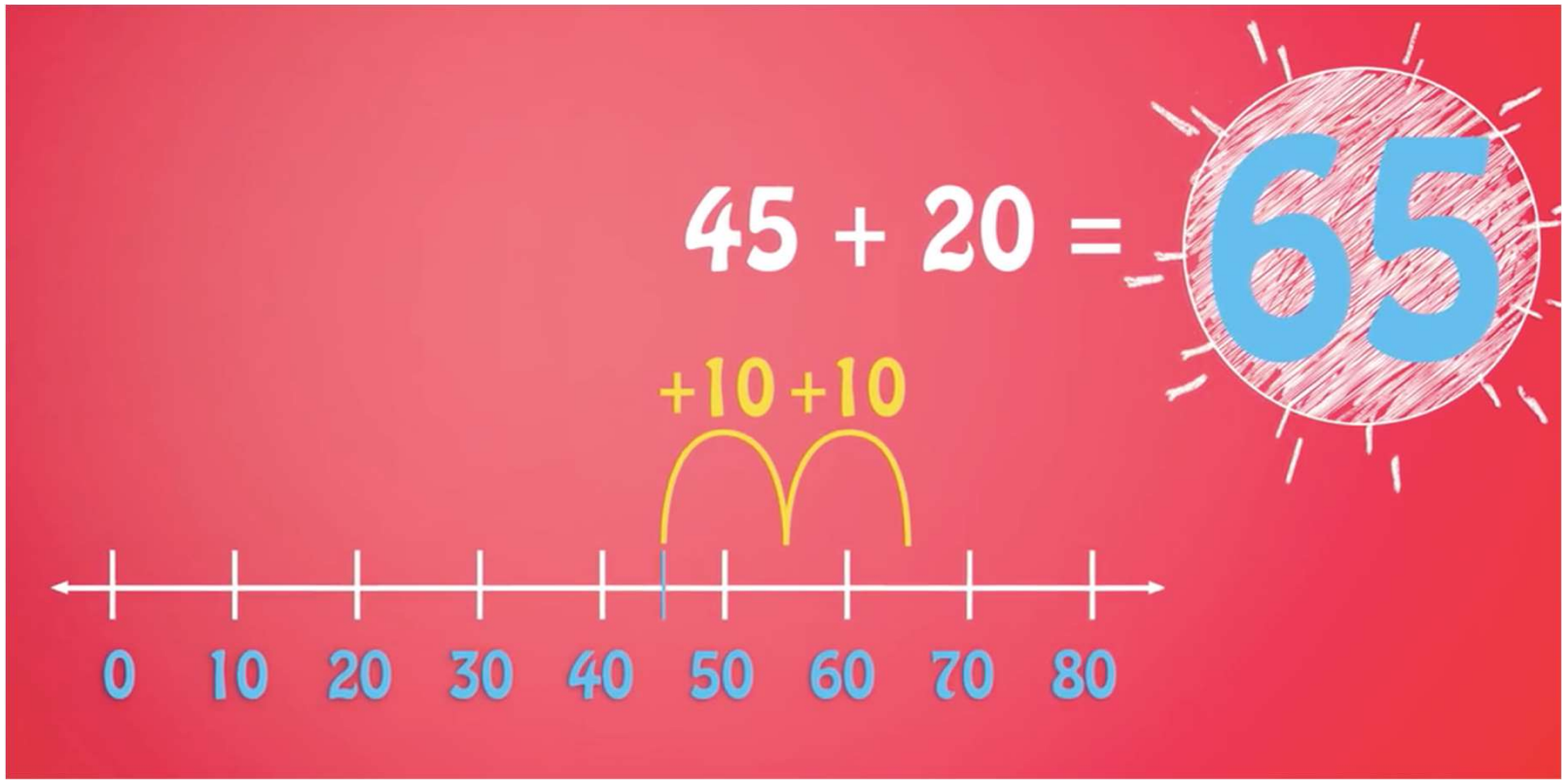
Materials Required: 36 transparent counters, 18 of one colour and 18 of another colour.

- Players take turns to flick the spinner and place a counter on a spot that is one less than the number spun. For example, if a player spins a 1, they will subtract one from that number and put their counter on a 0.
- Play continues until one player has placed three counters, next to each other, in a row, column or diagonal.

Variations

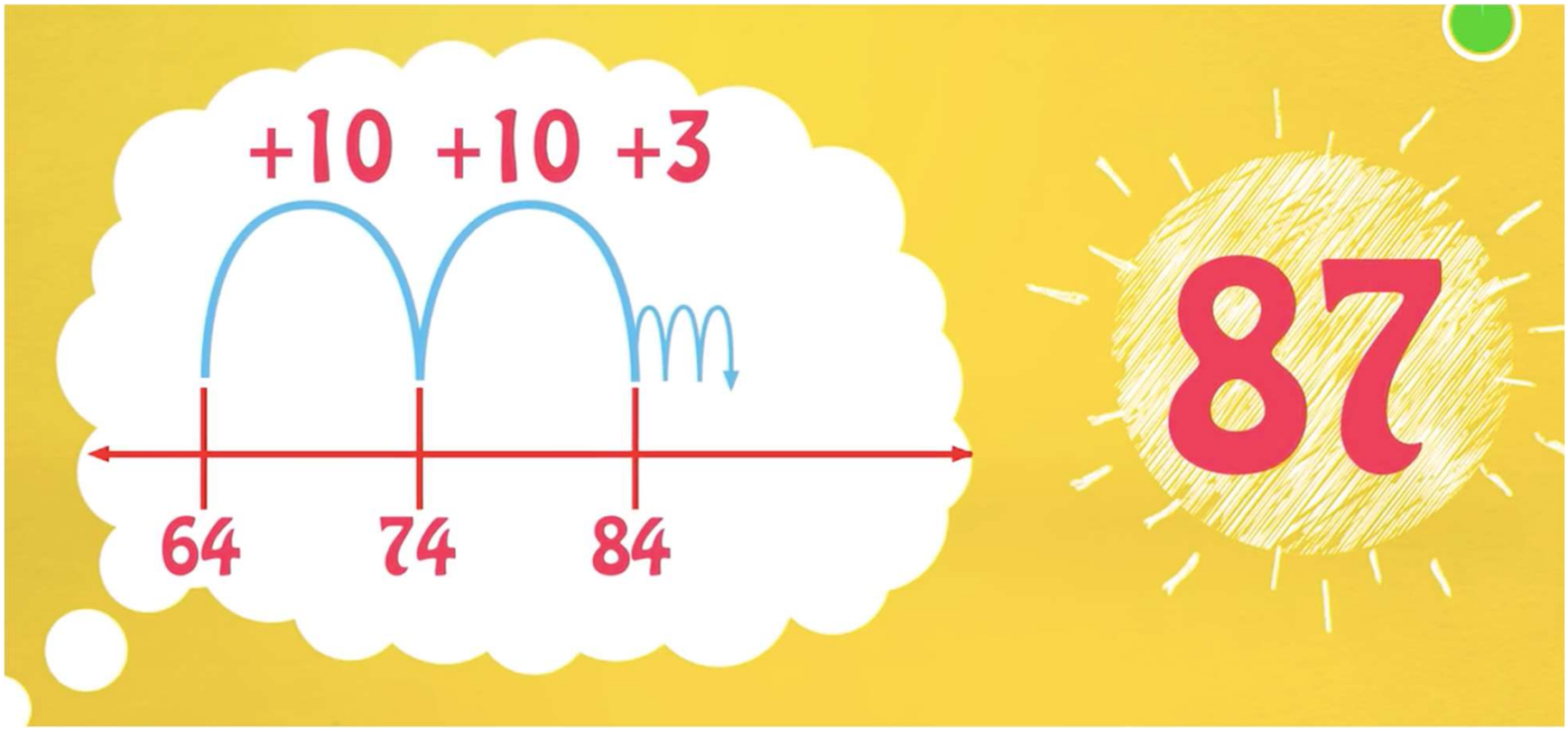
- Allow a 'bump off' rule

Extending and applying strategies



Count on but with tens. Same for counting back in tens

Extending and applying strategies

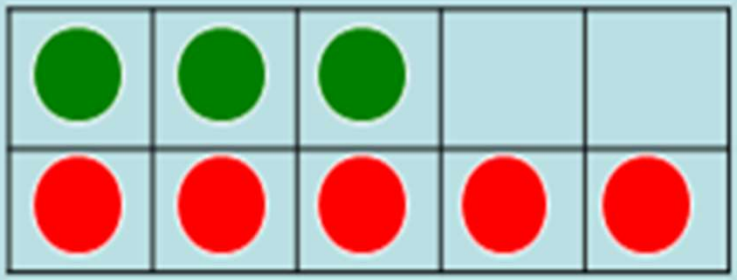


Count on but with tens and ones same for subtracting tens and ones , count back

Commutativity (turn arounds) Year 1

- If you spin around addition equations you get the same answer.

3+5=8



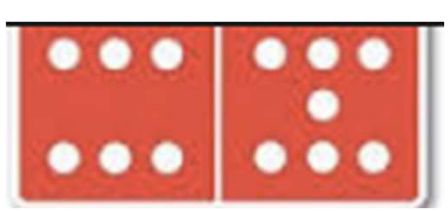
- This shows children the commutativity of addition equations.

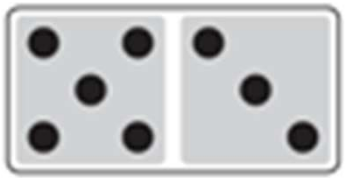
5+3=8

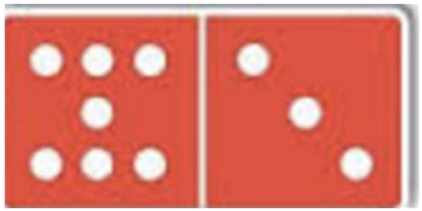
✓ Dominoes
✓ Magic Beans

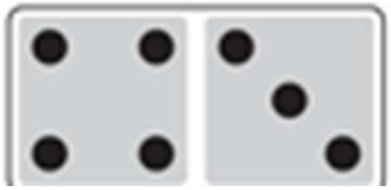
Dominoes

- Pick up a domino.
- Add two sides
- Winner is the one with highest total



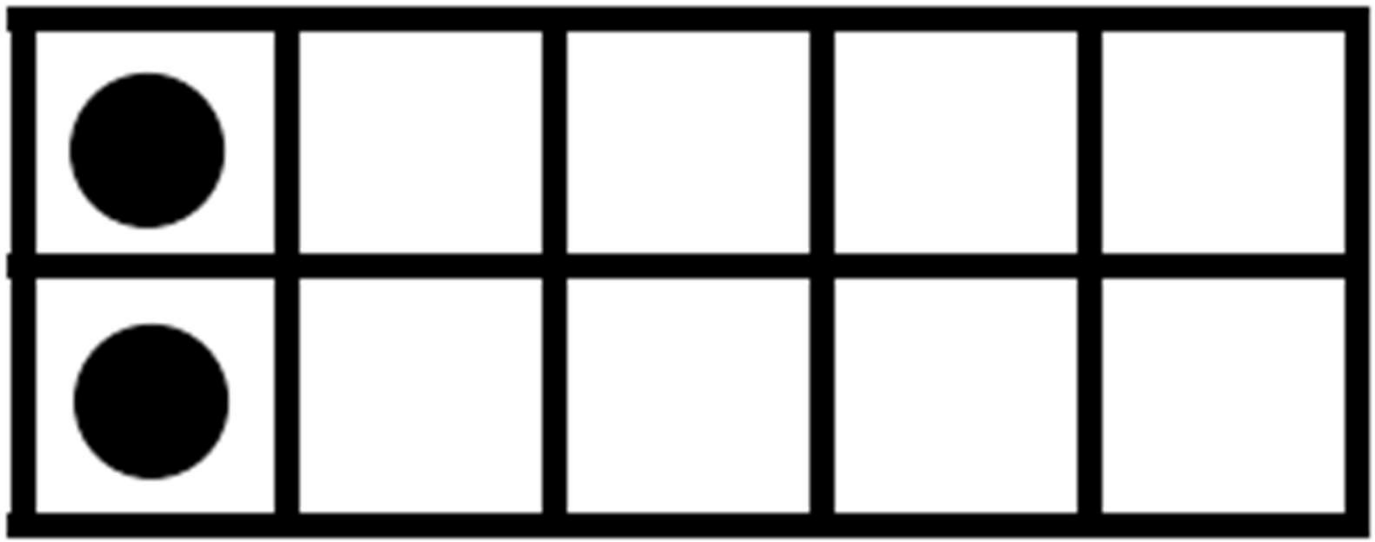




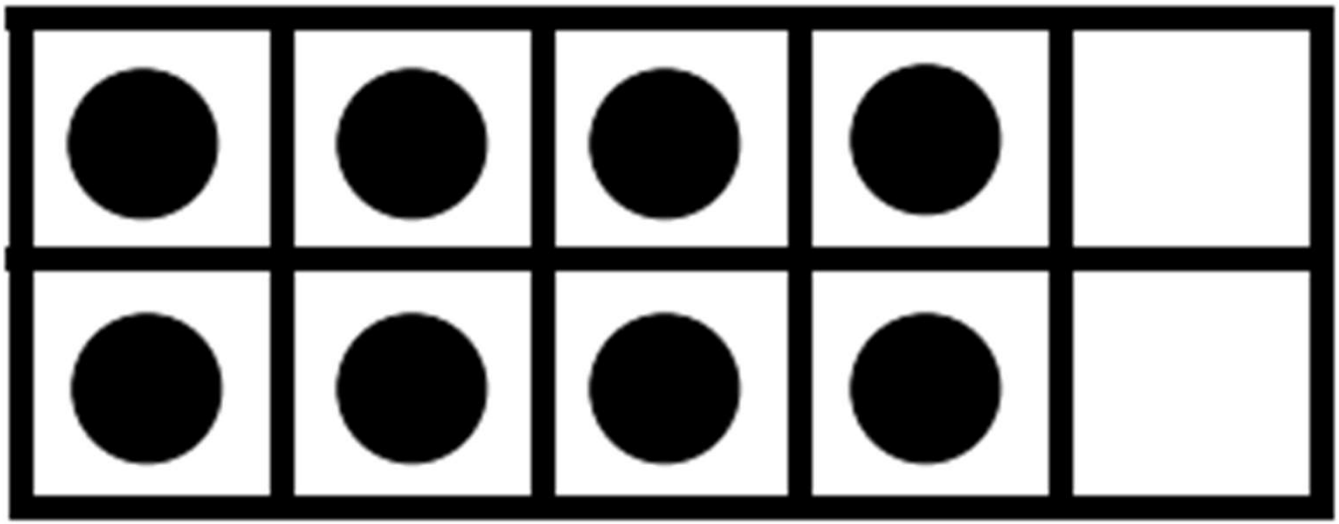


Extension: if each domino is a 2 digit number, can you add two dominoes, explain your thinking

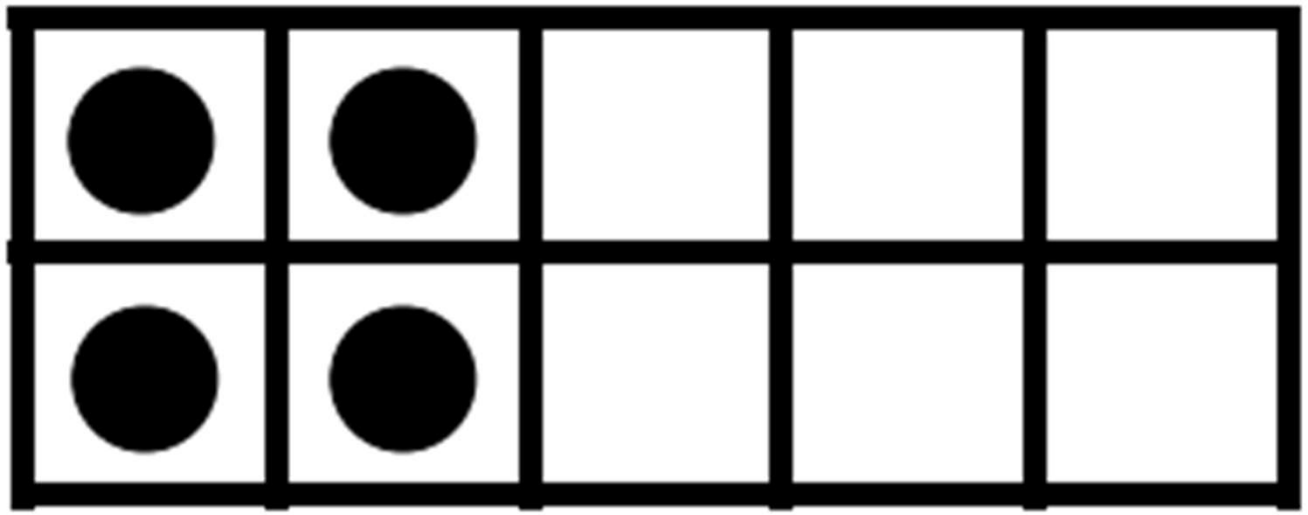
Doubles



Doubles



Doubles



Flip a card and say double it

How many can you say in one minute?

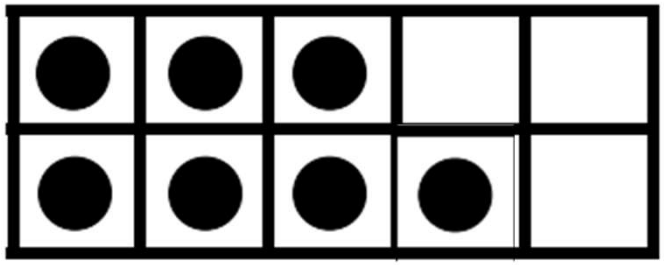
Can you improve each day?

If you get stuck on any (the baddies) what strategy can you think of to help you with it?

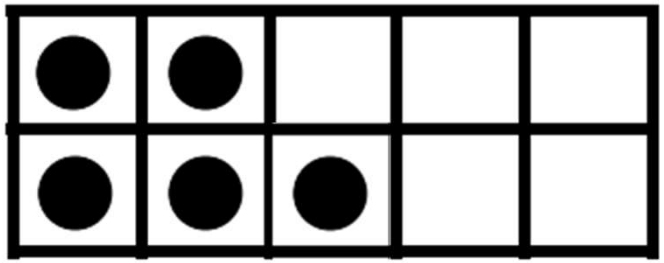
Foundation- use cards with 1-5

Extension- flip two cards and say double

Near Doubles card

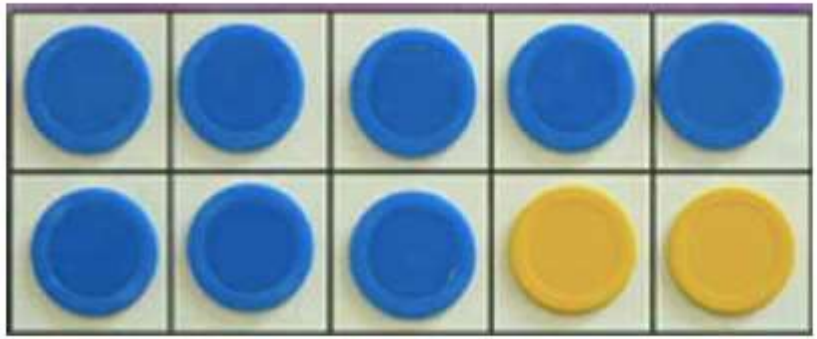


Near Doubles card



Tens Facts

Ten frames are also useful for showing rainbow 10 facts.



8 + 2 = 10

2 + 8 = 10

Rainbow Facts (facts to 10)

Rainbow 10 extensions: Make 100 and Make 1 000

Fish

- Cards- deal 5 each.
- Aim: To get the most pairs of 10

- Ask " have you got a …..6 (To go with 4 to make 10?") If you do hand it to partner, if not, say, "Go Fish !"
- Continue until one has used all cards.

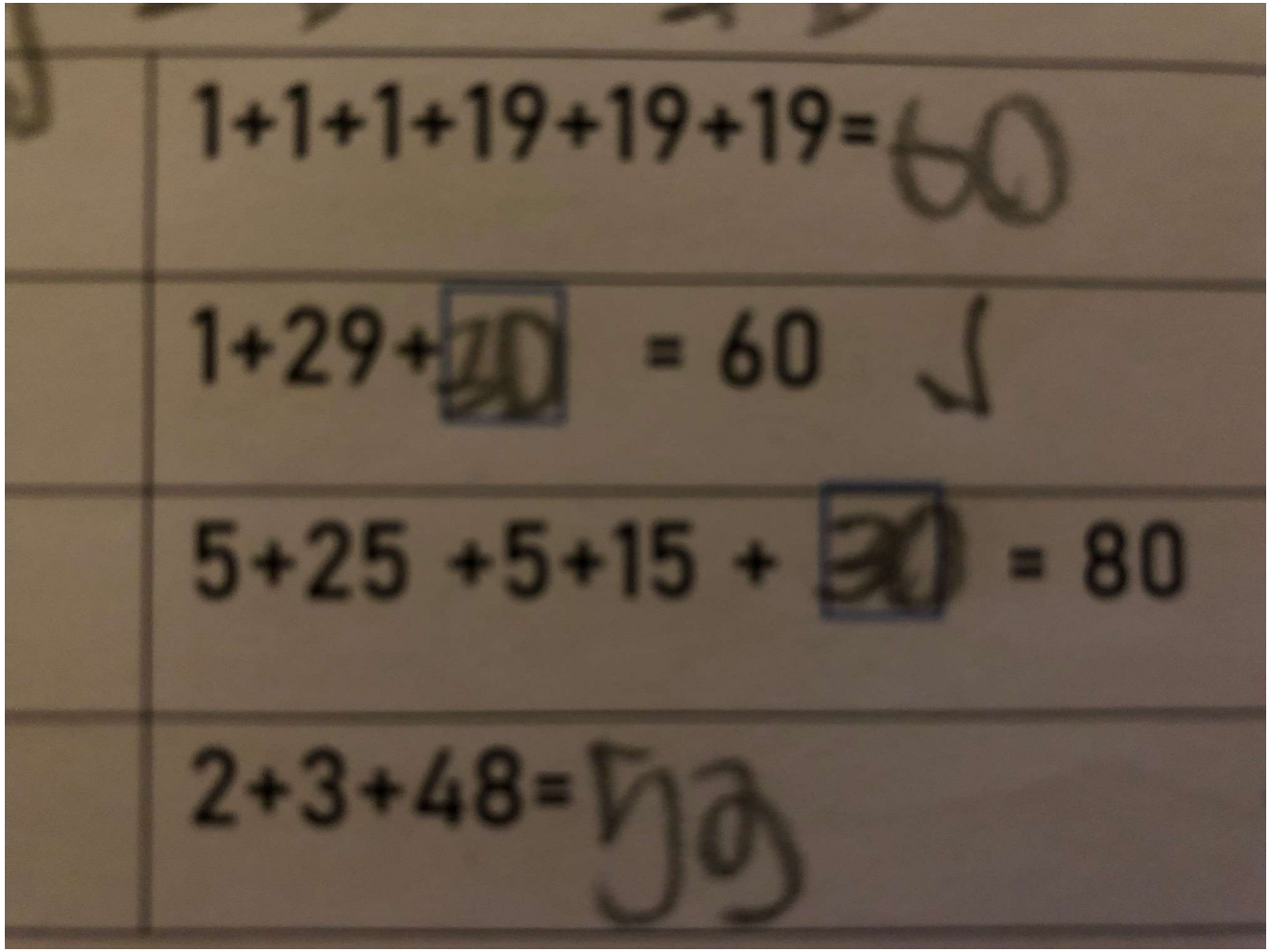
Roll dice

- Roll a dice- what goes with it to make to 10?

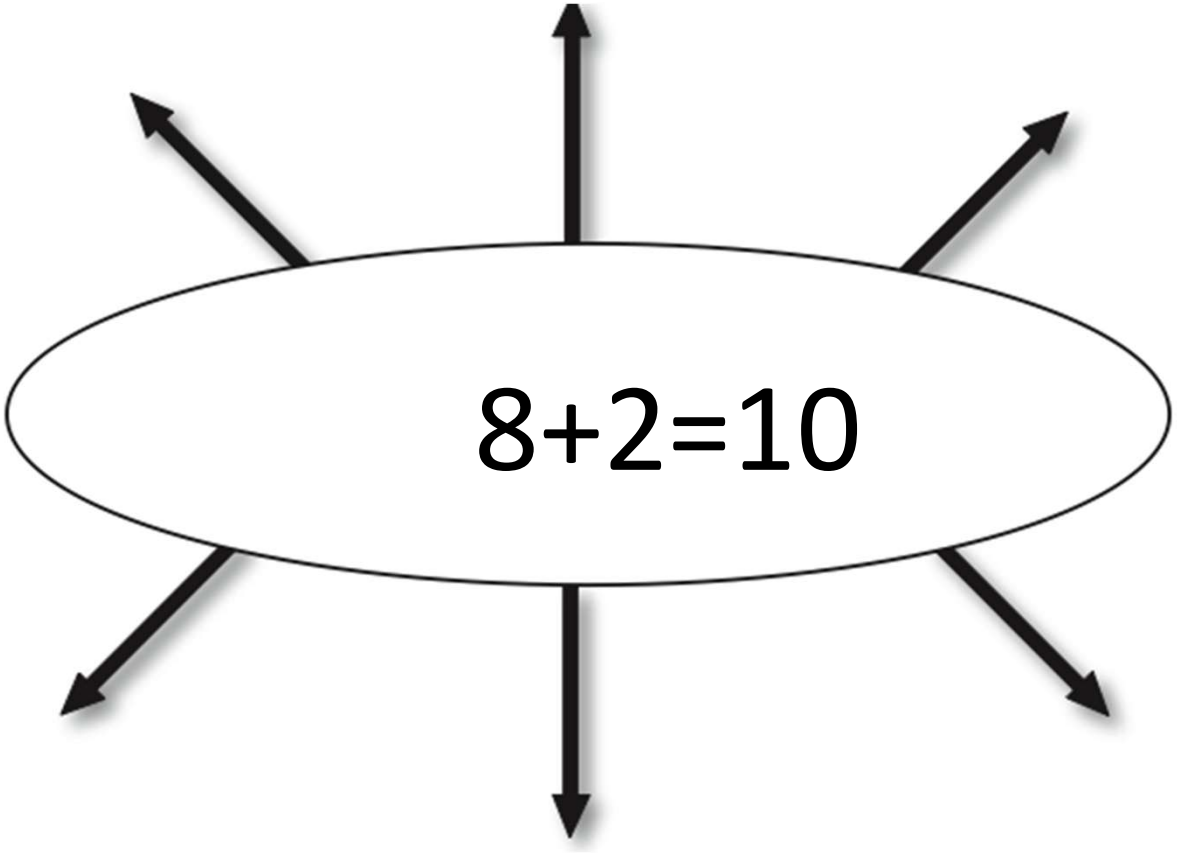
- <u>Foundation/ year 1</u>: place counters in 10 frame.

- <u>Extension</u>- what goes with it to make to 20
- Roll 2 dice- make a 2digit number- what goes with it to make to 100

Making to nearest 10

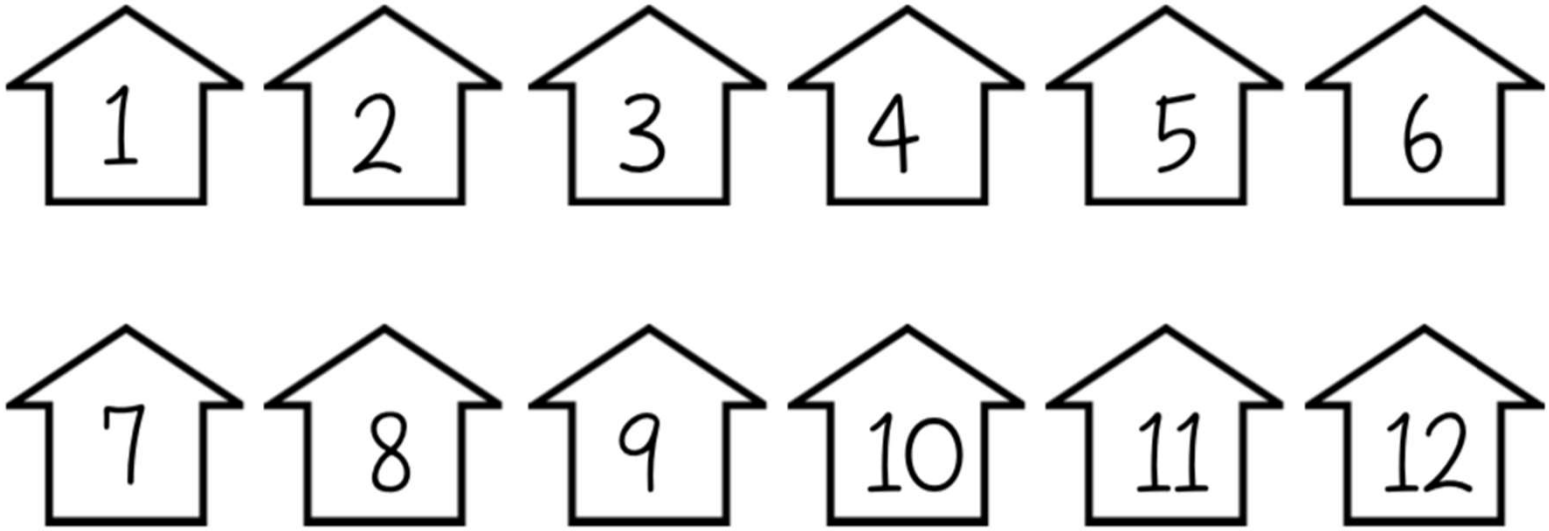


Connections Chart



If you know this fact, what else do you know? 10-2= ? 80+20 = ? Etc..

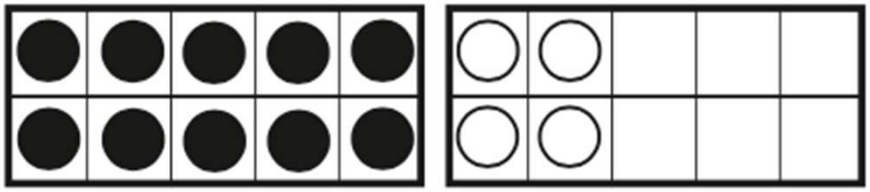
Get out of my House



Play: both students get 7 counters of one colour and 6 sided dice.
Students roll the two dice and add them Place a counter on the square that has the answer. If there is a counter already on it, say, " Get out of my house" and remove the counter.
First to get all their counters on the board is the winner.
Enable: numbers to 12, play with a partner
Extend: play with 9 sided dice and numbers to 18, move to 3 dice and board to 27.

Adding 10 Grade 2

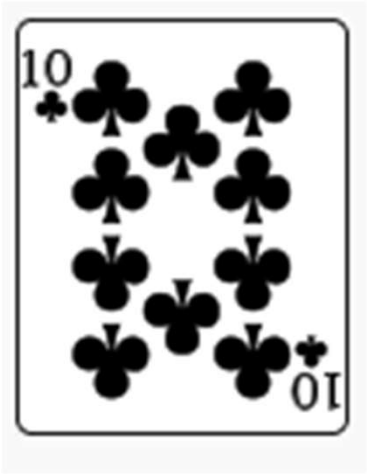
Initially learning to add ten will involve linking place value understanding with addition

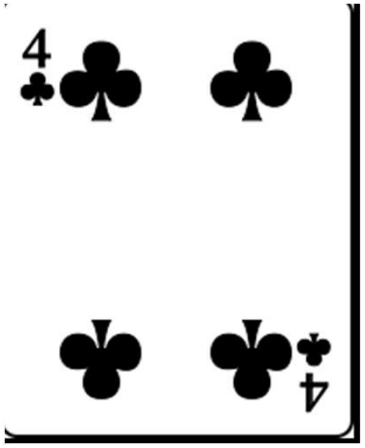


10 + 4 is 4 + 10 or 14

10 plus

- First to say 10 + ….after card is flipped wins card.

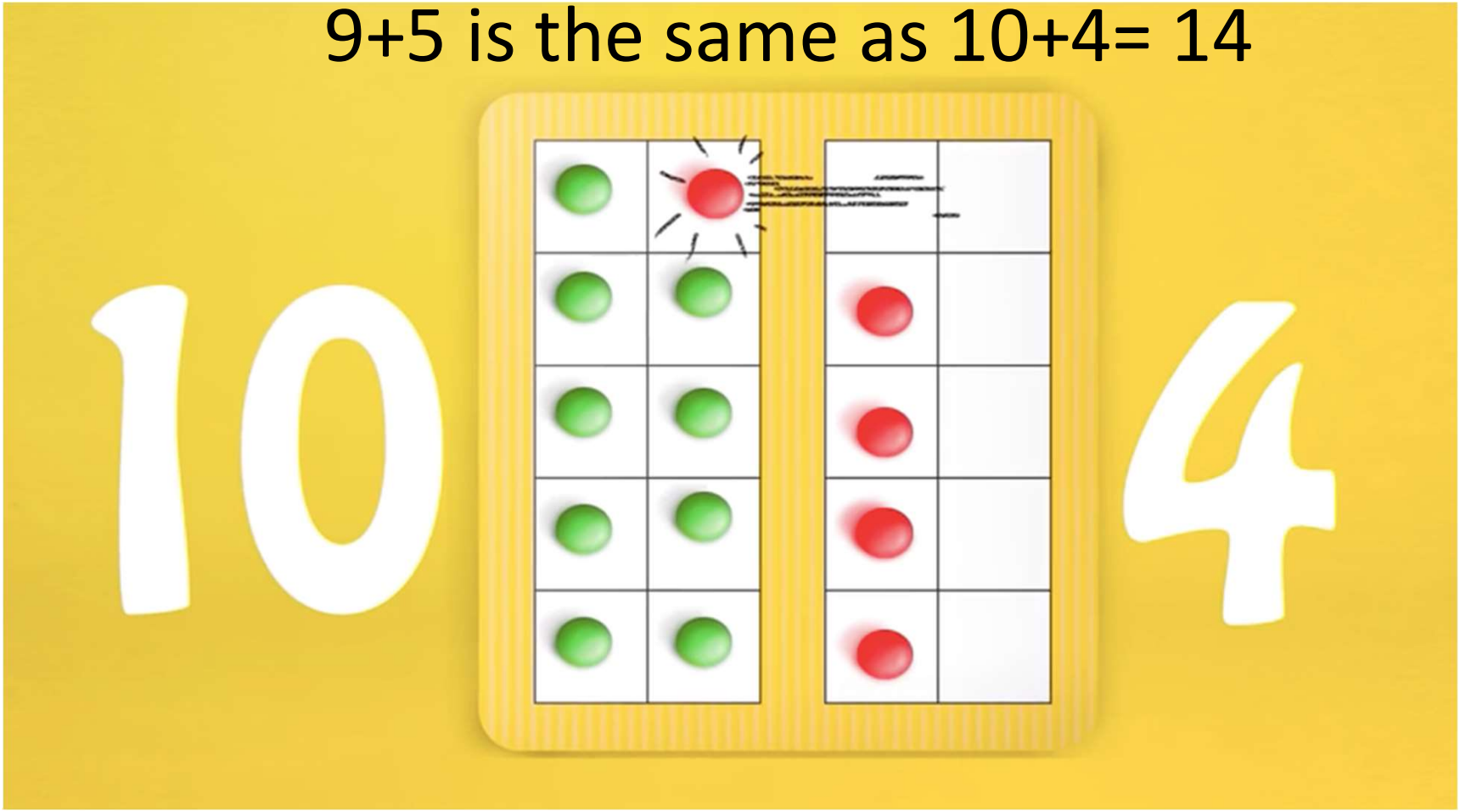




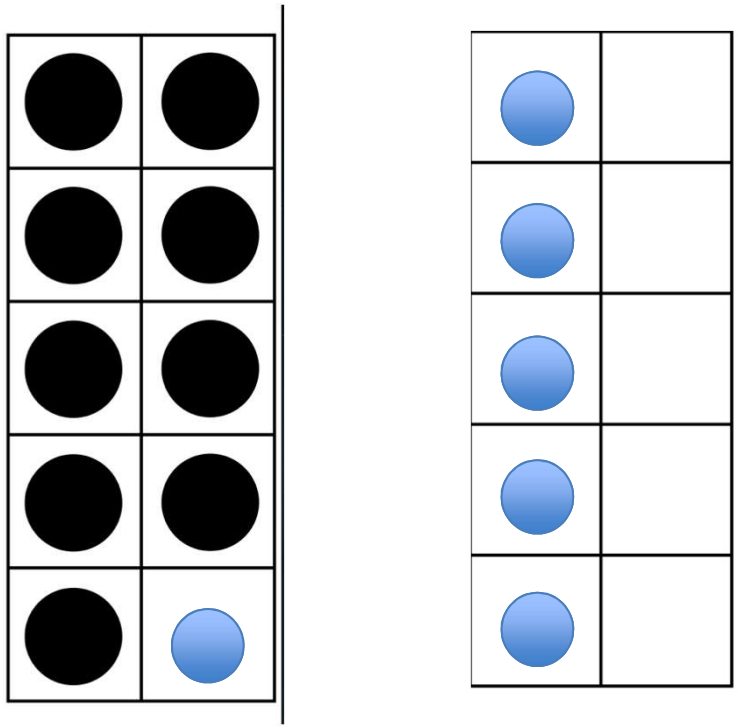
10+4=14

Build to next ten

9+5 is the same as 10+4= 14



Build to ten



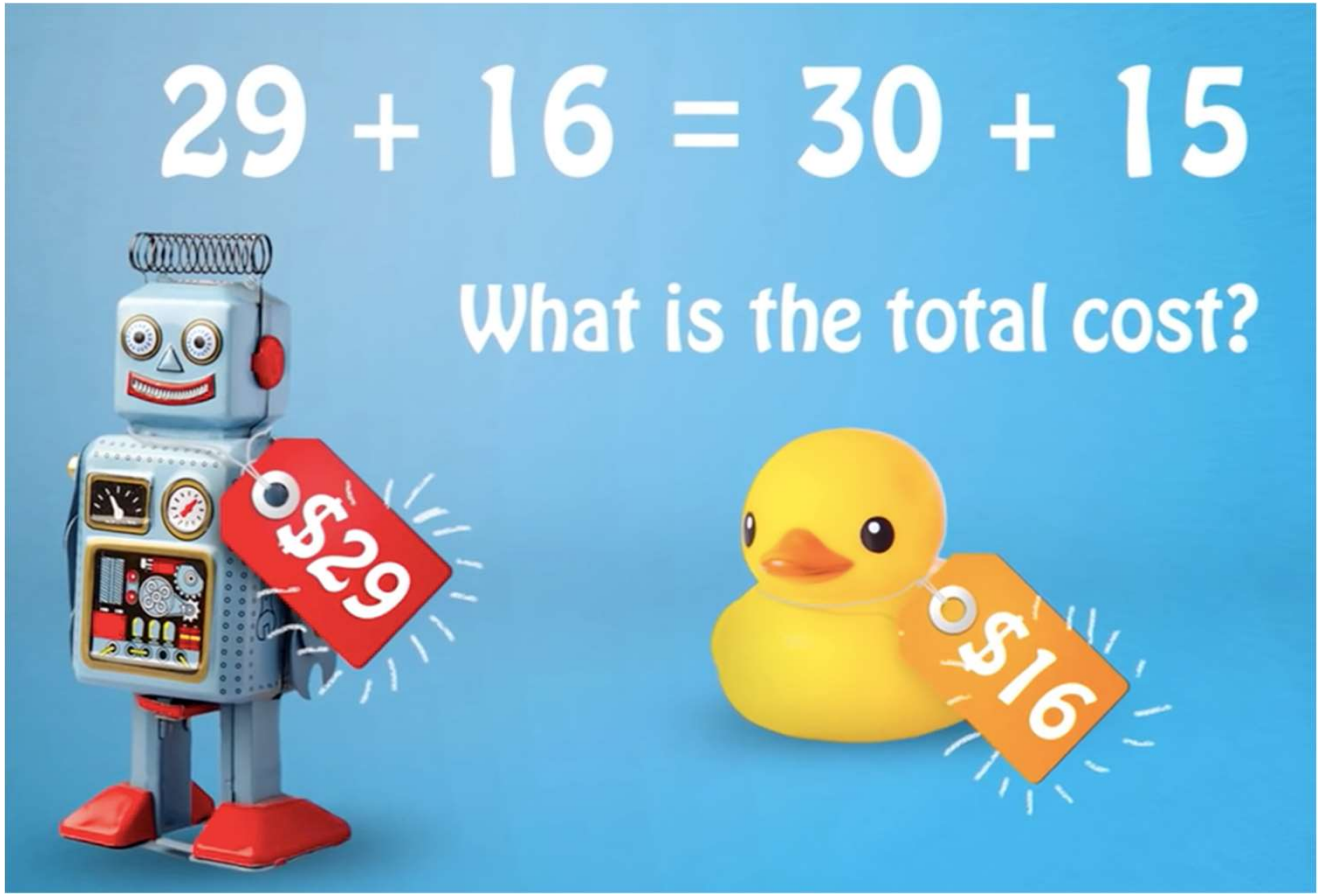
9+6 = 10+5

These will help you solve other problems:

9+8=17 helps **90+80=170** **900+800=1,700**

9+8=17 helps **49+7=57** **79+8=87**

Extending and applying strategies

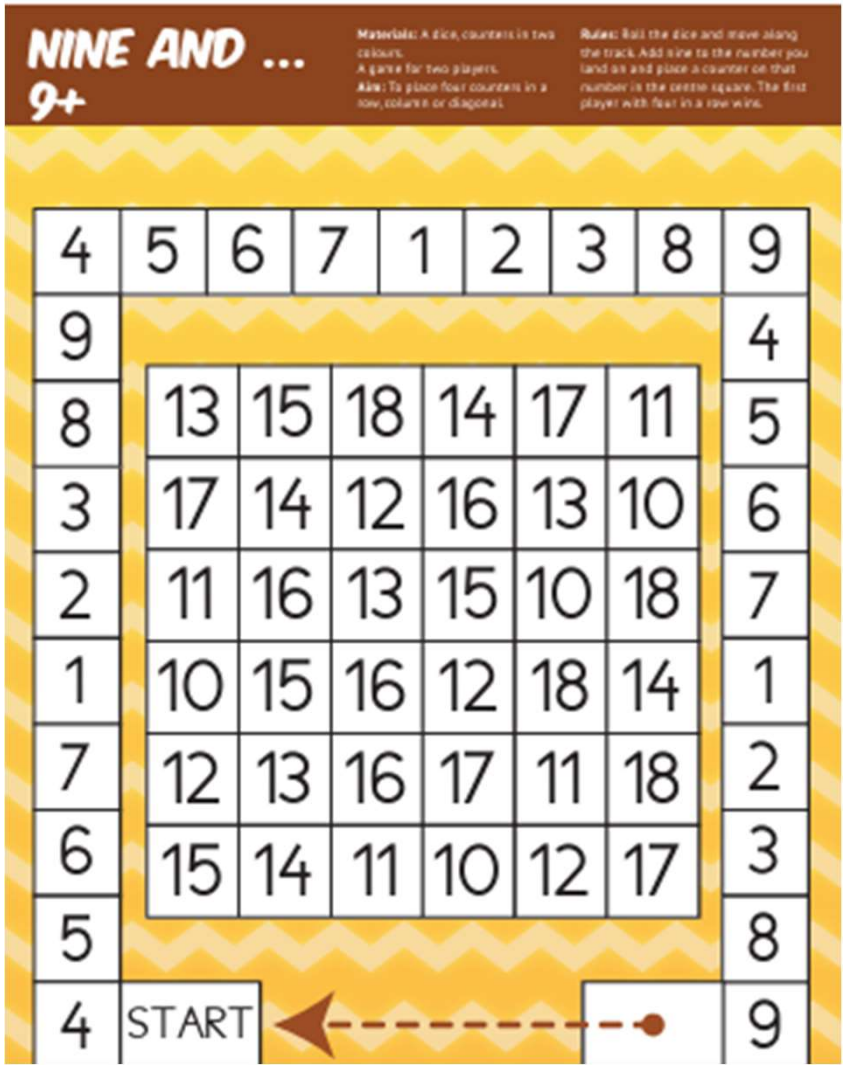


Build to the next ten

Extending and applying strategies

Build to the next ten

Build to ten strategy



Count all/ take away Foundation

Using materials to model adding and subtracting. (stories/ recording/ picture/ materials)

Build to 5- make and break 5 in many ways. List and record.

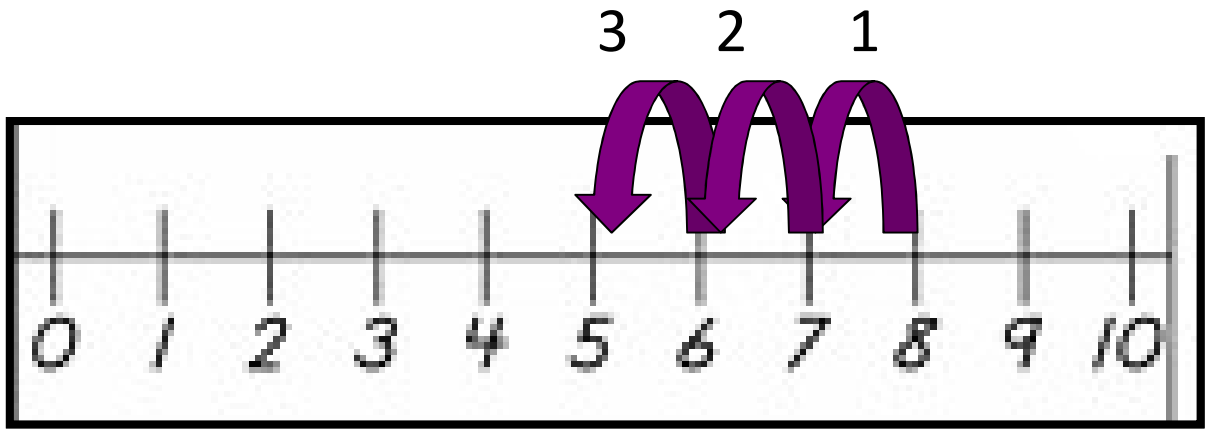
5+0

4+1

3+2 etc.

Small doubles 0-5 (using tens frames/ bunny ears)

- **Count Back** (Year 1)
  - Count back from the ***largest*** number
    - **8-3=5**

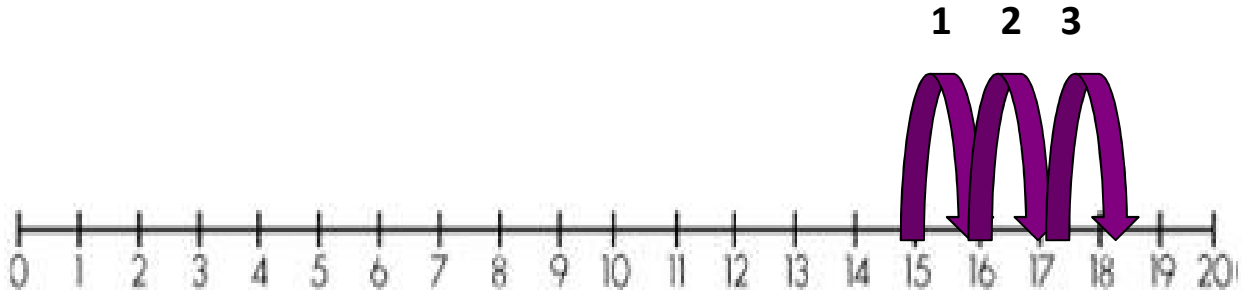


- ***Count back when the difference is small***

• Count Up To (Year 1)

- Count up to the largest number ***from the smallest number***

- **18-15=3**



- ***Count up when the difference is large***

Subtraction Track

Write numbers 0 , 1 , 2 , 3 , 4 , 5

Roll two dice and cross off the difference between the two . First to cross off all numbers is the winner.

Foundation: get out largest number rolled and place on tens frame- remove/ take away smaller number rolled

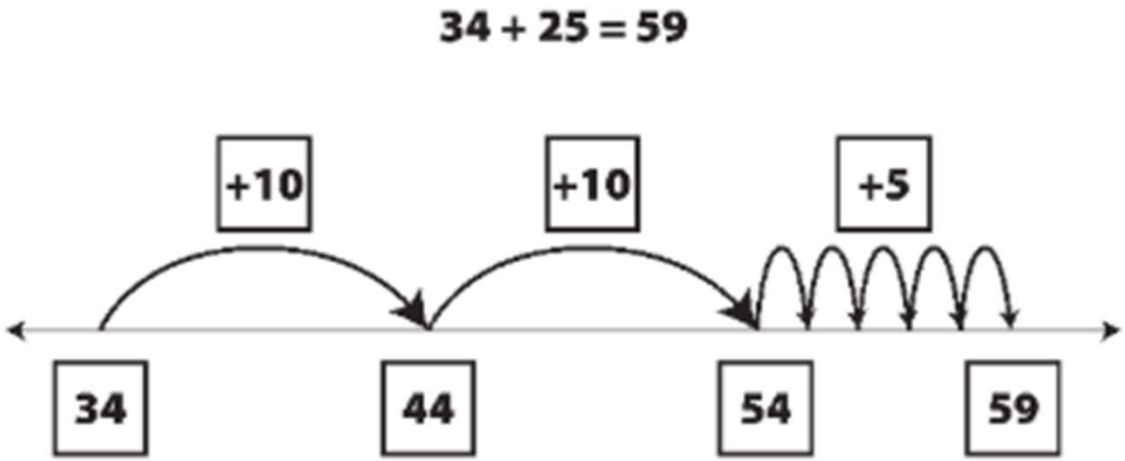
Shopping catalogues

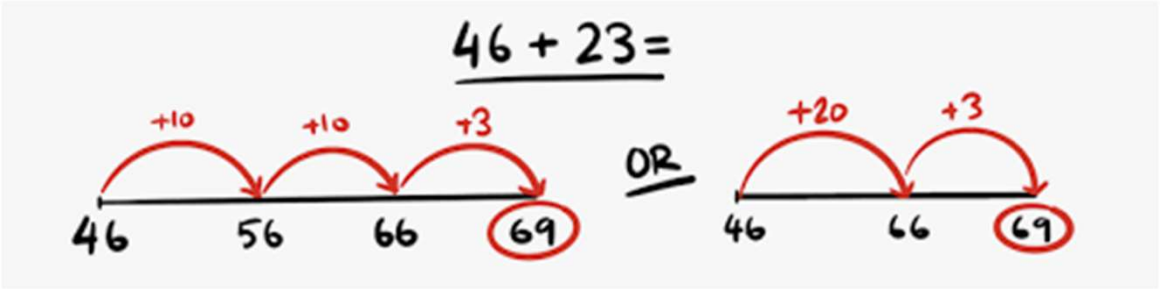
- Choose two items from the catalogue and explain how you could find the difference between the two prices by counting up from the lowest price.

$17- $ 14 =

Two digit Addition/subtraction (Year 2)

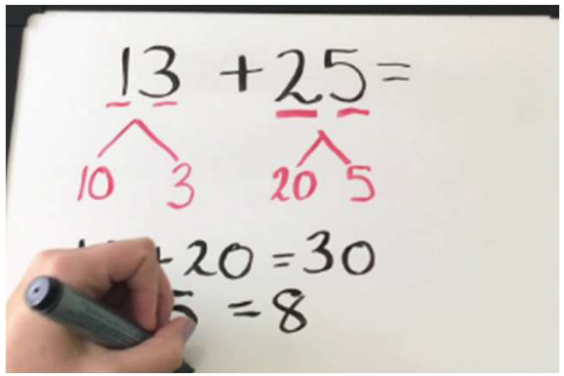
- Jump strategy – count on in tens/ ones. A number line is used to keep track of the jumps.

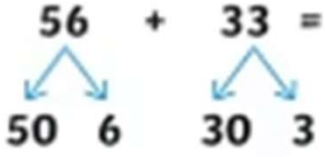




Split strategy (year 2)

- This is one that uses place value and is great for addition and subtraction where there is no renaming. It can cause problems if students only use this strategy .
- The split strategy is when you split a number into parts and add each part separately. This is useful for large numbers.

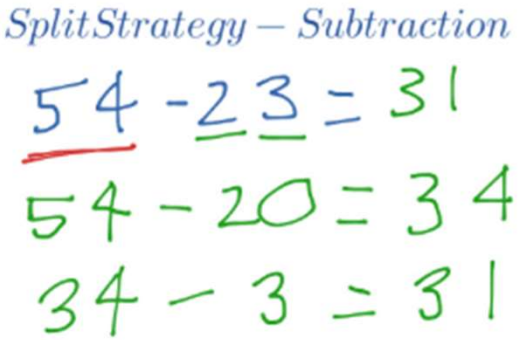




50 + 30 = 80

6 + 3 = 9

80 + 9 = 89



What can you do?

Ask them what they learnt today?

Tell me about your thinking.

How did you solve it?

Play games with them

Talk about the maths in their every day life

Praise and encourage their attempts.