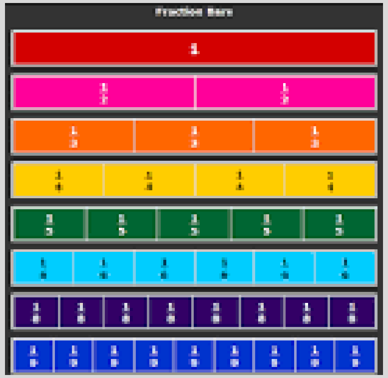
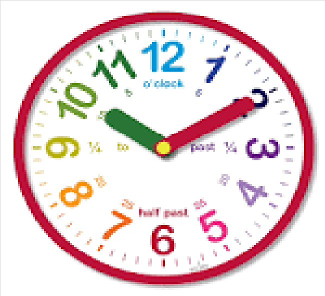
Beaconsfield Primary School
Year 4,5 and 6

Mathematics
Open Morning

Maths at home





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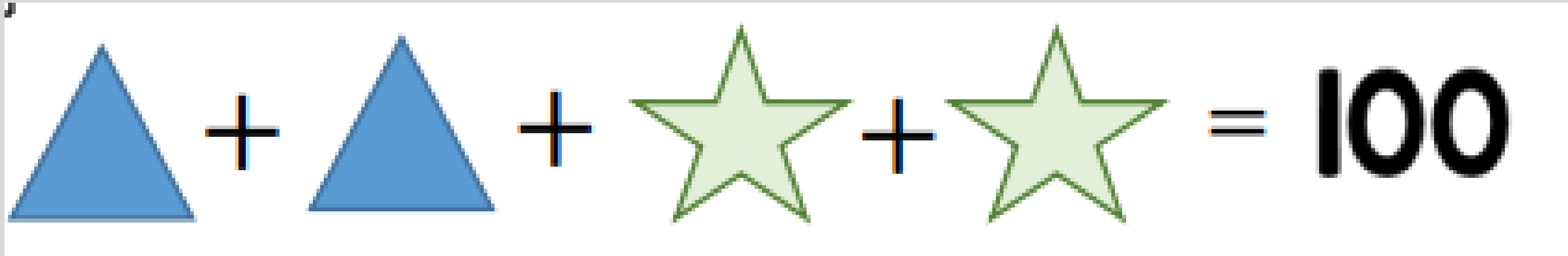
Aims for the workshop today

- To have some fun with maths
- To consider why learning basic skills is so important
- To look at some of the strategies used in school
- To think about ways, you can support your children at home.
- To ask any burning questions.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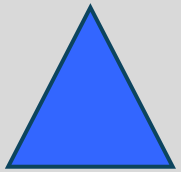
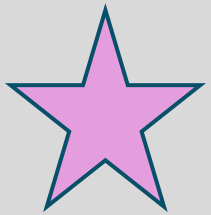
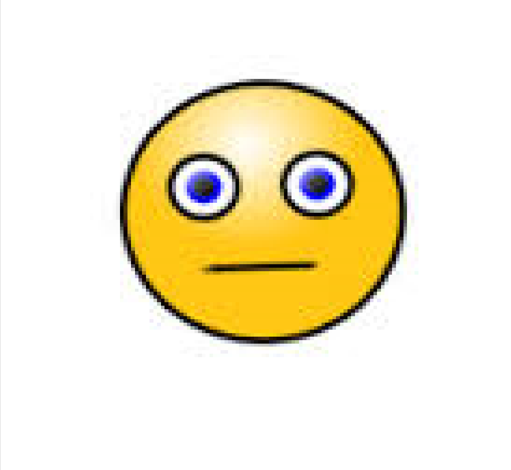
 = ______

 = ______

On a scale of one to ten, how much do you honestly enjoy mathematics?



Start with a Growth Mindset

Do you ever hear yourself saying "I'm really bad at maths" or "I just didn't get maths in school"?

It's difficult to understand just how much children will pick up on any negativity towards particular subjects from their parents. Unfortunately, this can be a real barrier to their learning. We advise parents to try and use positive language around their children such as "Don't worry, it's okay to make **mistakes**, we all do."

Also, be as patient as possible with them when they're doing their homework. You may not mean to be negative, but your children may take it to heart. Positivity can go a long way to improving their attitude towards maths!

RESEARCH

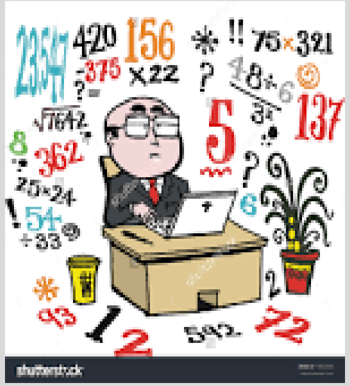
- Research has shown that parental involvement has a significant impact on a child's development of number skills.

- Sadly, many adults feel anxious when talking about the topic of mathematics and lack confidence.

National Curriculum aims for children

- To become *fluent* in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop *conceptual understanding* and the ability to recall and apply knowledge rapidly and accurately
- *To reason* mathematically by following a line of enquiry, form relationships and generalisations, and developing an argument, justification or proof using mathematical language
- To solve problems by *applying* their mathematics knowledge to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

At our school we aim for our children:



- To be an ***active*** participant in their own learning.
- To be build ***confidence*** with numbers.
- To be ***fluent*** in their mathematics at the appropriate level.
- To be able to ***reason*** about their learning using the correct mathematical vocabulary.
- To be able to *apply* their skills and knowledge as they progress, through ***sustainable*** learning.
- *To develop an appreciation that mathematics is a key skill that equips them for life.*
- To *enjoy* mathematics

Why learning basic skills is so important

Counting is a crucial skill!

Why?

- Helps pupils to make sense of the number system at all stages; whole numbers, decimals and fractions.
- Helps them to calculate.

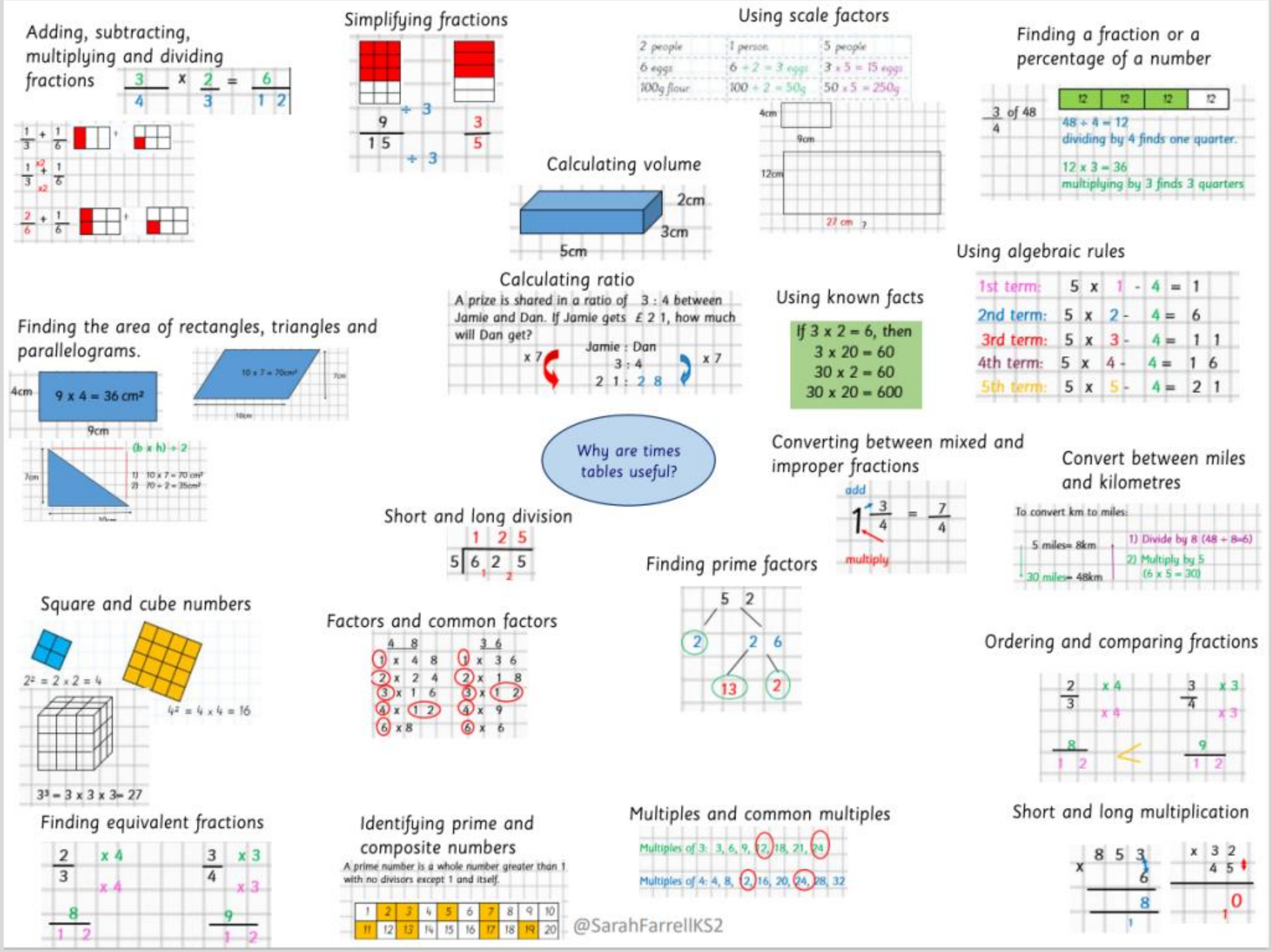
Counting is Crucial

Counting on and back in different steps is one of the most important things you can do with your child.

This is the basis for times tables.

Small cakes cost 25p each plus 25p for a bag.
Jay paid £3.50 for a bag of cakes.
How many cakes did he buy?

Why are times tables useful?



Times tables expectations

- Year 2: x 2, x 5,   x 10
- Year 3: x 3, x 4,   x 8
- Year 4: x 6, x 7,   x 9 , x 11,   x 12

In June, Year 4 will sit national statutory Multiplication tables Check.

- The pupils are asked 25 questions on times tables 2 to12.
- They will have 6 seconds to answer each question.
- They will answer the test either on a computer or an i-pad.
- It is important that they practise times tables regularly so that they feel prepared.

Use maths talk every day

Talking about maths is really important for your child's mathematical development. As your child is at KS1 level, you want to start off with the basics – don't overwhelm them.

Whenever you have the opportunity, try to include maths talk in their lives. This is easily done when they are playing with physical objects as you can reinforce their counting skills. For example,

How many pennies are you holding?

What shape is that object?

When counting, reinforce the last number they counted as this can help their mathematical development further, for example "one, two three…three cars." Just like children's TV shows do.

7 Symbols

-
subtraction

<
Less than

>
More than

+
addition

=
Equals to

X
multiplication

÷
division

Strategies used in school

The concrete

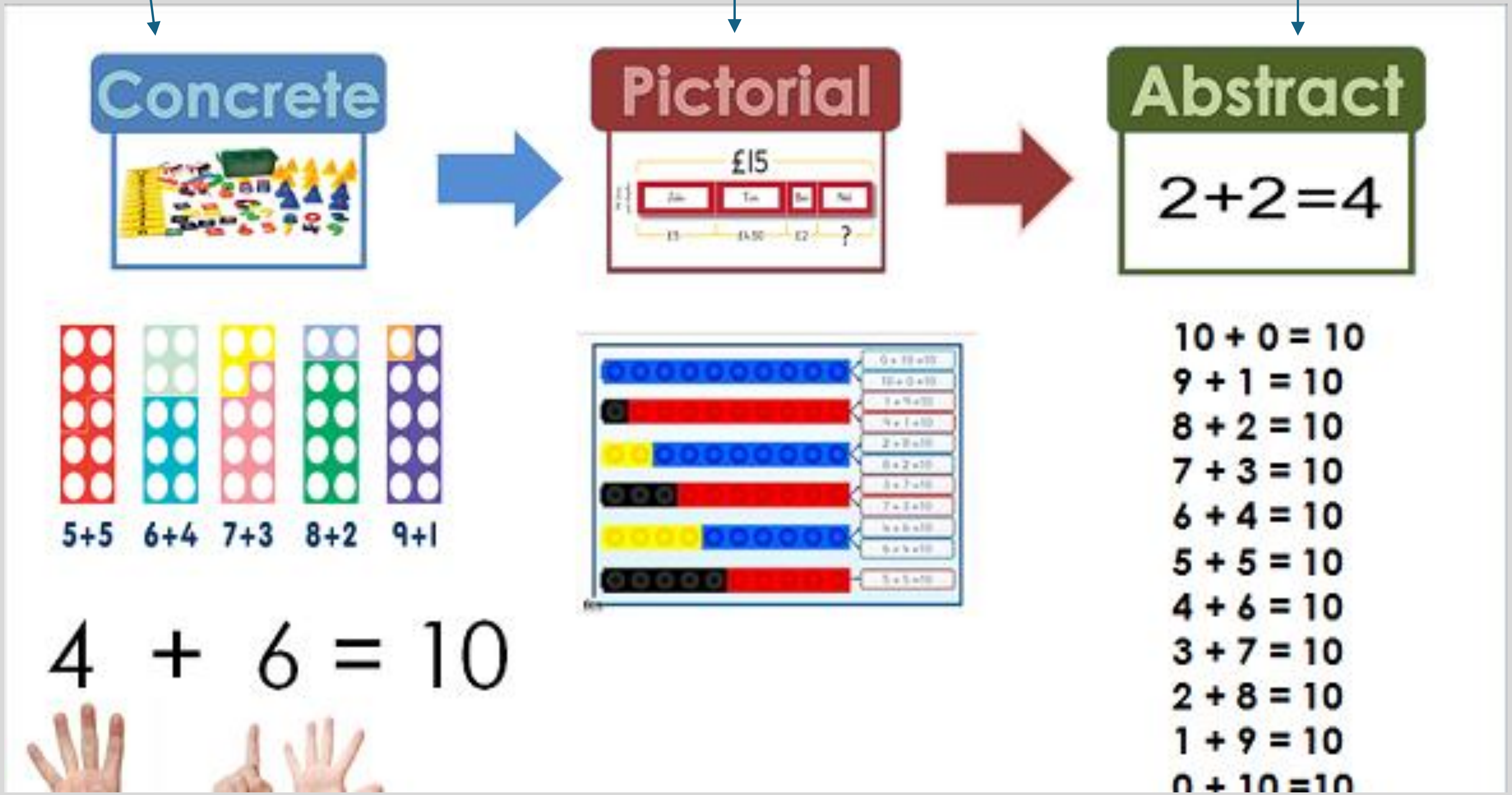
- Counters
- Dienes
- Place value counters
- Numicon
- Lots more…

At Beaconsfield, we use CPA approach

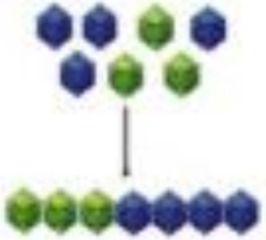
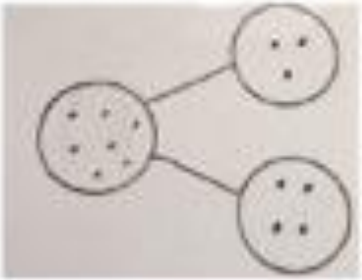
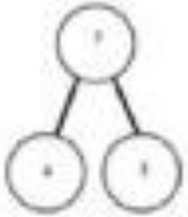
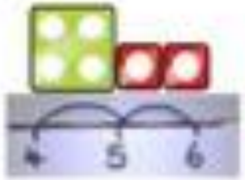
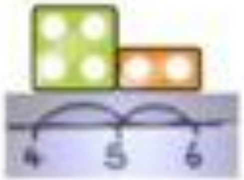
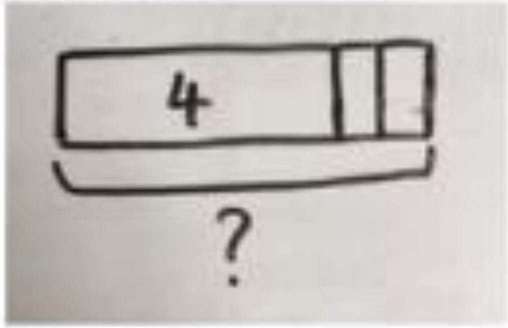
Doing stage

Seeing stage

Symbolic stage



Concrete Pictorial Abstract

Concrete	Pictorial	Abstract
Combining two parts to make a whole (use other resources too e.g. eggs, shells, teddy bears, cars). 	Children to represent the cubes using dots or crosses. They could put each part on a part whole model too. 	4 + 3 = 7 Four is a part, 3 is a part and the whole is seven. 
Counting on using number lines using cubes or Numicon.   	A bar model which encourages the children to count on, rather than count all. 	The abstract number line: What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2? 4 + 2 

Solve this KS2 test question.

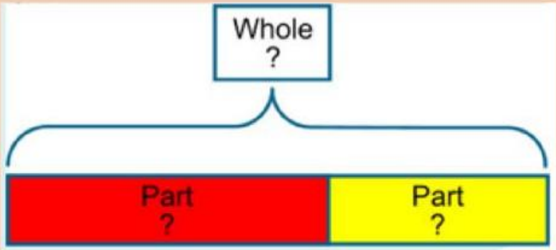
In a class, 18 of the children are girls.

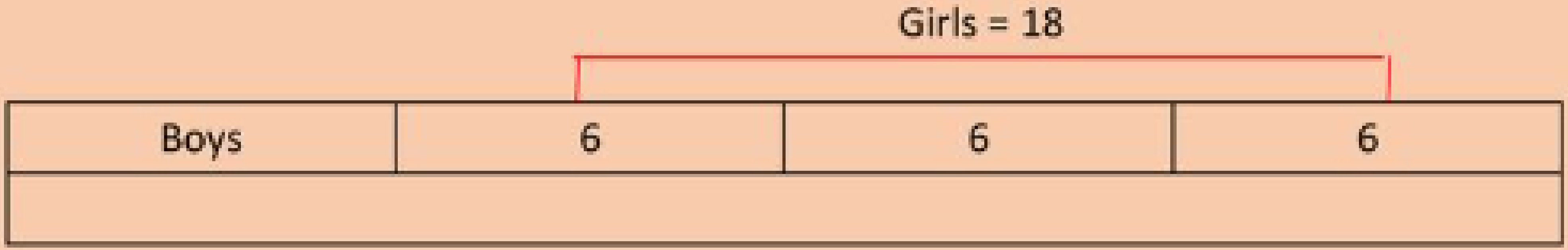
A quarter of the children in the class are boys.

Altogether, how many children are there in the class?

Show your working

The bar model





Multiplication

Solve… $6 \times 23 =$

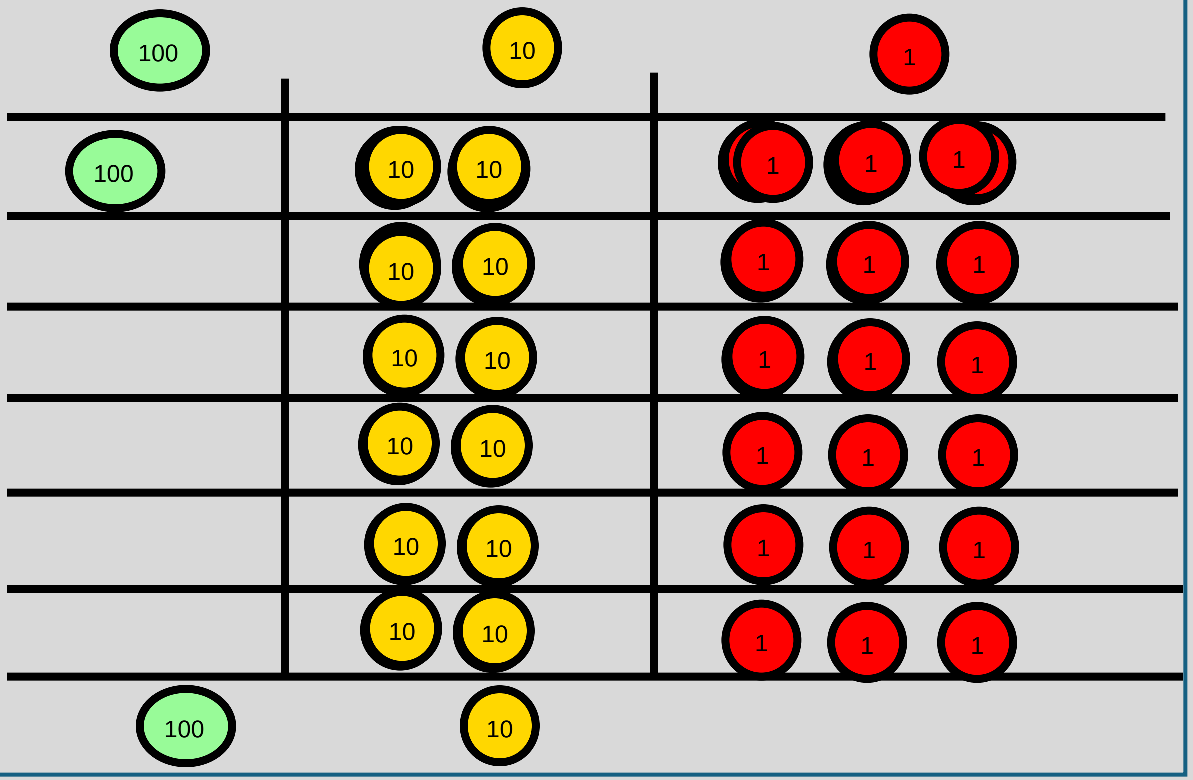
Model

Calculations

Multiplication

Solve… 6 x 23 =

Model



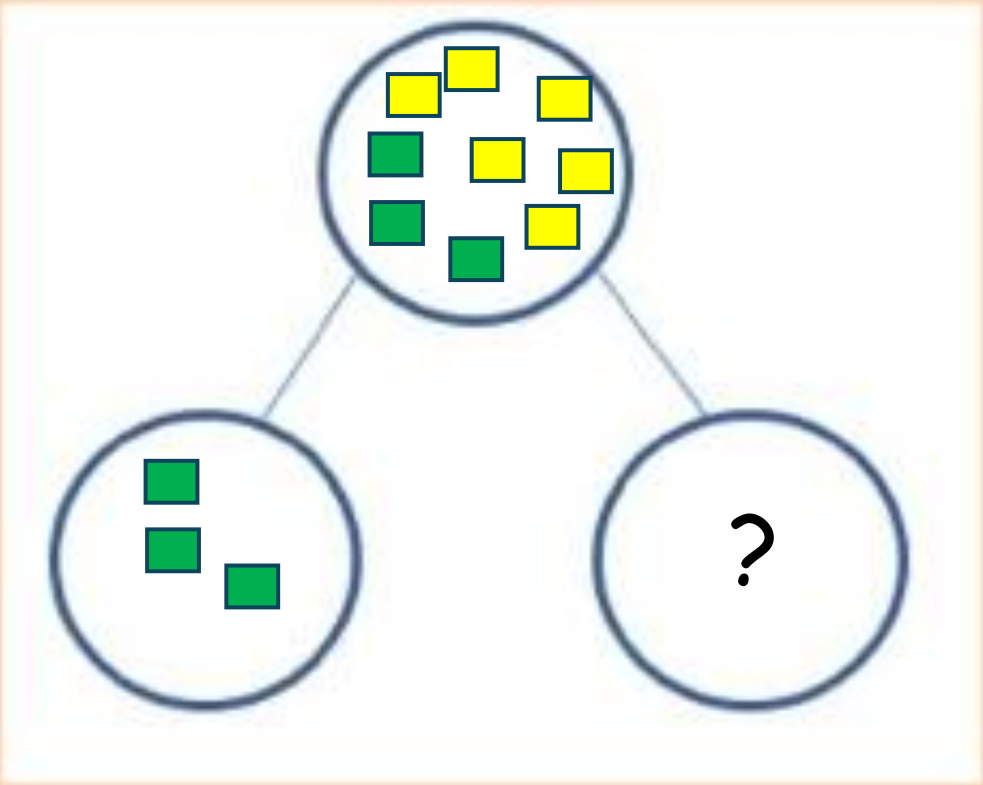
Calculations

6 x 23 =

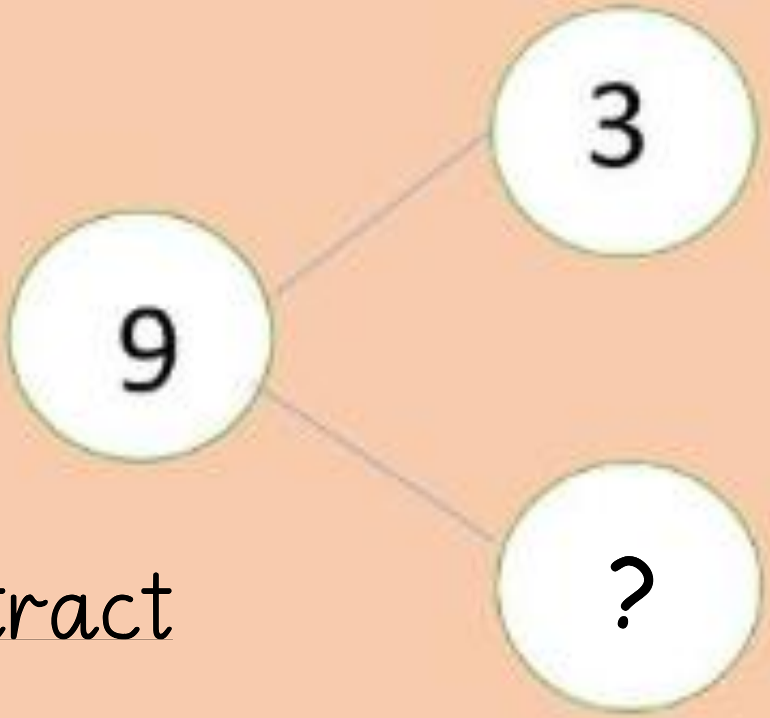
$$\begin{array}{r} 23 \\ \times \quad 6 \\ \hline 138 \\ \hline {\scriptstyle 1\,1} \end{array}$$

Part part whole model

Concrete



Pictorial



Abstract

3 + ___ = 9

Ways you can support your children at home

Play maths games together

Games are a great way to bond with your children, but also many games use mathematical and logical skills that your children will need in later life. Even a simple game such as a jigsaw puzzle helps children to develop logical and spatial awareness skills. Furthermore, games like snakes and ladders enable children to count the rolls of the dice, which helps develop their counting skills.

Money

- Saving and having a coin collection
- Shopping and having own purse.
- How many ways could we make...
- Counting the coin drops into a cup or jar to encourage counting in 10p, 20p 30p

Measurement

- Using a ruler - drawing a picture with it, measuring the sections, using the ends & scale correctly
- Comparing weights when baking or cooking
- Telling the time - having their own watch
- Estimate & compare – longer/shorter/taller than, heavier/lighter than vocabulary

Games and ideas

- Keep maths fun!
- Sudoku puzzles, logic games etc. are far more valuable for helping children with their maths.
- Shopping – find me the cheapest tin of beans, calculate change
- Walking – house numbers, number of steps, cars driving by
- Cooking – doubling/halving quantities, measuring
- Board games and card games
- Problem solving questions
- Guess the number games

Ask questions!

Props around the home

- Practise telling the time with your child. Use both digital and analogue clocks. Ask your child to be a 'timekeeper' (e.g. tell me when it is half past four because then we are going swimming).
- A traditional wall calendar-Calendars help with counting days and spotting number patterns
- Board games
- A pack of playing cards- Card games can be adapted in many ways to learn about number bonds, chance, adding and subtracting
- Measuring Jug-Your child will use them in school, but seeing them used in real life is invaluable. Also, useful for discussing converting from metric to imperial

- Dried beans, Macaroni or Smarties- for counting and estimating
- A tape measure and a ruler- Let your child help when measuring up for furniture, curtains etc
- A large bar of chocolate (one divided into chunks) - a great motivator for fractions work
- Fridge magnets with numbers on- can be used for a little practice of written methods
- Indoor/outdoor Thermometer- especially useful in winter for teaching negative numbers when the temperature drops below freezing
- A dartboard with Velcro darts- Helps with doubling, trebling, adding and subtracting.

Real Life Problems

- Go shopping with your child to buy two or three items. Ask them to work out the total amount spent and how much change you will get.
- Buy some items with a percentage extra free. Help your child to calculate how much of the product is free.
- Plan an outing during the holidays. Ask your child to think about what time you will need to set off and how much money you will need to take.
- Use a TV guide. Ask your child to work out the length of their favourite programmes. Can they calculate how long they spend watching TV each day / each week?
- Use a bus or train timetable. Ask your child to work out how long a journey between two places should take? Go on the journey. Do you arrive earlier or later than expected? How much earlier/later?
- Help your child to scale a recipe up or down to feed the right amount of people.
- Work together to plan a party or meal on a budget.
- Let your child help with cooking at home. Help them to measure ingredients accurately using weighing scales or measuring jugs. Talk about what each division on the scale stands for.

Thank you for coming!