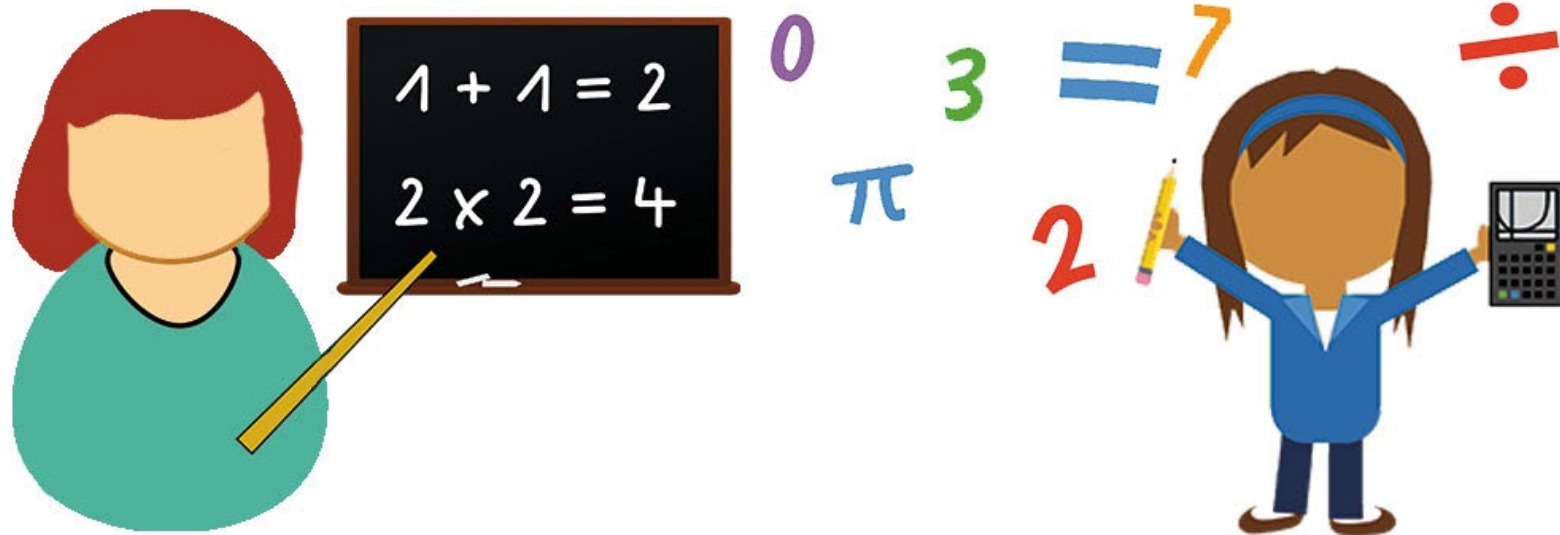
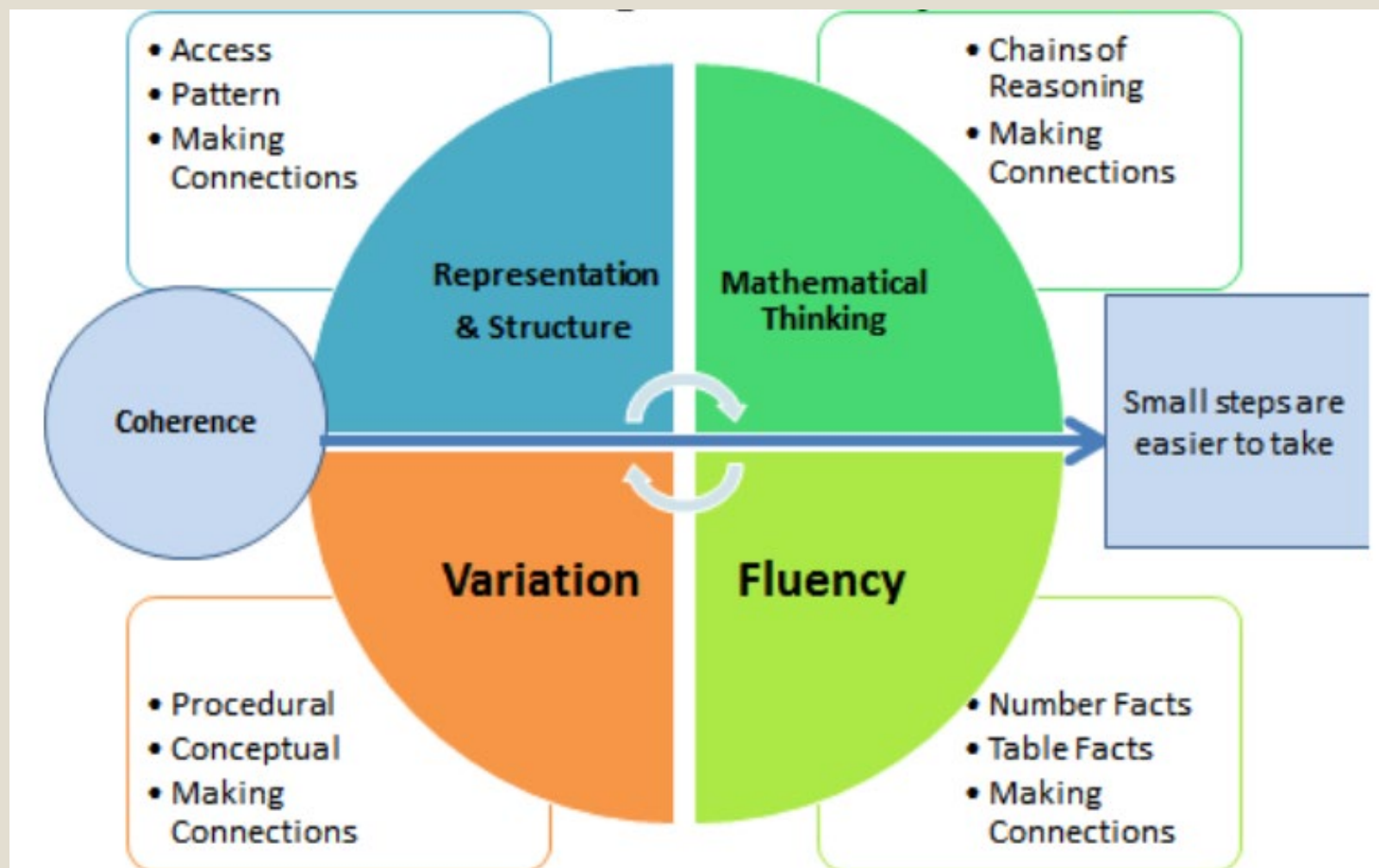


# MASTERY MATHS



# The big five ideas



# Our school aim

To allow all children the chance to be confident mathematicians.

How?

By making maths fun.

By helping children understand maths.

By challenging children to think deeper about mathematical problems.

By delivering high quality lessons.



# What our school does

- We have a clear lesson structure in place.
- We always start with a game.
  - We discuss key vocabulary.
- We use lots of partner talk and group discussion.
- We run extra fluency activities outside our maths lessons.

# Lesson structure

Game – this can be anything that will get the children engaged from the start of the lesson.

Have a go at this one...

Name \_\_\_\_\_ Date \_\_\_\_\_

LO: To find percentages of amounts.

## Penalty Percentages #1

Play with a partner.

Pick a percentage from the first shirt and an amount from the second shirt.

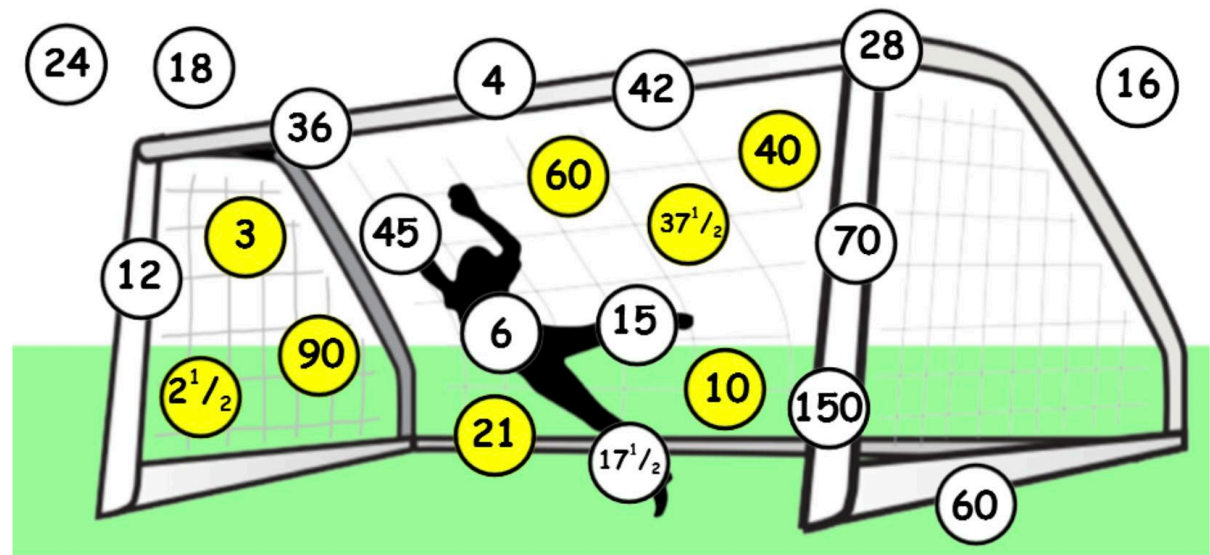
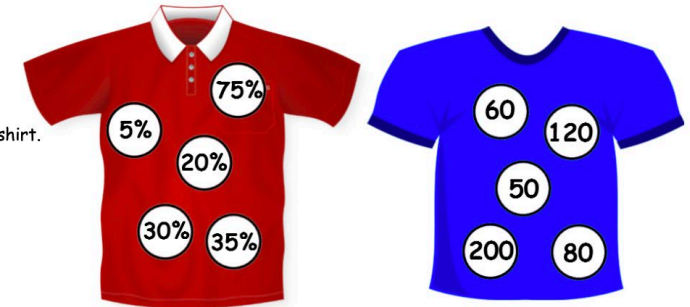
Calculate the percentage of the amount.

Show your partner so that they can check your work.

If you are right, find the answer.

Will it be a goal, a miss, hit the post or saved?

Take it in turns. Whoever has the most goals at the end wins.





Lesson structure

Next...

Key vocabulary

Always using the  
correct

language even if  
it's difficult.

# Vocabulary

Numerator

Denominator

Quotient

Multiply

Divide

Improper fraction

Mixed number fraction

## Lesson structure

Challenge – Get the children talking again...

Four children in a class were asked to find 20% of an amount, this is what they did:



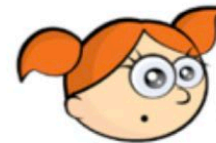
Whitney

I divided by 5 because 20% is the same as one fifth

I found one percent by dividing by 100, then I multiplied my answer by 20



Amir



Alex

I did 10% add 10%

I found ten percent by dividing by 10, then I multiplied my answer by 2



Jack

Who do you think has the most efficient method? Explain why.

Who do you think will end up getting the answer incorrect?

## Lesson structure

Input – What are we learning today? How do we do it?

Visual images

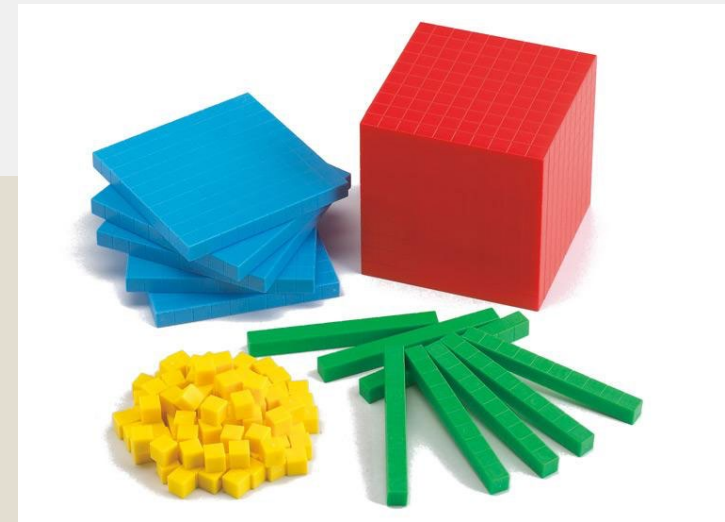
Concepts

Manipulatives

20

Make me a number sentence starting with 20 using one of the words below.

- Minus
- Less than
- Take-away
- Subtract
- Difference
- Calculation





## Lesson structure

Work –

We use mild,  
spicy and hot.

Includes fluency,  
problem solving  
and word  
problems

21/11/2019

L.O: To confidently add improper fractions.

Mild	Spicy	Hot
1.) $5/4 + 7/4$	1.) $6/4 + 9/4$	1.) $2 \frac{1}{4} + 4 \frac{1}{2}$
2.) $5/3 + 4/3$	2.) $5/2 + 4/2$	2.) $9/5 + 5/4$
3.) $8/7 + 9/7$	3.) $2 \frac{3}{4} + 1 \frac{1}{4}$	3.) $8 \frac{3}{4} + 9 \frac{2}{5}$
4.) $9/5 + 10/5$	4.) $4 \frac{1}{2} + 5 \frac{1}{2}$	4.) $11/5 - 3/2$
5.) $4/2 + 3/2$	5.) $3 \frac{1}{4} + 5 \frac{1}{2}$	5.) $11/8 - 9/3$

Mr Waring was very tired when he made this sheet and is unsure if some of his answers are correct. Can you work out the answers, correct Mr Waring's mistakes and explain what he did wrong?

## Lesson structure

### Plenary – Challenge

Open ended so all children can answer.

How many ways can you find 45% of 60?

Use similar strategies to find 60% of 45

What do you notice?

Does this always happen?

Can you find more examples?



Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_



1 Place in order  
1.444 1.71 1.6

2 4 } The gap is  
-10

3  $8.67 + 9.8 =$

4  $5.6 - 3.75 =$

5  $6 \times 2.37 =$

6  $43.8 \div 6 =$

7  $8.689 + 6.54 =$

8  $8.625 - 4.4 =$

9 
$$\begin{array}{r} 5.24 \\ \times 26 \\ \hline \end{array}$$

10 
$$\begin{array}{r} 22 \overline{) 6} \end{array}$$

CLIC 19 WK: 1

# Extra fluency

## Maths Key Skills

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Class/Group: \_\_\_\_\_

+

A: Place Value, Add, Subtract, Multiply and Divide

B: Fractions, Ratio, Proportion and Algebra

C: Geometry, Position and Direction

1. Write in words:  
**2,134,005**

6:1

11. Simplify this fraction fully:  $\frac{9}{36}$

6:7

21. Find the missing angle.



6:24

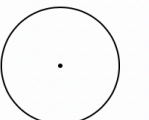
2. What is the value of the **3** in this number?  
3,954,682

6:1

12.  $1\frac{5}{6} + \frac{1}{4} =$

6:8

22. On the circle draw a line to label the **diameter**.



6:25

3. Round **8,523,912** to the nearest **ten thousand**.

6:1

13.  $\frac{2}{8} \div 4 =$

6:9

23. Find the value of **a**.



6:26

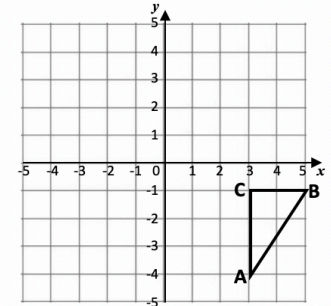
4. The temperature rises from  $-7^{\circ}\text{C}$  to  $9^{\circ}\text{C}$ . How many degrees has it risen?

6:2

14. What is the value of the **8** in this number:  
64.381

6:10

24. What are the co-ordinates of **A**?



6:27

5.  $2,355 \times 16$

6:3

15. Give your answer as a decimal:  
 $43.5 \div 6$

6:11

6. What is the remainder?  
 $3,300 \div 19$

6:3

16. Write this fraction as a **decimal** and a **percentage**.  $\left(\frac{3}{5}\right)$

6:12

7. Write **two common factors** of 30 and 45.

6:4

17. Find **20%** of 180.

6:13

8. There are **four prime numbers** between 10 and 20. What are they?

6:4

18. These shapes are **similar**.

6:14

9.  $85 - 8 \times 7$

6:5

19. 1 bag has **s** sweets. I get 2 bags. Write an expression for no. of sweets.

6:15

10. What is my change if I buy as many  $\pounds 5.98$  footballs as I can with  $\pounds 30$ ?

6:6

20. Which two numbers add together to make 25 and have a difference of 1?

6:17

25. Reflect triangle **ABC** in the **x-axis**.

6:28

**123 maths**  
Everyone Can Succeed!

**123 maths**

**Pupils, and teachers**

"Pupils really LOVE IT"

Bishops Stopford  
C of E School

"We think 123maths is BRILLIANT"

St George's C of E  
Primary School

# In conclusion

We allow the children lots of opportunities to talk about maths and to share ideas.

We try to include all children in each maths lesson.

We try to encourage the children to think deeper about their work.

We try to make maths fun!!!