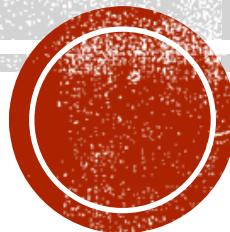


# **KS2 MATHS**



In this class

**MISTAKES**

ARE

**EXPECTED**

**RESPECTED**

**INSPECTED**

**CORRECTED**



# HOW IS IT STRUCTURED?

- Taught in blocks
- Revisited in Fluency lessons
- 2 x lessons per day – the main Maths lesson and the Fluency lesson
- Focus on the three main aims of the curriculum: fluency, reasoning and problem solving
- Focus on going *deeper* and being able to *prove* or *explain* rather than accelerating on to new content
- Whole class and talk partners
- Still using concrete, pictorial and abstract representations *but* concrete apparatus is used more in initial exploration and to ‘prove’ and ‘explain’.



# FLUENCY

- Fluency lessons focus primarily on arithmetic and times tables
- There will be a ‘Times Tables Check’ in Y4 from 2019
- If your children can quickly recall times tables facts then they can free up their working memory and other areas of Maths become less of a chore.
- Fluency isn’t just about memorisation and being able to recall facts and methods – real fluency needs deep conceptual understanding too! To be fluent you need to be: flexible, efficient and accurate.

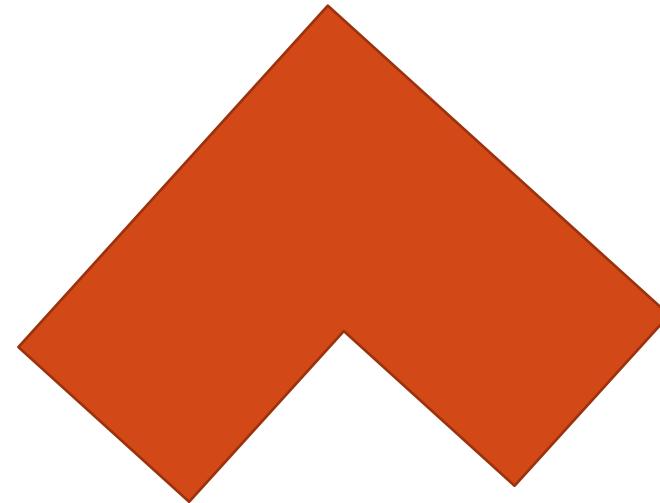
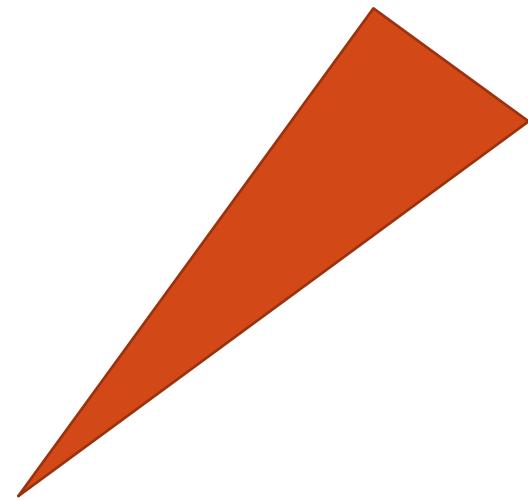
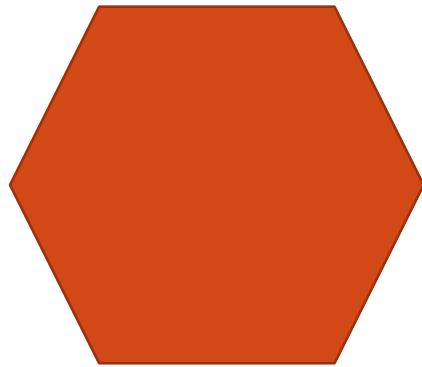


# TALK IS VALUABLE!

- Talk partners are a key tool in reasoning and problem solving. Everyone is thinking and everyone is trying to justify their thinking and prove themselves!
- Even better if talk partners disagree – can they convince each other?
- The whole class can access them on some level but the rapid graspers can also challenge themselves to really show off their understanding.



# WHICH IS THE ODD ONE OUT?



- Can you prove that each shape *could* be the odd one out?
- How many different ways can you find for them being the odd one out?



# SOMETIMES/ALWAYS/NEVER

- When you divide, your number gets smaller.
- A square is a rectangle.
- A pyramid has an odd number of edges.



# ERIC

- Eric says...

The mean average is  
always a whole number.

- Do you agree? *Prove it!*

In this class

**MISTAKES**

ARE

**EXPECTED**

**RESPECTED**

**INSPECTED**

**CORRECTED**



**IF THIS IS ANSWER, WHAT COULD THE  
QUESTION HAVE BEEN?**

- Parallel
- 14
- 3 lines of symmetry
- $\frac{3}{4}$



# EXPLAIN THE MISTAKES

Explain the mistakes

Mistake 1

$$20 - 16.9$$

4.1

Mistake 2

$$2000 - 70$$

1030

Mistake 3

$$537 - 294$$

$$\begin{array}{r} 537 \\ -294 \\ \hline 363 \end{array}$$



# MATHS LESSONS

Fluency

Reasoning

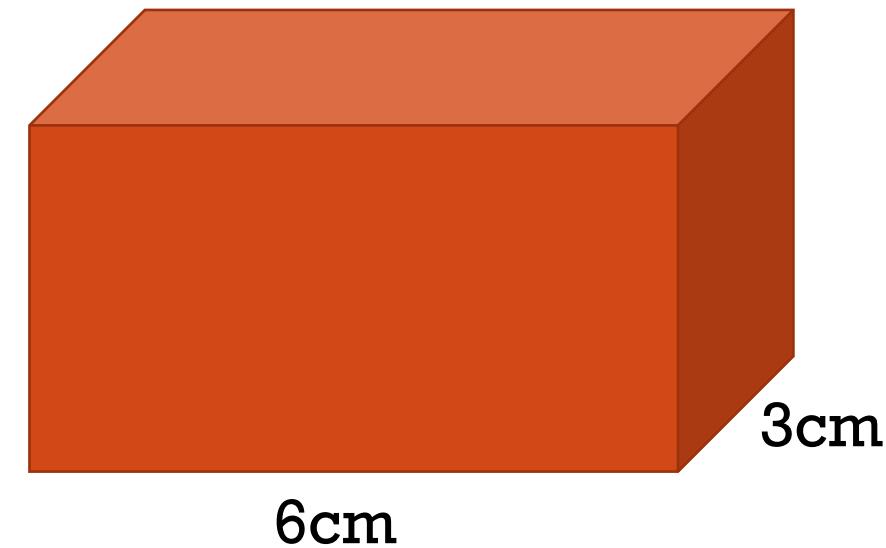
Problem Solving



# FLUENCY

Volume of a cuboid =  $l \times w \times d$

Find the volume of the cuboid:



# **REASONING**

- The volume of a cube is  $64\text{cm}^3$ . The volume of a cuboid is also  $64\text{cm}^3$ .
- Eric says, “I can definitely tell you the height, width and length of the cube but I can’t definitely tell you the height, width and length of the cuboid.”
- Explain Eric’s answer.



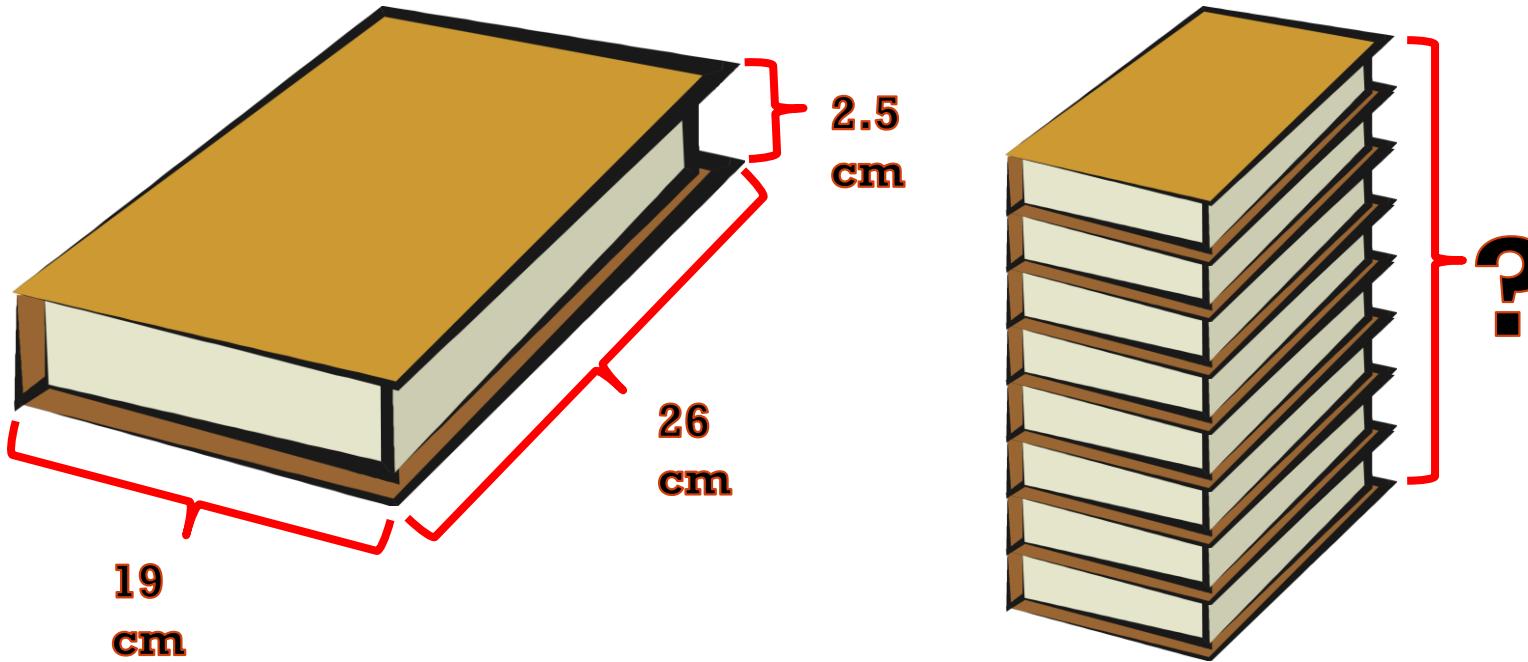
# PROBLEM SOLVING

- What could the dimensions of the cuboid be?
- How many different options are there?
- Convince me you have found all of the possible answers.



# WORD PROBLEMS

- A book is 19 centimetres wide, 26 centimetres long and 2.5 centimetres thick. There are 8 similar books placed on the top of each other. What is the volume taken up by them?



- $19 \times 26 \times 2.5 = 1235\text{cm}^3$
- $1235 \times 8 = 9880\text{cm}^3$