Welcome

Year 6 Maths Workshop 2022/23

Mr Williams & Mr Humphrey

St.Teresa's
R.C. Primary School

Today, we will be looking at…

1. What does maths look like nationally?
2. Arithmetic
3. Specific mathematical topics;
    a. Fractions
    b. Long Multiplication
    c. Long Division
4. Vital base knowledge (Maths Knowledge Tree).
5. SATs and the importance of arithmetic.
6. How to tackle reasoning/word/multi-step problems.

What does maths look like nationally?

Current picture…

Nationally

- **71%** of Year 6 pupils achieved the **Expected Standard** in May 2022 in Mathematics
- **22%** of pupils achieving **Greater Depth**

St Teresa's

- **91%** of our 2022 Year 6 cohort achieved the **Expected Standard**
- **50%** of pupils achieved **Greater Depth**

So what does this tell us?

- Our **CPA** (**C**oncreate, **P**ictorial and Abstract) **approach** to the teaching and learning of the mastery of maths across the school is **yielding positive results.**

- There's still **room for improvement** nonetheless.

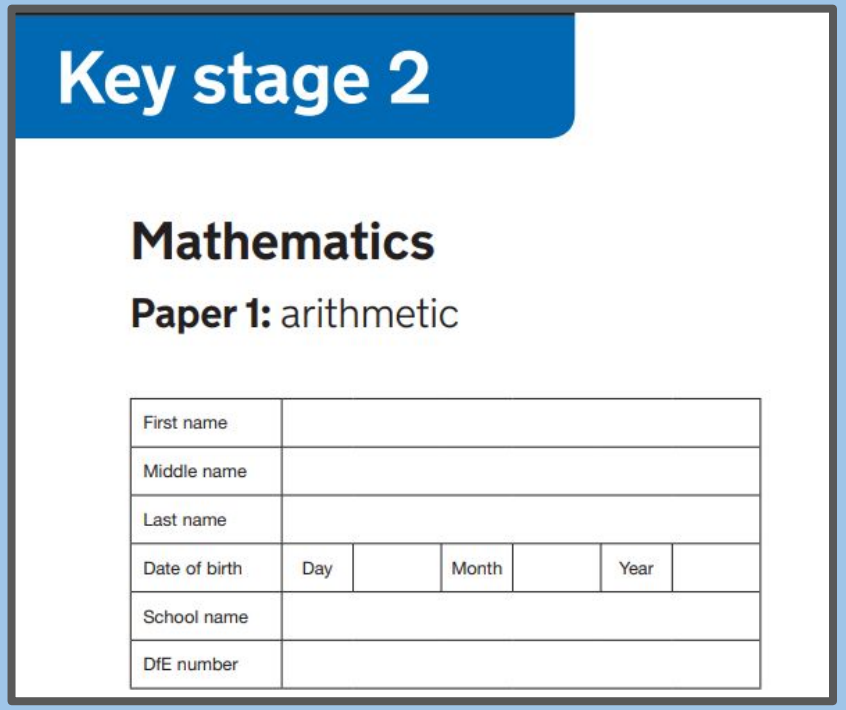
- The **application of multiplication facts** still remains one of the most **fundamental areas** of knowledge that **underpins** a large percentage of the **KS2 mathematical curriculum** and their **further education**.

- The more secure children are with their **multiplication and division facts**, the **greater** their **chance** of achieving the **expected** and **beyond expected** standard in maths at the end of KS2

Arithmetic

Arithmetic

- When your children take their SATS in May, they will sit three maths papers.
- One arithmetic paper and two reasoning papers.
- These arithmetic papers are out of 40 marks and the children will have 30 minutes to complete these.
- Let's take a look at a smaller sample paper to get an idea…



Key stage 2

Mathematics

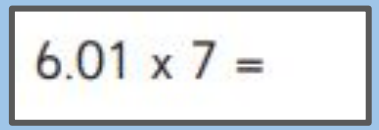
Paper 1: arithmetic

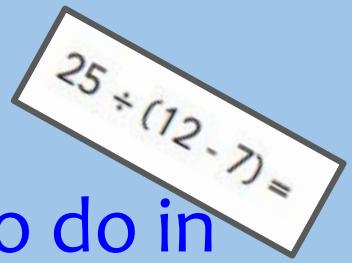
First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
School name						
DfE number						

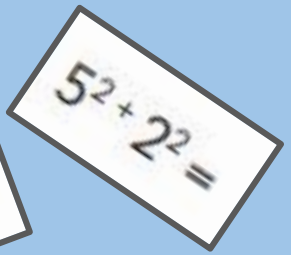
How was it?

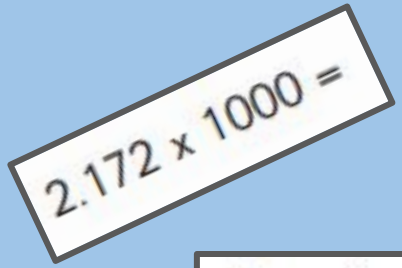
What type of things do we need to be able to do in order to be successful?

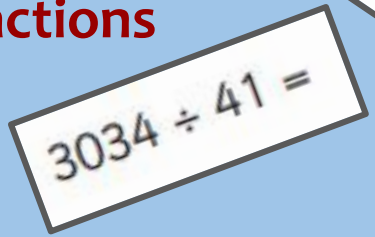
- **Add and subtract fractions**
- **Multiply Fractions**
- **Find percentages**
- **Add, Subtract, Multiply and Divide (whole numbers and decimals)**
- **X and divide by 10,100,1000**
- **Square and cubes**

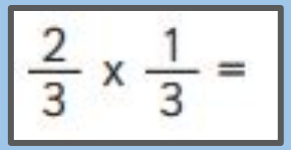


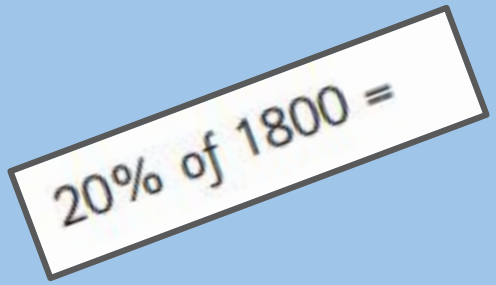


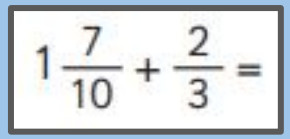












Specific mathematical topics;

Fractions

Long Multiplication

Long Division

Fractions

Adding and Subtracting Fractions

The Year 6 Fraction Bible

All the methods you need to be able to solve any fraction question in your arithmetic paper.

You must know these off by heart.

Key Skills

- *Finding common denominators*
- *Improper to mixed fraction and vice versa*

Methods

- *Add and subtract fractions*
- *Multiply two fractions*
- *Multiply fractions by whole numbers*
- *Multiply mixed fractions by whole numbers*
- *Divide fractions by whole numbers.*

E.g

$$\frac{2}{3} + \frac{3}{4} + \frac{2}{6} =$$

Your turn…

$$\frac{1}{4} + \frac{4}{5} + \frac{5}{8} =$$

Column Multiplication

E.g -

256
x 16

Your turn

465
x 21

Long Division

E.g -

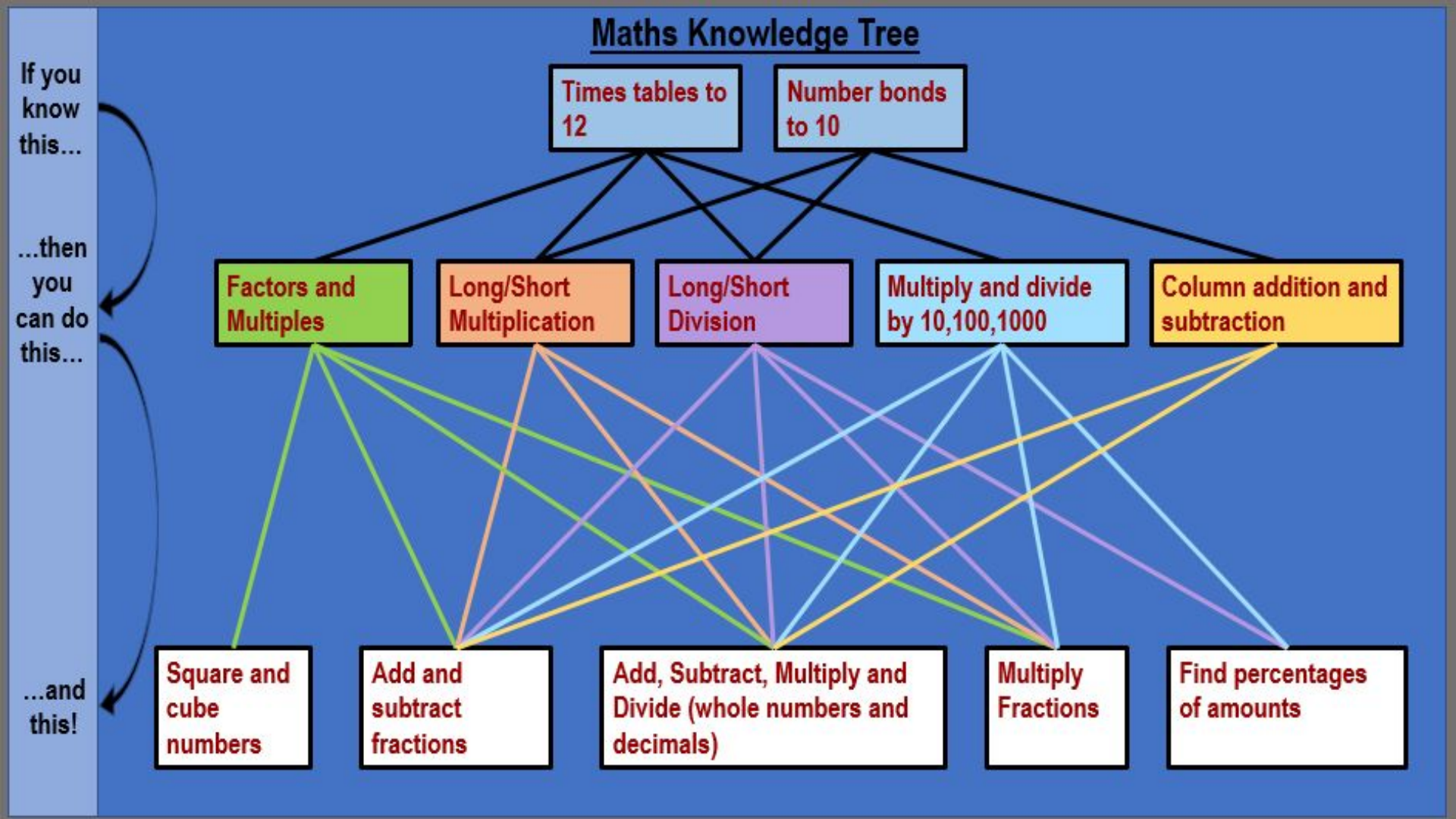
$378 \div 18 =$

Your turn

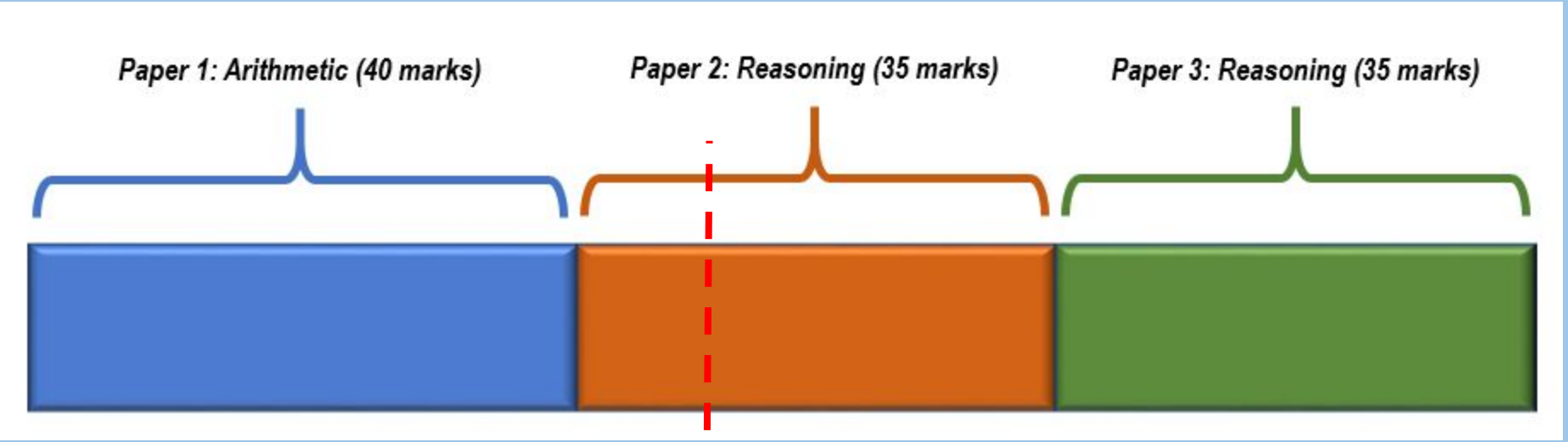
$684 \div 19 =$

$923 \div 71 =$

Vital Base Knowledge


Maths Knowledge Tree
If you know this...
...then you can do this...
...and this!
Times tables to 12
Number bonds to 10
Factors and Multiples
Long/Short Multiplication
Long/Short Division
Multiply and divide by 10,100,1000
Column addition and subtraction
Square and cube numbers
Add and subtract fractions
Add, Subtract, Multiply and Divide (whole numbers and decimals)
Multiply Fractions
Find percentages of amounts

SATs and the Importance of Arithmetic



Pass mark (56)

This can go up or down by a couple of marks.

Achieving 35-40 marks in the arithmetic test gets you so close to the pass mark.

How to tackle reasoning/word/multi-step problems.

Reasoning
Word Problem 1

Layla makes jewellery to sell at a school fair.

Each bracelet has **53** beads.

She makes **68** bracelets.

Each necklace has **105** beads.

She makes **34** necklaces.

How many beads does Layla use **altogether**?

beads

3 marks

Reasoning
Word Problem 2

19 A machine pours 250 millilitres of juice every 4 seconds.

How many **litres** of juice does the machine pour every **minute**?

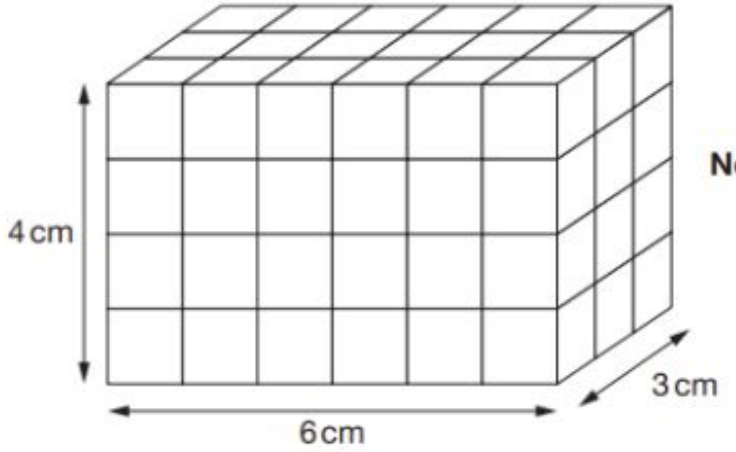
Show your method

litres

2 marks

Reasoning Word Problem 3

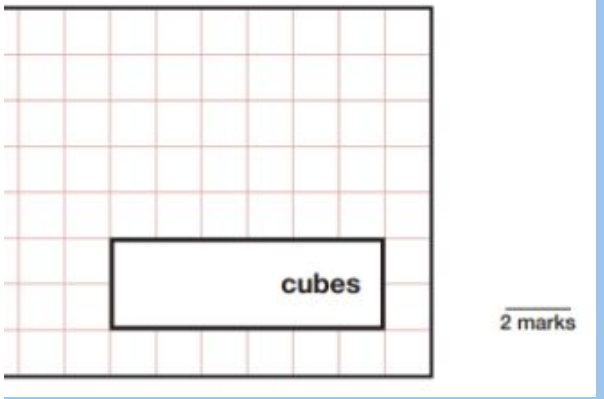
23 Amina made this cuboid using centimetre cubes.



Not actual size

Stefan makes a cuboid that is 5 cm longer, 5 cm taller and 5 cm wider than Amina's cuboid.

What is the **difference** between the number of cubes in Amina's and Stefan's cuboids?

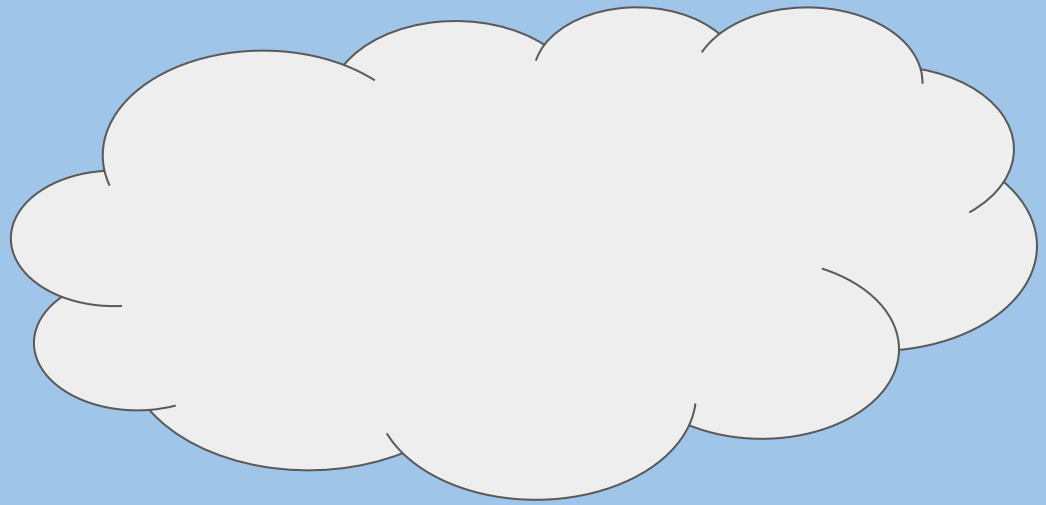


2 marks

The bubble questions

Tara thinks that to multiply a number by 15, you must multiply it by 1, and then 5.

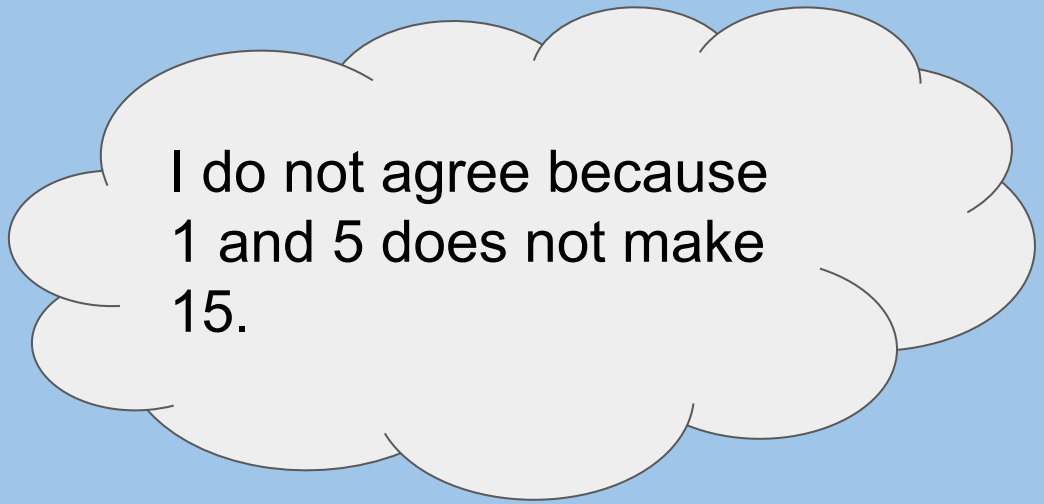
Do you agree?



The bubble questions - what NOT to do...

Tara thinks that to multiply a number by 15, you must multiply it by 1, and then 5.

Do you agree?



The bubble questions- What you SHOULD do

Point - are they correct or not?

Explain - explain (in words) the mistake they have made.

Prove - write down the correct answer (with working out!)

The bubble questions- What you SHOULD do

Tara thinks that to multiply a number by 15,
you must multiply it by 1, and then 5.

Do you agree?

I do not agree

Point

Explain

Prove

because when multiplying by a two digit number, you must find its **factors**. Tara has only used numbers that we write to make 15, she has not used factors.

The correct response would be to multiply by 3, and then 5 as 3 and 5 are **factors** of 15.

Thank You

Any questions?