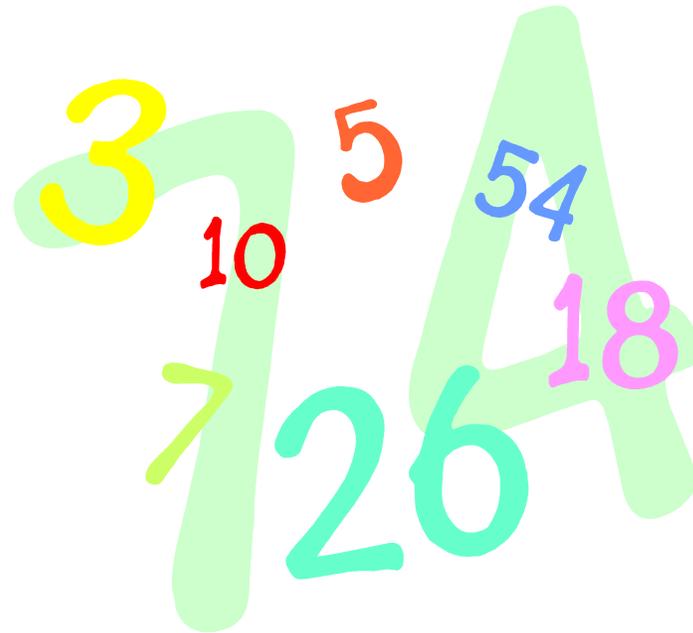




# Maths



Frieth CE Combined School

# Key Aims of the New Maths Curriculum

- **Fluent recall of mental maths facts** e.g. times tables, number bonds etc... and use of informal and formal written methods
- **Problem solving** - applying these skills to real-life contexts.
- **To reason mathematically** - children need to be able to **explain** the mathematical concepts with number sense; they must explain **how** they got the answer and **why** they are correct.

# Some Key Differences of the new maths Curriculum:

- **Five-year-olds are expected to learn to count up to 100** (compared to 20 under the old curriculum) and learn **number bonds to 20** (previously up to 10).
- **Simple fractions ( $\frac{1}{4}$  and  $\frac{1}{2}$ ) are taught from KS1**, and by the end of primary school, children should be able to convert decimal fractions to simple fractions (e.g.  $0.375 = \frac{3}{8}$ ).
- **By the age of nine, children are expected to know times tables up to  $12 \times 12$**  (previously  $10 \times 10$  by the end of primary school).

# Good practice in Maths today!

- Mental calculation skills are vital.
- Children need the ability to **estimate**.

e.g. If I have 18 sweets in one bag and 33 sweets in another bag, how many do I have altogether.



- Children can estimate by adding 20 and 30 and know that roughly the answer should be around 50.

# Good practice in maths

- All children need to learn maths in a **real life context**.

As well as knowing  $7 \times 7 = 49$ . Children need to be able to do the following:

There are 7 fields, each field has 7 sheep in them. How many sheep are there in total?

- Children need to be able to **explain** how they have calculated or solved a problem.
- In the new curriculum, informal and formal **written calculations** are taught at an earlier age. The mental methods are essential for supporting pupils understanding of these written calculations.

# Good practice in mathematics

- Connections are made between mathematics topic areas, other subjects and between objectives.
- Children are taught to reason mathematically so that they are able to consider if their answers are plausible.
- Children are taught to consider the most effective calculation method and approach to calculations.

# How do children learn the calculation methods?

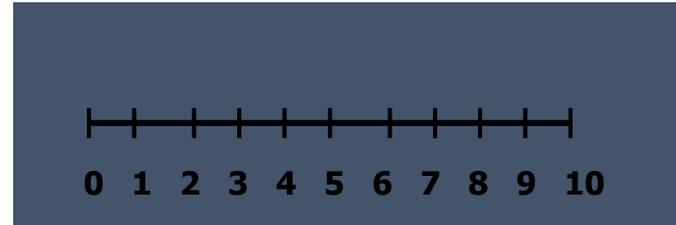
- **Counting** of objects and mental counting.



- Early stages of calculation with learning of addition and subtraction **number facts**, with recording.

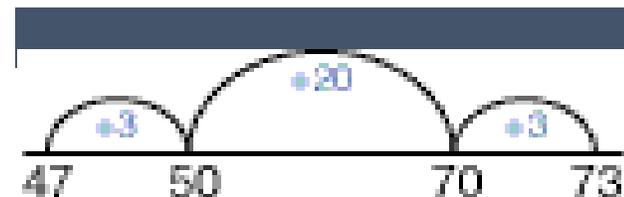
$$5 + 8 = \blacksquare \text{ or } 13 = \blacksquare + 5$$

- Work with **structured number lines**

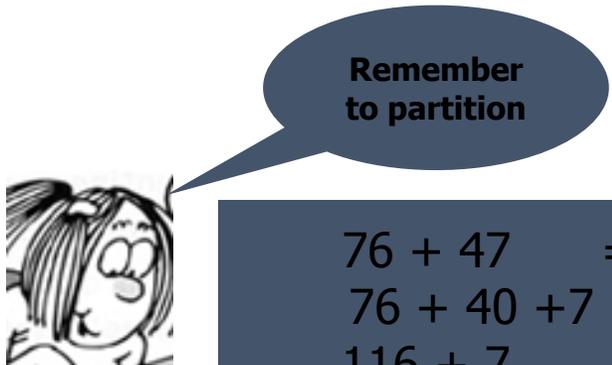


- Work with **larger numbers, unstructured number lines** and informal **jottings**.

e.g.  $47 + 26$



- **Informal written methods**, first with whole numbers and decimals.



**Remember to partition**

$$\begin{array}{r}
 76 + 47 = \\
 76 + 40 + 7 = \\
 116 + 7 = \mathbf{123}
 \end{array}$$


**I must remember to add the least significant digit first**

$$\begin{array}{r}
 368 \\
 + 493 \\
 \hline
 11 \\
 150 \\
 700 \\
 \hline
 861
 \end{array}$$

**(8+3)  
(60+90)  
(300+400)**

- **Formal written methods.**

$$\begin{array}{r}
 47 \\
 + 76 \\
 \hline
 123 \\
 \hline
 11
 \end{array}
 \qquad
 \begin{array}{r}
 368 \\
 + 493 \\
 \hline
 861 \\
 \hline
 11
 \end{array}$$

- With any calculation, teach children to **consider first whether a mental method is appropriate and remembering to estimate first.**

# How you can help at home

- A focus on **mental calculations**.
- The ability to **estimate**.
- To use maths in a **real life context**.
- To ask children to **explain** how they have calculated something using a method that suits them.
- Find out which **written calculations** your children are following using the progression booklet or the slides from this meeting.

# Task

- Look at the hand of cards you have on the sheets in front of you. At the end of each hand in progressive rummy, you need to add up what is left in your hand to add to the score card.

# Padding

- Add up your hand

# Snorkelling

- Which hand has the lowest score?
- Who is the person with the lowest score overall?  
Estimate and then add scores to the table.

# Diving

- What strategies did you use to add up each score?
- How many different strategies did you use?
- What is the quickest way to add up the scores in each hand? Explain your reasoning.
- Is it better to use a formal or an informal method? Why?

# Reasoning Strategies

'Mathematical reasoning, even more so than children's knowledge of arithmetic, is important for children's later achievement in mathematics' Nunes 2009

Spot the mistake/Which is correct?

What else do you know?/Use a fact

True or false? Explain

Convince me/ Prove it/ Explain your answer

Continue the pattern

Make up an example / write more statements/ create a question