## Maths

Key skills and knowledge that your child will need you to be aware of.

## Our aim for Maths:

## Concrete - Pictorial - Abstract (CPA)

Research shows that all children, when introduced to a new concept, should have the opportunity to build competency by following the CPA approach. This features throughout our schemes of learning.

## Concrete

Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing.


## Pictorial

Alongside concrete resources, children should work with pictorial representations, making links to the concrete. Visualising a problem in this way can help children to reason and to solve problems.

## Abstract

With the support of both the concrete and pictorial representations, children can develop their

$$
5+7
$$ understanding of abstract methods.

## Place Value



We use a range of concrete objects as well as pictures to ensure that the children truly understand the value of the numbers that we use.


## Number bonds

- It is important the children are confident with their number bonds to 10.
- We use this to be secure with number bonds to 20.
- We can then move on to number bonds to 100.



## Addition and Subtraction Fact Families



Complete the fact family to match the ten frames.

- We recall and use addition and subtraction facts to 20 fluently, and use related facts up to 100
$\qquad$ $+$ $\qquad$ $=18$

18 - $\qquad$ $=$ $\qquad$
$\qquad$ $+$ $\qquad$ $=18$
18 - $\qquad$ $=$ $\qquad$

I know that 3 ones plus 5 ones is 8 ones, so 3 tens plus 5 tens must be 8 tens.

## Addition and Subtraction

- Year 2 will learn how to add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

a 2-digit number and 10 s
-     - 

$33-20=$


- We will also be learning how to solve word problems:

- We will challenge the children to use their reasoning skills:


## Explain the mistake Tiny has made.

What is the missing number?

## Addition and Subtraction Exchanging:



Add the ones.
Add the tens.
Complete the addition.
$\square$

Max is working out 43-25
\#1ाmाT
TIIIITIT
THITm
THITITI
He exchanges 1 ten for 10 ones.

## Why number bonds are very important:

We add by making 10:


We add three 1 digit numbers using our number bonds to 10:

Fay is working out $9+4+1$
Here are her workings.

We add across a 10: $26+5=$


## Why number bonds are very important:

We subtract from a 10:

$$
\begin{aligned}
& 10-3 \\
& 20-3 \\
& 30-3 \\
& 40-3
\end{aligned}
$$

We subtract across a 10 :


## $\times 2 \times 5 \times 10$

## -Counting in $2 s, 5 s$ and $10 s$ are very important!

How many towers has she built?
How many cubes are in each tower? 2
How many cubes has she used in total? 12
$6 \times 2=12$ or $2 \times 6=12$

| 30 |  |  |
| :--- | :--- | :--- |
| 10 | 10 | 10 |

$3 \times 10=30$ or $10 \times 3=30$


## We then learn to divide by 2,5 and 10

0000
$\square \times 5=20$

$$
\square \div 2=12
$$



## Shape and measure

- Features and comparisons of 2D and 3D shapes (lines of symmetry)
- Measure length ( cm and m ), capacity ( ml and I ) and mass ( g and kg)
- Time - tell the time to half hour, quarter past, quarter to and 5 mins


