Polehampton Infant School – Year 2

Supporting your child with maths at home

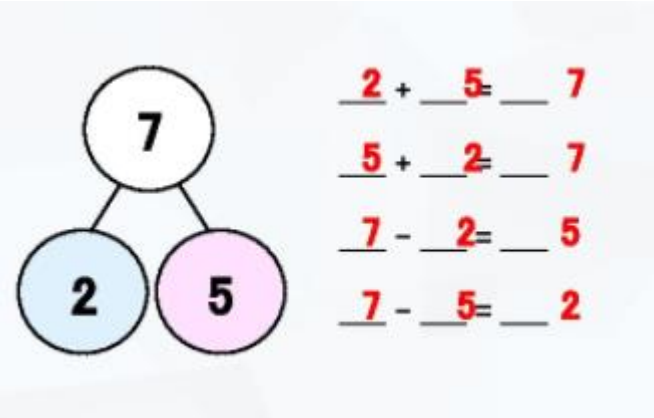
All children need to be confident in using their **number bonds** to ten and twenty (1+9, 2+8, 16+4,…). We encourage the children to look for these when adding. You could roll a die and ask your child to name the number bond to 10/20, practise this as quick fire questions in the car/on a walk etc.

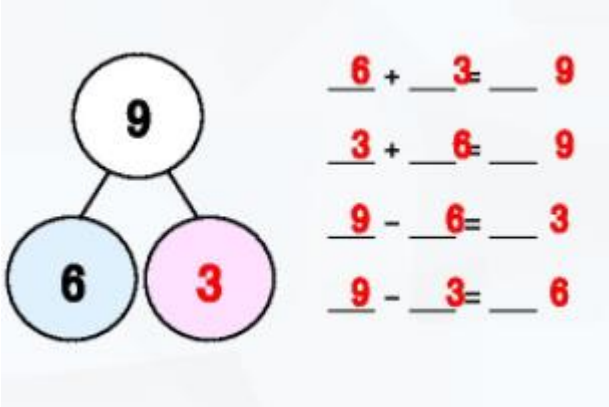
Partitioning numbers into tens and ones is another essential skill (eg 56 is made from 5 tens and 6 ones: 50 +6). This is very….

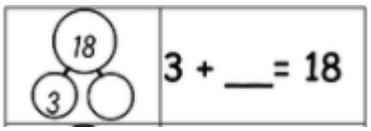
For this you could draw the number in **dienes** (lines and dots).

Addition and Subtraction

We use **part-part-whole models** to solve addition and subtraction problems, especially those with missing numbers (example below). In a part-part-whole model, the two parts add up to make the whole. There are four number sentences that can be written for each part-part-whole model. We call these a **fact family**.





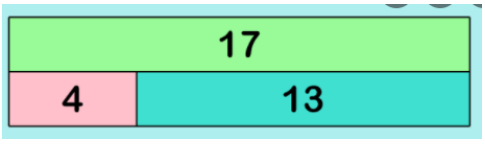


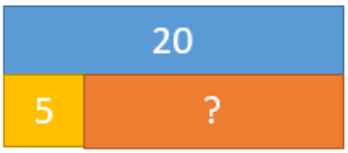
In a missing number problem like this, we first think about which elements of the ppw-model we know. In this case, we know the whole (18) and one of the parts (3).

We know that **part + part = whole**,

so **whole – part = part.** We can use 18 – 3 to find our missing part (15).

We also use **bar models** in the same way.





Children may come across some **worded problems** similar to these:

1. *I bake some cakes for our cake sale at school. If I make 38 cakes and sell 25, how many do I have left?*

All the skills mentioned above are helpful in solving this problem. It may help children to visualise this by drawing a part-part-whole model (38 is the whole, 25 is a part) to figure out the number sentence (38-25=). To

solve this, they will need to know that 38 is made of 3 tens and 8 ones and 25 is made of 2 tens and 5 ones. They may draw this in dienes (draw 3 tens and 8 ones, cross off 2 tens and 5 ones, how many are left?).

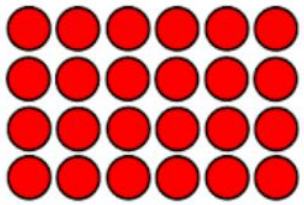
2. *Jasmeen has 75p. She buys a teddy for 30p. How much money does she have left?*
3. *Martin and Rex are counting their teddies. Martin has 18 teddies, Rex has 11. How many teddies do they have together?*
4. *Lucy has read 8 books last week. Mia read 5 more books than Lucy. How many books has Mia read?*
5. *68 children take part in a club. 40 children join tennis club. 7 children join music club. How many are left to join lego club?*
6. *Josh leaves the house at 2 pm. He returns home after an hour and a half. What time is it now?*

You could easily adapt these problems and create ones similar. Encourage your child to use the strategies mentioned above. Please note that the numbers should not add up to more than 120.

Multiplication and Division

For multiplication and division problems, we use **arrays** or the **twos, fives and tens times tables**.

Please see examples for arrays below. Again, these can be used to write fact families with multiplication and division problems.



4 x 6 = 24

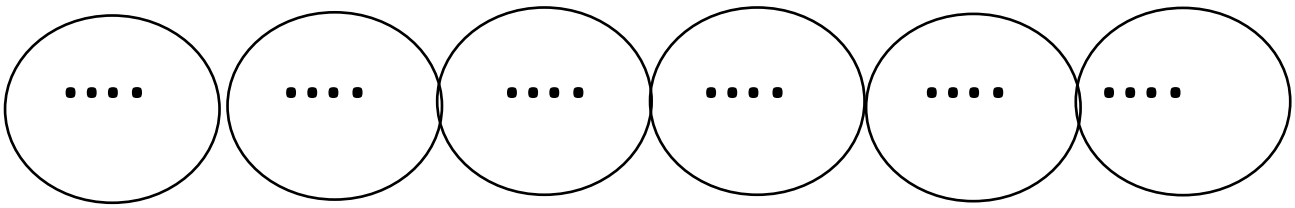
6 x 4 = 24

24 ÷ 4 = 6

24 ÷ 6 = 4

We encourage the children to use arrays to help them solve multiplication problems (especially those that aren't part of the 2,5 or 10 times tables). For a number sentence such as 6 x 4 , we draw 4 rows of 6 circles (or 6 rows of 4!). We count the dots to find our answer.

When faced with a division problem such as 24 ÷ 6, we draw rows of 6 underneath each other until we get to 24. We then count how many rows we have drawn to find our answer. A further way to solve a division problem is by drawing groups rather than rows. For 24 ÷ 6, we draw 6 big circles and share out our 24 dots into each of them. We count the dots are in each circle.



When practising the **2s, 5s and 10s times tables,** we encourage children to also recall the related division fact (Eg 2x10=20, 20÷2=10).

We would like the children to notice if a multiplication or division can use one of our known times tables (2, 5 or 10). We use the stem sentences:

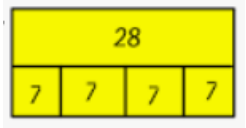
If ___ is a factor then we can use the ___ times table

For example, 5 x 3: If 5 is a factor we can use the 5 times table; 5, 10, 15

If ___ is the quotient we can use the __ times table (and count in that until they reach the starting number)

For example, 18 ÷ 2: If 2 is the quotient we can use the 2 times table; 2, 4, 6, 8, 10, 12, 14, 16, 18 (which is 9 numbers, so 9)

Bar models again can help visually show division, such as 28 ÷ 4



28			
.....	.....	.....	.....

The children may come across some worded problems similar to these:

1. There are two wheels on a motorbike. How many wheels do 11 motorbikes have?

*We could use this by recalling our two times tables (**we know that if 2 is a factor, we can use the 2 times tables**: 2x11=22). Alternatively, we could draw an array – 11 rows of 2 or 2 rows of 11.*

2. The tickets cost £5. 12 people come to the show. How much money did they make from ticket sales?
3. Tom's father has 24 sweets. He splits them equally between his 4 children. How many sweets do they each get?
4. A zookeeper shares 50 bananas equally between 10 monkeys. How many bananas does each monkey get?

<u>Fractions</u>

We would like the children to make the connection between fractions and division.

Bar models are a brilliant way to show the fractions. Such as ¼ of 24:

28			
..... 7	 7	 7	 7

This is particularly helpful when then going on to find ¾ as you can then colour in 3 of the quarters to see how much this is:

28			
..... 7	 7	 7	 7

So 3 of the quarters is

7 + 7 + 7 which equals 21

We remind the children to use different vocabulary for each operation. Please do practise these words at home: