

Strategies for Supporting your Child in Maths

Thank you to all those parents that came to this workshop.

Please read through all the strategies so you are familiar with them and can support your child when working out questions at home.

Please be aware that the following advice is for what is expected by the end of KS1. If your child is in Year 1, although they are expected to add and subtract and use the related symbols, they are not expected to use the symbols for multiplication and division; only to use manipulatives or draw pictures to show multiplication and division.

We talk about the four operations (addition, subtraction, multiplication and division) as belonging to families. Addition and subtraction are one family and multiplication and division are another (inverse). For example:

$$4 + 8 = 12 \text{ and } 12 - 8 = 4$$

$$2 \times 4 = 8 \text{ and } 8 \div 4 = 2$$

It is important to read number sentences, like the ones above, and put them into context. For example, when teaching multiplication we will use the context of plates and sweets to help children visualise the meaning of the multiplication, eg. I have 2 plates with 4 sweets on each plate, how many sweets altogether? The same applies for the division, eg. I have 8 sweets and share them between 4 plates, how many on each plate? It is so important that this is carried on at home. Once the context of plates and sweets is embedded, we can then begin to use other real life context, for example, cars and wheels or animals and legs.

Likewise for fractions, we will begin the concept making pizzas and cutting them into parts so the children can visualise this. This forms the basis of fractions and can then move them onto fractions of numbers and fractions of shapes. To be consistent when supporting at home, talk about pizzas and sharing pieces of pepperoni on parts of the pizza.


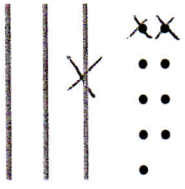
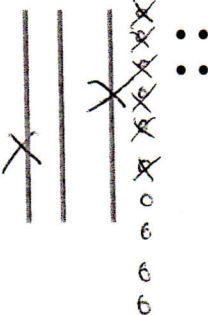
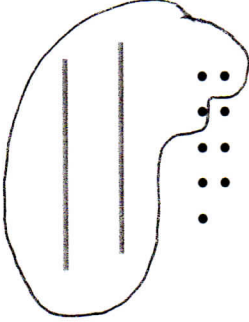
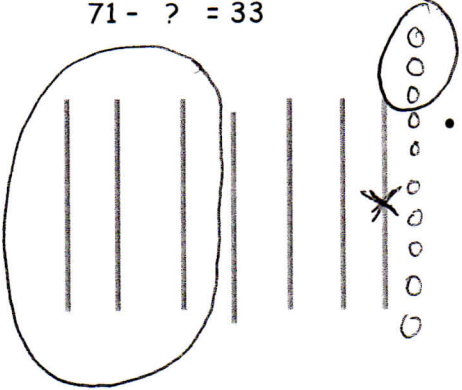
Many thanks for your support.

Mrs Miller

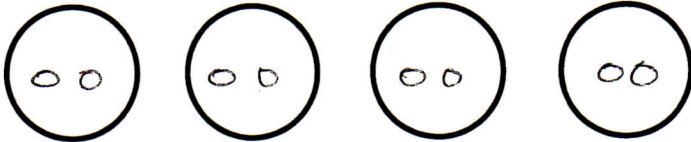
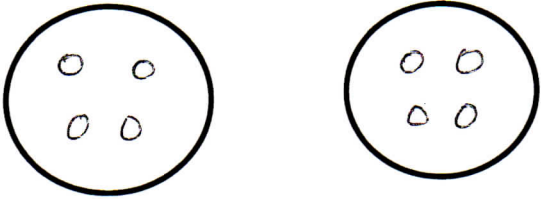
Addition

<p>Adding 2, 1 digit numbers,</p>	<p>Draw dots underneath each number to represent the value of the digit, then add them together:</p> <p style="text-align: center;">$5 + 7 = 12$</p> <p style="text-align: center;"> </p>
<p>Adding 1 digit number to a 2 digit number</p>	<p>Draw lines (for sticks of 10) and dots (for ones) underneath each digit to represent their value.</p> <p style="text-align: center;">$34 + 8 = 42$</p> <p style="text-align: center;"> </p>
<p>Adding 2, 2 digit numbers</p>	<p>Draw lines and dots underneath the digits to represent their value. Add the 10s first, then the 1s.</p> <p style="text-align: center;">$45 + 23 =$</p> <p style="text-align: center;"> </p>
<p>Missing numbers - Finding the difference</p>	<p>Draw the total in sticks of tens and ones. Circle around the 23. How many are not circled? If you have not got enough ones to circle, you will need to exchange a stick of 10 for 10 ones before doing so.</p> <p>•• $23 + ? = 29$</p> <p style="text-align: center;"> </p> <p> $23 + ? = 71$</p> <p style="text-align: center;"> </p>

Subtraction

<p>Subtract a 1 digit number from a 1 digit number</p>	<p>Draw dots for the first number (the biggest number). Take away the amount of dots by crossing out the existing dots.</p> <p style="text-align: center;">$8 - 6 = 2$</p> <p style="text-align: center;">  </p>
<p>Subtract a 1 or a 2 digit number from a 2 digit number</p>	<p>Draw the sticks of tens and ones and cross out the number you are subtracting. If the number bridges 10, you will have to exchange a stick of 10 for 10 ones before crossing out the number.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>$39 - 12 =$</p>  </div> <div style="text-align: center;"> <p>$34 - 16 =$</p>  </div> </div>
<p>Missing numbers - Finding the difference</p>	<p>Draw the biggest number sticks of tens and ones. Circle around the answer. How many are not circled? If you have not got enough ones to circle, you will need to exchange a stick of 10 for 10 ones before doing so.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>$29 - ? = 23$</p>  </div> <div style="text-align: center;"> <p>$71 - ? = 33$</p>  </div> </div>

Multiplication and Division

<p>Multiplying 2 numbers together</p>	<p>Read the number sentence and put it into context. Think of the number sentence as plates and sweets. The first number is always the amount we have got to start with (4 plates)</p> <p style="text-align: center;">$4 \times 2 = ?$</p> <p style="text-align: center;">I have got 4 plates with 2 sweets on <u>each</u> plate. How many sweets <u>altogether</u>?</p>  <p style="text-align: center;"><u>When we multiply, the answer is bigger</u></p>
<p>Dividing 2 numbers</p>	<p>Read the number sentence and put into context. Think of it sweets and plates. The first number is always the amount we have got to start with (8 sweets)</p> <p style="text-align: center;">$8 \div 2 = ?$</p> <p style="text-align: center;">I share 8 sweets between 2 plates. How many on <u>each</u> plate?</p>  <p style="text-align: center;"><u>When we share, the answer is smaller</u></p>
<p><u>NOTE</u></p>	<p>Understanding the meaning between the symbols \times and \div is essential to understanding what is being asked. The word "each" changes position.</p>

Fractions

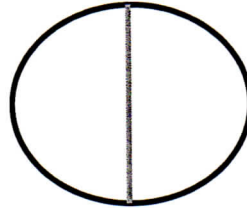
Fractions
Children only
need to know
halves,
quarters and
thirds.

Read the number sentence and put into context. Think of a pizza shape cut into parts with pieces of pepperoni. Know that it is asking us to share the number.

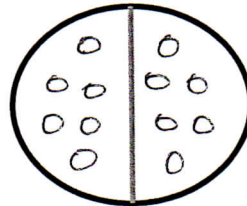
$$\frac{1}{2} \text{ of } 12 =$$

If I have a pizza and cut it into 2 parts (denominator) and share equally 12 pieces of pepperoni between each part, how many pieces of pepperoni on 1 part (numerator)?

First we need to draw a circle and cut it into the number at the bottom of the fraction (2)



Then we share 12 pieces of pepperoni between the two parts (slices)

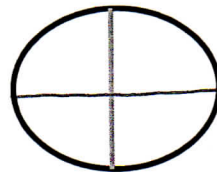


Then go back to the question and look at the number on the top of the fraction. It is asking us how many pieces of pepperoni on 1 part (slice)? This is your answer

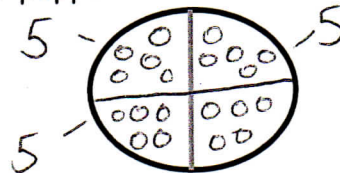
$$\frac{3}{4} \text{ of } 20 =$$

If I have a pizza and cut it into 4 parts, and share 20 pieces of pepperoni equally between the parts, how many pieces of pepperoni will be on 3 parts (slices)?

First, draw a pizza and cut it into the number on the bottom of the fraction (4).



Then share 20 pieces of pepperoni between the parts equally.



How many on 3 parts? Add them altogether.

Useful Websites

Visit [youtube.com](https://www.youtube.com) and search "Jack Hartmann". There are various videos with songs and actions for areas of mental arithmetic; such as number bonds, counting in 1s, 2s, 3s, 5s and 10s and times tables as well as telling the time.

Please encourage your child to use Mathletics. Please see me if you have lost your username and password. Mathletics is great for fluency and speed and children get chances to play other children around the world, as well as building up points for certificates.

Number splat - <https://www.primarygames.co.uk/pg2/splat/splatsq100.html>
This is good for counting in 1s, 2s, etc and finding patterns. It is also good for 10 more / 10 less moving up and down the square.

<https://www.topmarks.co.uk>

<http://www.maths-games.org>

Resources

If you would like to support your children at home with resources, the one manipulative I would recommend investing in are Diennes (link below from Amazon).

https://www.amazon.co.uk/Base-10-Number-Set-Invicta/dp/B004K8OLUS/ref=sr_1_4?ie=UTF8&qid=1548704631&sr=8-4&keywords=base+10