

Welcome to our Maths workshop

Year 5 and Year 6



Session Aims

What does Maths look like in Year 5 and Year 6? (With a focus on multiplication, division, fractions, decimals and percentages).

How is Maths taught at St Joseph's?

How can children be supported at home?

What does Maths look like in Year 5?

Recognise the place value of each digit in numbers with up to 2 decimal places

To use the formal written methods for all four operations (addition, subtraction, division and multiplication)

Rapid and accurate recall of **ALL** times tables and related division facts



Measure angles in degrees (°) and draw angles of a given size.

Secure understanding of fractions including simplifying, equivalent fractions and calculating with fractions (+ - and x by integers)

Convert between units of measure e.g. grams to kilograms

Draw upon a variety of mental maths strategies to support arithmetic skills

To solve number problems using reasoning to justify my answers and to prove and disprove.

Find non-unit fractions of quantities.

What does Maths look like in Year 6?

Rapid and accurate recall of **ALL** times tables

Solve problems involving ratio relationships

Recognise the place value of each digit in numbers up to 10 million, including decimal fractions

To consolidate the formal written methods and use alongside efficient mental strategies Draw, compose and decompose shapes according to given properties, including dimensions, angles and area

14/11/2022 3-0 6 7306-1847= 7/11/2022 Amir's method is finding the 0. To mashidate in butst common denominati O. To compare and 18×67-273,136 4+2-10-14V Position & 5/6 on this number 25/205/6) +++==== 9×41=369 1 25 501- 24,9 = 20 1 8 5 52 5 50 672+21=32 18-7-11 21,42,63, 63 63 63 There will be 2 pears left. 6155 +501 +649= 21 6 7 12 t) The value of X is 45 16155 +050 1 7305 V $\frac{1}{8} \div 2 = \frac{1}{16}$ 0649 7305 - x 1 = 1 8 2 = 16 5) 10 + 292 = 30212) 25,34×10=253.4V 2902 10V 3 < 12 / 13) 1,010 ×10 = 10,100v 6) 8-5.123=2.8771 14/15 7.9900 27 27 370 1 > 25 2877 95 7 88

Find equivalent fractions, decimals and percentages

> Solve multistep word problems

Algebra

Use common factors and multiples to simplify fractions. To securely use all four operations when calculating with fractions (+ - x ÷)

Working with numbers beyond 6 and 7 digits

Systematic and methodical workings Draw upon a variety of mental maths strategies to support arithmetic skills

How is Maths taught at St Joseph's?

Our Calculation Policy

This document guides teachers through the appropriate calculation methods within each year group and the progression of skills throughout the school.

The content of this document is set out in year group blocks under the following headings: addition, subtraction, multiplication and division.



Concrete, Pictorial & Abstract

The Concrete Pictorial Abstract (CPA) approach is a system of learning that uses physical and visual aids to build a child's understanding of abstract topics. Pupils are introduced to a new mathematical concept through the use of concrete resources (e.g. fruit, Dienes blocks etc).





Questioning Children

Good questions, and equally important, good listening, can help children make sense of Mathematics, build their confidence, and encourage mathematical thinking and communication. A good question opens up a problem and supports different ways of thinking about it. Some questions to try while helping a child might include:

What do you already know about this?
What do you need to find out?
How might you begin?
How can you organise your information?
Can you draw a picture to explain your thinking?
Are there other possibilities?
What would happen if ...?
What do you need to do next?



Reasoning and Problem Solving

• What is 'reasoning?' Discuss!





The action of thinking about something in a logical, sensible way.



NRICH (2014)

Times Tables STILL remain really important!



Timetables and their related division facts – encourage them to use TTRockstars to improve their rapid recall skills of multiplication and division facts.

This will help them to solve problems that involve...

- Long multiplication
- Fractions
- Percentages



Multiplication

Children need to be able to ...

Complete multiplication calculations. Give the following question a go:

756 x 32 =



Calculation: Multiplication

Be secure in the use of formal written short and long multiplication.

Remind the children that they must put a placeholder (0) when multiplying by a tens number. Ask the children to explain why we put a placeholder

(0) when multiplying by tens.



Pupils will need to divide numbers by 1 or 2-digit numbers.

It is important that your child is able to divide quickly in their calculations. Division speed stems from knowledge of times tables, so again, their importance cannot be understated.

Give the following 2 questions a go:

568 divided by 8 =

495 divided by 15 =



Fractions: Compare and Order

Children use both finding common denominators and finding common numerators as effective ways to compare fractions.

Remind children that whatever you do to the numerator (multiplying and dividing) you must do to the denominator. Children should be able to solve the following:

What fraction could go in the empty box?



Complete the circles using <, > or =





Fractions: Multiplication

The simple rule is that you multiply the numerators and multiply the denominators however to help your child, encourage them to draw bar models and visual representations to gain a deeper understanding.





Divide fractions by whole numbers. Give the following question a go:



Fractions: Division

Children will need to be able to divide a fraction by a whole number.

Children could also be encouraged to use models to show their calculations.



KFC - Keep, flip, change

-Keep one third -Flip division to multiplication -Change 9 to a ninth Percentages

It is important your child understands that decimals and percentages are just other ways to show fractions.

Your child will be expected to use equivalences between simple fractions, decimals, and percentages (for example, 0.5, 1/2, and 50%). To practise, encourage them to point out fractions, decimals, and percentages in real life and convert between the different forms where possible.





Talk about how 'percent' means 'number of parts per hundred'.

Talk about numbers that are represented in percentages. For example, you could work out what proportion of your child's class at school are girls. Ask them to tell you how to represent the percentage as a fraction and decimal (for example, 55% = 55/100 = 0.55).

Sales at the shops can provide great real-life opportunities to work with percentages. For example, you could ask your child to help you work out the sale price of an item. If there is 30% off a T-shirt and the full price is £9.99, what is 30% of the full price and what is the sale price?

https://cdn.oxfordowl.co.uk/2013/08/13/10/57/39/683/Fraction_Decimal_and_Percentage_Treasure_Hunt.pdf

How can you help your child with Maths at home?

- * Take away their fear.
- * Let your child know you believe they can be successful in Maths.
- * Encourage and support risk-taking and celebrate perseverance.
- * Encourage your child to solve problems with you.
- * Help them identify different methods or strategies to use in finding solutions and resist the temptation to provide the answer or method.
- * There is usually more than one way to solve a problem, and simpler strategies are often effective.
- * Provide opportunities for your child to explain and justify their thinking.
- * Seeing mistakes as an opportunity to learn and using them as a discussion point.

How can you help your child with Maths at home? (Continued)

- * Connect Maths to real life experiences.
- * Recognising the importance and value of Maths in our everyday lives:
 - Managing money when shopping if I buy ... estimate how much it will be? How much change would you get from...?
 - Comparing prices at petrol stations. Is it cheaper to buy 9 litres of petrol at £1.69 or 9 litres of petrol at £1.71? How much saving could be made if over a year?
 - If I need 250g of butter for one cake how much will I need for 5 cakes?

How can you help your child with Maths at home? (Continued)



- * Practise using number in the environment. Add/multiply/subtract/divide door numbers, numbers on car registration plates, road signs and at the shop.
- * Flicking through the TV guide? Ask your child to calculate the length of their favourite programmes. How long is it until the next programme?
- Use food packaging to discuss 2D and 3D shapes. What are the properties of these shapes e.g. how many faces, sides, vertices? Flatten the packaging out to find the net of the 3D shape too.
- Measuring up for new furniture? Want to make sure the Christmas tree will fit in your living room? These are really good opportunities to encourage your child to see the value of careful measuring skills in everyday life.
- * Practise telling the time with your child. Can they read both the digital and analogue clock? Can they readily convert between the two and use the 24 hour clock? Can they also recognise Roman Numeral representations of the time too?
- Board Games supply endless opportunities for Maths Snakes and Ladders, Monopoly, Bingo, Connect Four, Battle Ships etc



Websites to support children's Maths skills



- <u>BBC Bitesize</u> lots of information alongside short videos help to make the learning enjoyable and accessible for all children. Particularly look out for 'Guardians of Mathematica'.
- <u>I See Maths</u> a useful site with a plethora of ideas for fun games that all the family
- <u>Primary Games Arena</u> It is a free website that encourages children to play online maths games linked to their home learning. It breaks the games down into concepts which is really helpful.
- <u>Hit the Button</u> children love this game as it helps to increase confidence through practising times tables and number bonds.
- <u>Maths Zone</u> this site is jam-packed with fun ways to learn more about Maths.



Thank you for listening. Any questions? We hope the workshop helps you understand how you can support your child at home.