

A stylized logo for 'Maths Meander'. It features a black line that starts at the top left, curves up and right to form an arch of blue beads, then curves down and left to form a loop around the word 'Meander', and finally curves down and right to form an arch of orange beads.

Maths
Meander

A Guide for Home

Mathematical focus within school



The table below highlights the mathematical focuses within school. These are in line with the new National Curriculum and will support each child's Maths Meander. Use these during Meander Tasks, Start of Day Activities (SODA), Maths and Cross Curricular Maths Tasks.

Early Learning Goals									
FS	<p>Numbers – Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find answers. They solve problems, including doubling, halving and sharing.</p> <p>Shape, Space & Measures – Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.</p>								
			Number	Measurement	Geometry	Statistics			
KS1	<p>Number Recognition</p> <p>Early Counting</p>	<p>1) Number and place value</p> <p>2) Calculation</p> <p>3) Fractions, decimals and percentages</p>	<p>1) Units of measurement</p> <p>2) Measuring</p> <p>3) Solve problems (involving measures)</p>	<p>1) Make and visualise shapes</p> <p>2) Classify shapes</p> <p>3) Describe position</p> <p>4) Describe movement</p>	<p>1) Interpret data</p> <p>2) Present data</p> <p>3) Solve problems</p>				Application of Skills
		Number	Measurement	Geometry	Statistics	Ratio	Algebra		
KS2	<p>Number Recognition</p> <p>Early Counting</p>	<p>1) Number and Place Value</p> <p>2) Calculation</p> <p>3) Fractions, Decimals and Percentages</p>	<p>1) Units of measurement</p> <p>2) Measuring</p> <p>3) Solving problems (involving measures)</p>	<p>1) Make and visualise shapes</p> <p>2) Classify shapes</p> <p>3) Solve problems</p> <p>4) Describe position</p> <p>5) Describe movement</p>	<p>1) Interpret data</p> <p>2) Present data</p> <p>3) Solve problems</p>	<p>1) Ratio</p>	<p>1) Understand formulae</p> <p>2) Solve problems</p> <p>3) Describe sequences</p>	Application of Skills	

Maths Meander

In the inside of your child's Maths Meander you should have the Maths Meander Guide. Below is an example and each year group will have their own 'Initials for staff members', so you can see the adults involved with your child's Maths. We hope you find it useful to understand the different colours to use and the expectations for Maths challenges.

Maths Meander Guide

As you would in school, please remember to write only in pencil. At SPCEDES presentation is important to be able to truly showcase your amazing work.

Colour Code of what you will find in your Ramble:

Purple Pen: This will be written by an adult to record your 'Maths Exchange'.

Blue Pen: Your 'Meander Challenge' will be written in this colour. This will be what **you** are expected to do.

Pink Pen: This will be feedback from an adult in school to you or your parent/carer's at home Meander comments. (WOW)

Green Pen: This is anything else an adult in school would like you to do or may be some advice to help you with your 'Meander Challenge'. (NOW)

Initials for staff members in Year 6:

- KB – Kim Bird: Class Teacher
- SC – Suzanne Cawley: HLTA
- JC – Julie Carson: TA
- AH – Alison Harrison: Class Teacher
- AL – Alison Ladbrook: HLTA
- LM – Luci Mills: TA
- BC – Barbara Clements: Teacher
- SP – Sally Priest: TA
- HS – Helen Shields: TA

Home:

- Please comment about the 'Maths Exchange' you have had and get your parent/carer to sign at least once a week.
- Set a Maths Meander Challenge, this could be by you or your parent/carer.

A guide to the Maths Exchanges taking place within school

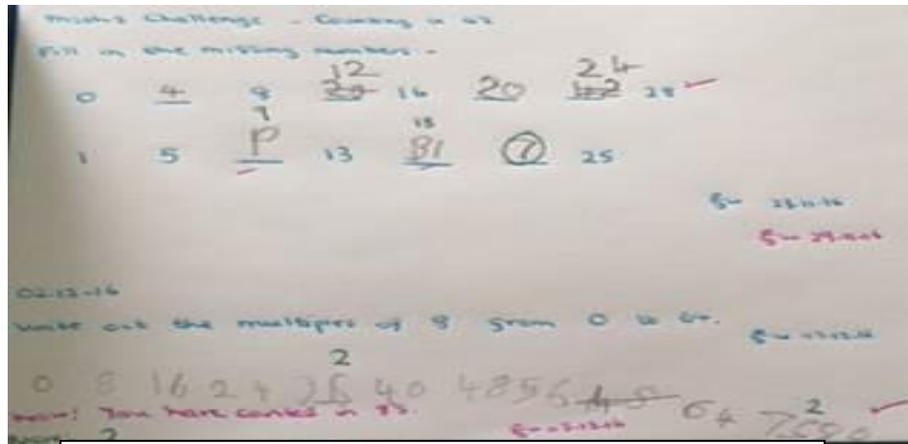
Pink
Feedback from an
adult in school

Purple
Maths Exchanges

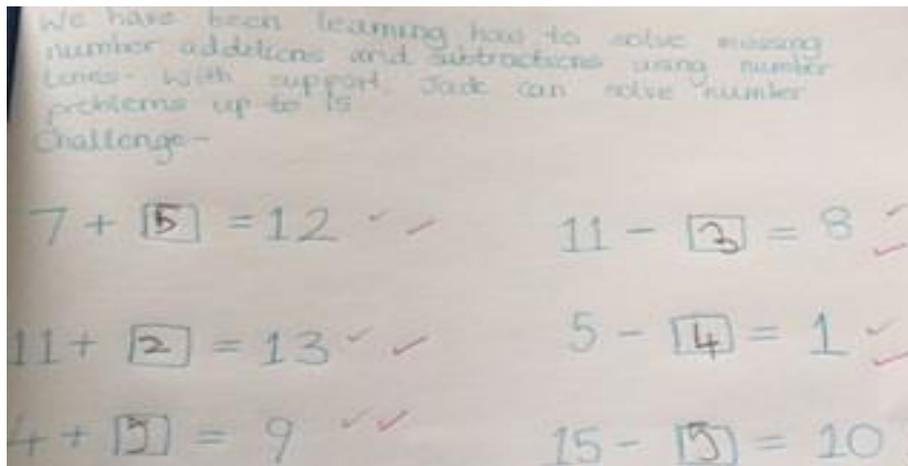
16.12.16
Time

Having spent some time on telling the time accurately on 12 and 24 hour clocks, the focus moved to understanding that there are 60 minutes in every hour.

Meander Challenge – Every 15 minutes a train leaves Edinburgh Station for Glasgow. The first train after 10am leaves at 12 minutes past 10. Write the times of all the trains between 10am and 2pm in 24 hours clock times.



Blue Meander Challenges will be set and your child will be asked to complete challenges either at home or during daily SODA sessions (Start of day activities).



Holiday Meander Challenges should be sent home to engage the children further.

Examples of Maths Exchanges

Number Sequences

In our Maths lessons we have been learning to count in fours, from 0 and from different starting points. Leon could explain how he had managed to complete the sequences by identifying the starting point.

Meander Challenge – 3, 7, 11, 19, 23, 27...

What, if anything, is wrong with this sequence of numbers?

Addition and Subtraction

We have been learning how to solve missing number addition and subtractions using a number line. Jack can solve number problems up to 10.

Meander Challenge – Can you now complete the following missing number calculations working with totals up to 15.

$$7 + \underline{\quad} = 12$$

$$14 - \underline{\quad} = 11$$

$$\underline{\quad} + 2 = 13$$

$$\underline{\quad} - 5 = 1$$

Multiplication Tables and Place Value

A key focus this academic year is ensuring we know our multiplication tables. Multiplication tables can then be used to support other calculations. Archie gave me an example of $2 \times 4 = 8$ so $2 \times 40 = 80$

Meander Challenge – If $8 \times 4 = 32$, what is 8×40 ? What about 80×4 ? Explain how you know.

Examples of Maths Exchanges that could be undertaken at Home

Maths Exchanges at home are intended to allow parents/carers and children to share the learning that is being undertaken within Mathematics, encouraging positive experiences in relation to Maths. For example:

FS – Children can identify objects that are a specific shape, identify bigger or smaller or recognise numbers (numbers and words).

KS1 and KS2 – Maths Exchanges about their learning. This could be linked to or stimulated by the Meander Challenge.

As your child moves up through the school they will become more independent and challenge themselves mathematically through Meander Challenges they set themselves. Please sign these as this will support your child to achieve their Maths Meander Awards. Each Phase in school has a range of Maths resources and documentation to support the development of Maths Meanders.

Below are examples of the types of Maths Exchanges we could see from home.

-  **Number:** He used his knowledge of the 2 times table to help him calculate and practise his 4 times table.
-  **Measurement:** She could explain which was bigger and smaller in a range of household objects and could order them in size.
-  **Geometry:** He could identify shapes at home and tell us what was the same within the shapes and what was different.
-  **Statistics:** She could tell us, by looking at the chart in her Maths Meander, that most children walked to school each day.
-  **Ratio:** We bought and opened a packet of Smarties and he could tell us how many red smarties there were compared to all the other smarties in the tube but also against each of the individual colours.
-  **Algebra:** She could explain how to find the length of each side of a rectangle using the information she already had and the formula for finding the area of this shape.

Please acknowledge these, even if it is just a thank you.

Ideas for School Maths Meander Challenges

Here are some examples of Maths Meander Challenges. Your child can set themselves a challenge at home or with you as they are having, or as a result of, a Maths Exchange in school (this could be part of a Maths session). The challenge can be anything related to Maths, including solving another calculation or question linked to the current learning in school, practising multiplication tables, undertaking a Mathematics task, a visit to the supermarket or completing a Maths activity outdoors or playing a game involving Maths with a friend or family member.

-  Draw a picture of '5'.
-  Write the numbers below in order of size. Convince me this is true.
-  I know that $7+3=10$. How could I find $8+3$? How could I work it out?
-  If you know one fact, e.g. $15+5=20$, what other facts do you know?
-  If you add 6 to a number ending with 7, you will always get a number ending in 3. Is this correct? Explain your answer.
-  Find four objects at home. Put them in order from lightest to heaviest?
-  You have the digit cards 2, 3, 4 and 5. Use two of the cards to make a number more than 50. Is there more than one solution?
-  If I start at 5 and count in 5s, will I say the number 100. Explain your reasoning.
-  Write this addition statement as a multiplication statement, $2+2+2+2+4$
-  If I add 0 to a number, the number stays the same. Do you agree? Explain your reasoning.
-  Insert a digit onto each line so the numbers are in order from smallest to largest, $_46$, $_32$, 3_1 , $_66$, $_5_$
-  I can see 20 wheels. How many bicycles?
-  Show 19p using only 2p, 5p and 10p coins. Find 3 different ways to do it.
-  Sophie has 5 coins in her pocket. How much money might she have? What is the greatest amount she could have? The smallest?
-  Half the children at a party are girls. How many children might be there? Give four different answers. Explain your answer.
-  A long brick is twice the length of a short brick. Which is longer, 2 long bricks or 3 short bricks?
-  I walk to school. On Monday it takes me 10 minutes. On Tuesday I walk more slowly, will this take me more or less time? Explain.
-  Can you find any questions in your book? Think about all your question words.
-  Find 3 different shapes at home. What's the same and what's different about these shapes?
-  Can you draw a triangle with 0 right angles? How about 1 right angle? What about 2 right angles?
-  The value 5 satisfies the symbol sentence $3 \times _ + 2 = 17$. The value 7 satisfies the symbol sentence $3 + _ \times 3 = 10 + _$. Explore.
-  Sam and Tom share 45 marbles in the ratio 2:3. How many more marbles does Tom have than Sam?

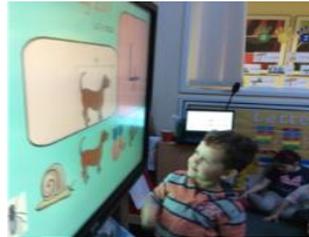
Prompts to help children reason and explain in Maths!

Number	Measurement	Geometry
<ul style="list-style-type: none"> ✚ 5, 6, 8, 9 What is wrong with this sequence? ✚ 38 is a multiple of 8. True or false? ✚ $936-10=926$ $926-10=916$ What comes next? ✚ $_ + _ + _ = 14$ What single digit numbers can go in the boxes? How many different solutions? ✚ Which four number sentences link these numbers, 100, 67, 33? ✚ Write the missing symbols in this number sentence $6 _ 12.3 = 61.9 _ 11.9$ ✚ Three four digit numbers total 12345. What could they be? Convince me. ✚ Is it always, sometimes or never true that the difference between two odd numbers is odd? ✚ Which is the odd one out? Why? $1/2$ $2/4$ $3/4$ ✚ I divide a number by 100 and the answer is 0.3. What number did I start with? 	<ul style="list-style-type: none"> ✚ How do you know this object is longer? Explain. ✚ Put these amounts in order starting with largest, $1/2$ a litre, $1/4$ of a litre, 300ml. Explain. ✚ Place the correct symbols ($<$ or $>$) between the measurements, 103ml and 130ml. Explain. ✚ A film lasting 200 minutes finished at 17:45. What time did it start? ✚ Draw two lines whose lengths differ by 4cm. ✚ One battery weighs the same as 60 paperclips. One pencil sharpener weighs the same as 20 paperclips. What else do you know? ✚ A square has sides of a whole number of centimetres. Which of the following could represent its perimeter, 8cm, 18cm, 24cm, 25cm. ✚ If you double the area of a rectangle you double the perimeter. Explore and explain. 	<ul style="list-style-type: none"> ✚ Find a triangle and a rectangle in this set of shapes. What is the same and what is different? ✚ Jess has 24 cubes that she uses to make a cuboid. Write the dimensions of cuboids she could make. ✚ If one angle of an isosceles triangle is 36°, what size are the other angles? Any other possibilities? ✚ All 2-D shapes have at least 4 sides. Is this true? ✚ A rectangular field has a perimeter between 14 and 20 metre. What could its dimensions be? ✚ Which capital letters have parallel and/or perpendicular lines. Convince me. ✚ A square is translated 3 squares down and one square to the right. Three of the coordinates of the translated square are (3,6), (8,11), (8,6). What are the coordinates of the original square? ✚ Which comes next? Explain why? (Shape sequence)
Statistics	Ratio	Algebra
<ul style="list-style-type: none"> ✚ More children walk to school than come by car (looking at simple pictogram), true or false? ✚ Convince me – children make up own true or false statement from a graph/chart/pictogram. ✚ Create a question – pupils ask (and answer) questions about different statistical representations using key vocabulary relevant to the objectives. ✚ Make up a set of five numbers with a mean of 2.7. ✚ The mean score in six test papers in a spelling test of 20 questions is 15. Five of the score were 13, 12, 17, 18 and 16. What was the missing score? 	<ul style="list-style-type: none"> ✚ Purple paint is made from red and blue paint in the ratio 3:5. To make 40 litres of purple paint, how much would I need of each colour? ✚ 88% of a sum of money is £242. What else do you know? ✚ A recipe needs to include three times as much apple than peach. The total weight of apples and peaches in a recipe is 700 grammes. How much apple do I need? ✚ In a flower bed a gardener plants 3 red bulbs for every 4 white bulbs. If she wants to plant 140 bulbs altogether, how many of each colour should she buy? 	<ul style="list-style-type: none"> ✚ Put the numbers 3, 12 and 36 on the lines to make the calculations correct. $_ = _ \times _$ $_ = _ \div _$ ✚ P and Q each stand for whole numbers. $P + Q = 1000$ and P is 150 greater than Q. Work out the value of P and Q. ✚ If the longer length of a rectangle is 13cm and the perimeter is 36cm, what is the length of the shorter side? Explain how you got your answer. ✚ The largest three digit number that can be made from the digits, 2, 4, 6 is 264. True or false. ✚ Write a formula for the 10th and nth term of sequence below. 4, 8, 12, 16...

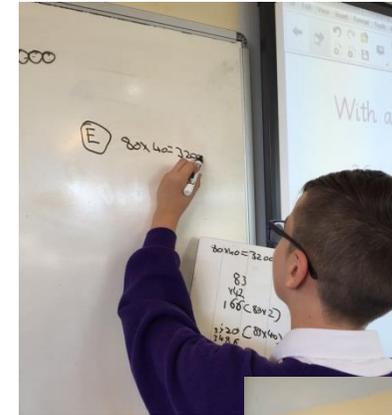
Maths at SPCEDS

We are very proud of the Maths activities the children and staff at SPCEDS have embarked on. Here are a few of our successes:

Number Day 2017 supporting the NSPCC



Reasoning and problem solving



Collaborative Learning



A Cross-Curricular Approach

