



MATHS WORKSHOP

FOCUS OF THE EVENING

- Provide you with a greater understanding of how mathematics is taught in school.
- Develop a greater awareness of the expectations of the children when problem solving.
- See the importance of mental maths skills and the strategies children are taught.
- Enable you to see the types of different questions children are asked in the year 6 SATs.
- Help you understand how you can help your child at home.

PROBLEM SOLVING

Problem solving requires all of these qualities

- Understanding the language
- Dealing with real problems
- Predicting
- Discovering, Curiosity, Exploring
- The ability to reason mathematically
- Working systematically
- Seeking solutions - proving and explaining/justifying

THE NEW MATHS CURRICULUM

This has now been running for 3 years and states that

Children should:

- Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations and developing an argument, justification or proof using mathematical language.
- **Solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

FLUENCY

This is split into 3 parts

✓ Efficiency

Pupils select an efficient strategy to solve a problem

E.G. Knowledge of number facts rather than counting objects to solve $36 + 54$

✓ Accuracy

Careful recording, knowledge of number facts and relationships, double checking answers.

✓ Flexibility

Use of more than one approach to solve a problem.

E.G. Check that $56 + 24 = 80$ by using the inverse $80 - 24 = 56$

REASONING

Reasoning is where we use what we already know to work out things we don't know.

Encourage children to:

Describe what they did

Explain how they got their answer

Convince you and prove that the answer is correct

I know... because

The answer cannot be because...

When I tried... I noticed that...

If this is true then...

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$$5,542 \div 17 = 326$$

Explain how you can use this fact to find the answer to 18×326

DEVELOPING REASONING SKILLS

- Which one is the odd one out?
- Continue the pattern
- The answer is... what was the question?
- True or false?

MENTAL MATHEMATICS

- It is essential children have secure knowledge and recall of mental facts including:
 - Place value including decimals
 - Number bonds
 - Times tables from 0 to 12!
 - Corresponding division facts
 - Rounding to enable estimation of answers

OTHER STRATEGIES TAUGHT

- Use number bonds to 10, 20 and 100 transferable to 1,000 and decimals
- Multiplication and division by 10, 100, 1,000, 0.1
- Use doubles and near doubles
- Partition into thousands, hundreds, tens and units
- Adding and subtracting near multiples of 10. Adding the multiple then add or subtract 1

CALCULATION

When solving a problem or calculation for example

$$52 + 27 =$$

This calculation would be modelled to the children in different ways throughout the school

- As above - a number sentence
- Using a number line
- Portioning
- Using the column method

We could also say to the children show me different ways to prove this calculation.

CALCULATION

MULTIPLICATION AND DIVISION

THE STRATEGIES FOR THESE CALCULATIONS ARE TAUGHT IN STAGES

Multiplication	Division
Repeated addition Grouping or repeated addition Grid method Short multiplication Long multiplication	Arrays Sharing equally Grouping or repeated subtraction 'chunking' Short division Long division

THE END OF YEAR 6 AT BROMET

- End of key stage two SATs
- Occur in May.
- All children sit the same paper nationally.
- There are 3 papers - 1 arithmetic paper (36 questions marks / 30 mins) which is number based and 2 reasoning papers (23/24 questions / 40 mins) which are word based. There are no calculators allowed for any of the papers.
- Children will have attempted past papers before the tests so will be familiar with the format.
- Children aim to gain a mark of 60 for a scaled score of 100+ is recognised as 'working at the expected level'.
- A scaled score of 110+ is recognised as 'working at greater depth'.

HOW YOU CAN HELP AT HOME

- Learning times tables - the foundation of all maths learning.
- Lots of practice - in the car, online games, counting cars etc, 4, 7, 11, 15
- Playing games - cards, sudoku, monopoly etc.
- Cooking, decorating, shopping
- Telling the time - duration, reading timetables, intervals - working out how long things need to be cooked for eg meats.

The background is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. They are located in the top-left, top-center, and bottom-right areas of the frame.

Q&A TIME

THANK YOU FOR COMING.