



How to help your child with their fluency in Maths, Year 6

The National Curriculum

This statutory document aims: **For children to 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 are able to recall and apply their knowledge rapidly and accurately.

What is mathematical fluency?

Fluency consists of three elements: **Efficiency, accuracy** and **flexibility**.

Efficiency is about not struggling with too many steps or losing sight of the logic of the problem. An efficient strategy is one that a student can carry out easily, keeping track of steps and make use of intermediate results to solve the problem.

Accuracy depends on several aspects of the problem-solving process, among them careful recording, knowledge of number facts and other important number relationships and checking results.

Flexibility requires knowledge of more than one approach to solving a particular kind of problem, such as two-digit multiplication. Students need to be flexible in order to choose an appropriate strategy for the numbers involved, and also to be able to use one method to solve a problem and another method to check the results.

Fluency requires more of pupils than memorising a single procedure.

They need to understand what they are doing and why they are doing it.

Why support your child's mathematical fluency?

Helping your child to develop their mathematical fluency will lay the foundations for them becoming confident mathematicians and help to support their financial wellbeing in adult life. No-one is born a good or bad mathematician, all pupils have the ability to develop their mathematical fluency and confidence.



How to support your child's mathematical fluency:

Reading books

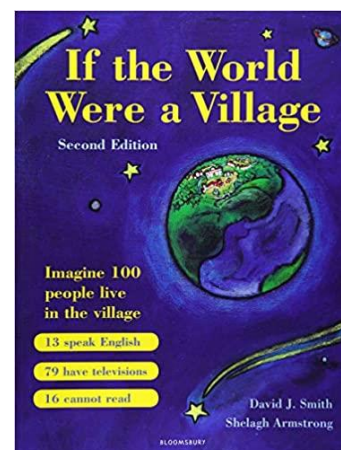
Reading books can contain a wealth of opportunities for mathematical discussion. For Year 6 non-fiction books which look at the world or space will contain facts which will use increasingly big numbers and measurements.

Questions such as 'How do you think we should spend our money ?'

or 'How tall can the canopy grow in a rainforest?'

There are some excellent books such as:

- Britannica 'All new Children's encyclopaedia' by Christopher Lloyd this is very enjoyable and has a lot of interesting facts.
- 'Dosh: How to earn it, save it, spend it, grow it, give it' by Rashmi Sirdeshpande.
- Sir Cumference and the First Round Table (A maths adventure)
- Maths Pirates – Dividing the Plunder: A Little Book of Big Choices by S.E Burr
- 'If the World Were a Village' by David J Smith – global statistics imagining the world were a village of 100 people.



Counting

Counting in different ways and directions and will help a child to become more confident and fluent when working with numbers.

- Count forwards and backwards in 10s, 100s, 1000s, 10,000s and 100,000s, up to 10 million.
- Count forwards and backwards into negative numbers, e.g 21, 14, 7, 0, -7, -14.
 - Link negative numbers to the concept of negative bank balances and debt.
- Count forwards and backwards in decimals, e.g 0.7, 1.4, 2.1, 2.8, 3.5...
- Count forwards and backwards in fractions, e.g $\frac{3}{8}$, $\frac{6}{8}$, $1\frac{1}{8}$, $1\frac{4}{8}$, $1\frac{7}{8}$

Out and about

- Reading bus and train timetables.
- Estimating journey times



Using games

Play 'Times tables rockstars' to reinforce multiplication and division fluency.

Student Village - Headingley Campus

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Monday to Friday, operates Leeds Beckett University term times only

Headingley Campus 1800 September 2017

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Ask your child if they know $4 \times 8 = 32$ what else do they know? e.g. $40 \times 8 = 320$, $4 \times 80 = 320$, $40 \times 80 = 3200$, $32 \div 8 = 4$, $32 \div 4 = 8$. Record all the linked facts they can think of.

Include decimals $0.4 \times 0.8 = 0.32$.

In the Kitchen



Show your child as many weights and capacities measurements as you can. Does he/she know how much a pint is? Whether a litre is bigger or smaller? How many mls there are in a can of drink? Take time to make comparisons.

Talk about how much money a recipe would cost.

Scale a recipe up or down to suit a number of people.

Time

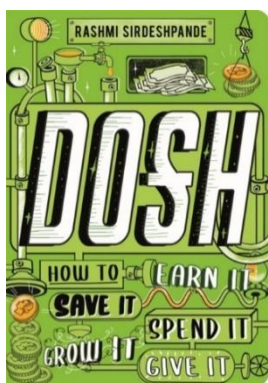
Throughout the day, ask your child the time – to the nearest minute. Use an analogue clock as well as a digital clock.

Ask your child to convert between twelve and twenty four hour times.

Look at different time zones across the world and work out time differences.



Money



Read 'Dosh: How to earn it, save it, spend it, grow it, give it' by Rashmi Sirdeshpande. Discuss your views on this book.

When you are shopping take time to ask about which item your child would choose and why? Do they think it is good value?

If you see any items labelled, for example, '2 for £3.50', ask your child to work out the cost of 1 item for you, and to explain how he/she got the answer

When you go shopping, or see a shop with a sale on, ask your child to work out what some items would cost with: 50% off; 25% off; 10% off or 5% off. Ask your child to explain how he/she worked it out.

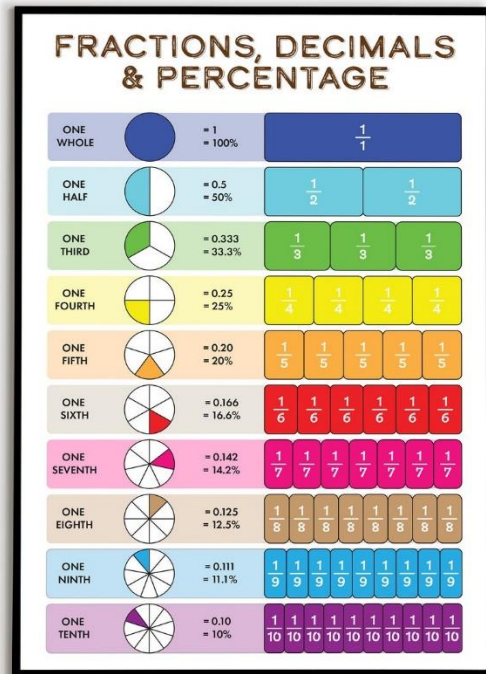
Talk about what you think is good value as a family.

Talk about saving for an item or how you could prioritise spending.

Fractions, decimals and percentages.

Take time to learn some fraction, decimals and percentage equivalents off by heart.

Build on the ones from Year 5



Please remember that everyone has the potential to be a good mathematician. As adults you will all have very varied experiences of Maths at school and your personal feeling towards the subject. Maths at the federation of Follifoot and Spofforth schools is a positive and life enhancing experience. We really hope you will use these ideas to rekindle an enjoyment of maths in your lives.