



## How to help your child with their fluency in Maths, Year 5

### 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.

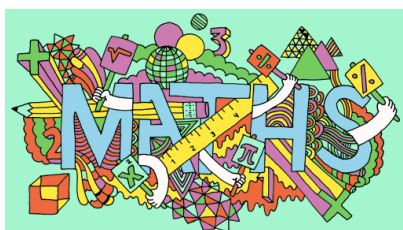
**Flexibility** requires knowledge of more than one approach to solving a particular kind of problem, such as two-digit multiplication. Students need to be flexible in order to choose an appropriate strategy for the numbers involved, and also to be able to use one method to solve a problem and another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

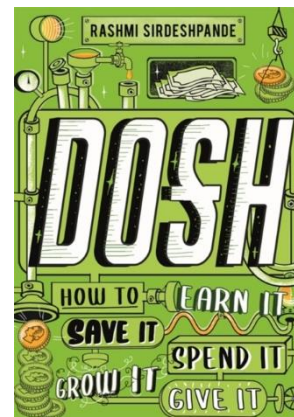
### Reading books

Reading books can contain a wealth of opportunities for mathematical discussion. For Year 5 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 long do you think it would take to get there?', 'Which planet is the biggest and by how much?' provide your child with the opportunity to explore place value.

There are some excellent non-fiction books such as:

- 'Blue Planet 2' by Leisa Stewart- Sharpe 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.
- Murderous Maths by Kjartan Poskitt – a maths version of Horrible Histories.



### 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 1 million.
- Count forwards and backwards into negative numbers, e.g 21, 14, 7, 0, -7, -14. Link these to thermometers.
- Count in times tables, e.g 0, 9, 18, 27, 36...
- Or, count in 9s but starting from 5: 5, 14, 23, 32...
- Count forwards and backwards in decimals, e.g 3.5, 4, 4.5, 5, 5.5...
- Count forwards and backwards in fractions, e.g  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1,  $1\frac{1}{4}$ ...

### Out and about

- Reading bus and train timetables.
- Estimating journey times

# Student Village - Headingley Campus

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Monday to Friday, operates Leeds Beckett University term times only

Headingley Campus

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How many nines are there in eighteen? Find the product of six and three. Find factors of numbers.

Target 1000 Roll a dice 6 times. Use the six digits to make two three-digit numbers. Add the two numbers together. How close to 1000 can you get? The winner is the person who gets the closest.

### **In the Kitchen**



Look at the capacity of jars, coke cans and bottles. Before your child looks at the quantity get him/her to predict which one has the smallest/largest capacity. Compare capacity and prices.

Convert the units from milli-litres to litres and back again. Look at the nets of old cereal boxes. Get your child to estimate the perimeter of each one to the nearest centimetre. Write the estimate on the back. Then ask them to measure each side and find out the perimeter. They could also find the area of each of the different sections.

Talk about how much money a recipe would cost.

### **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.

Discuss when you will start to watch a programme, it's length and then the finishing time.

Predict how long an activity should take and compare with the reality.



### **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?

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

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

### Fractions, decimals and percentages.

1	1.0	100%
$\frac{3}{4}$	0.75	75%
$\frac{2}{3}$	0.6	$66\frac{2}{3}\%$
$\frac{1}{2}$	0.5	50%
$\frac{1}{3}$	0.3	$33\frac{1}{3}\%$
$\frac{1}{4}$	0.25	25%
$\frac{1}{5}$	0.2	20%
$\frac{1}{8}$	0.125	$12\frac{1}{2}\%$
$\frac{1}{10}$	0.1	10%
$\frac{1}{100}$	0.01	1%

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

**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.