

How to help at home: Year 6

Mental Fluency

Times Tables are key! Practicing times tables helps children to understand number and number relationships, and to see patterns in numbers. These skills will help them to master key concepts and move quickly through more complex maths problems with confidence. Furthermore, times tables are fundamental to many maths topics, such as fractions and being able to recall basic facts efficiently is a necessary first step in the development of more advanced skills for computational fluency with larger numbers and algebraic expressions.

Tips

Look for patterns and use the facts you know to work out the ones you are less secure with. For example, if you know $4 \times$ then you are also able to work out $8 \times$. By spotting patterns in times tables the children can deepen their understanding and become more fluent.

Furthermore, it's important that children are able to use the times tables they know in order to work out other unknown tables. For example, if you know the $6 \times$ table you are then able to apply this knowledge to the $60 \times$ table and the $0.6 \times$ table.

TT Rockstars

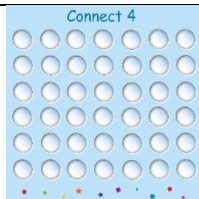
<https://play.ttrockstars.com>

All the children have logins and this offers a fun and engaging way for the children to develop the speed of their times tables.

The more fluent the children are then the easier it is for them to access other areas of the curriculum.

The Memory Game

Create a series of cards with multiplication calculations and a separate card for their answers. All the cards are placed face down. Each player then takes it in turn to turn two cards over and must match up the times table with their answers. If a player successfully matches two cards, then they win the cards. The player with the most cards at the end wins.



This is a 2 player game. Each player takes it in turn to answer a multiplication question. If they get it right then they can insert a piece onto the board. The winner is the first person who gets 4 in a row. Numbers can be generated using dice.



This is a 2 player game. The two players take it in turn to turn two cards over. The player who gets the highest product from multiplying the two numbers together gets the cards. The person with the most cards at the end of the game wins.

Counting

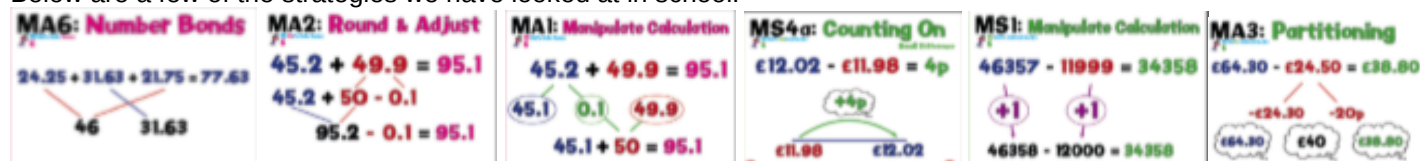
Try counting up and down the different times tables. Choose different starting points to allow the children to become more fluent. Furthermore, challenge the children by counting in decimal numbers/ fractions etc.

Mental Maths

When we think of mental maths strategies we are essentially thinking about those maths skills we can do in our heads, without using the formal written methods that we would use for longer questions and columnar methods. Mental maths strategies are the foundations for most of the areas of mathematics that use numbers. Without efficient mental strategies, children can often struggle to quickly and fluently calculate.

Mental strategies are also the foundation of any written or formal method in mathematics. Referring to it as mental maths does not mean you cannot write anything down at all, but any written work would be quick jottings to help remember through multi-step problems.

Below are a few of the strategies we have looked at in school:





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MM1c: Manipulate Calculation 36×25 $\begin{array}{r} \times 4 \\ 9 \times 100 = 900 \end{array}$	MM5c: Round & Adjust $€5.99 \times 6 = €35.94$ $(€6 \times 6) - (1p \times 6)$ $€36 - 6p = €35.94$	MD3b: Halving Half of 5.84 $2.5 + 0.4 + 0.02 = 2.92$	MD5c: Division as a Fraction $\frac{1}{2}$ of 10 = $10 \div 2 = 5$ $\frac{1}{2} = \frac{5}{10}$ 	MD1e: Manipulate Calculation $9.3 + 0.3$ $\begin{array}{r} \times 10 \\ 93 + 3 = 31 \end{array}$	MM10a: Jump! $\begin{array}{r} \times 1000 \\ \times 100 \\ \times 10 \end{array}$ 63400 6340 634 63.4
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The Four operations

It's essential that the children are confident with their written methods, solving problems with the four operations. Here is how we teach written methods for the four operations

Addition

Vertical layout, contracting the working to a compact efficient form:

$$\begin{array}{r} 368 \\ +493 \\ \hline 861 \end{array}$$

Note: The numbers 'carried' will be shown under the line.

Subtraction

$$\begin{array}{r} 563 \\ -241 \\ \hline 322 \end{array}$$

and

$$\begin{array}{r} 4513 \\ -278 \\ \hline 285 \end{array}$$

Note: We are not 'borrowing'. We are exchanging. Eg. I am exchanging one ten for ten ones.

Multiplication

Vertical format, compact working

$$\begin{array}{r} 58 \\ \times 27 \\ \hline 392 \\ 4 \\ \hline 1120 \\ 1 \\ \hline 1512 \end{array}$$

Division

Short division:

$$\begin{array}{r} 035 \\ 5 \overline{) 175} \end{array}$$

Maths

A significant part of the maths curriculum is looking at fractions, decimals and percentages. Although we haven't looked at this yet this year, the children have looked at these areas in previous year groups. Below are a number of different strategies/ links to online games you can use to support the children with their understanding.

Simplifying fractions

You can simplify a fraction if the numerator (top number) and denominator (bottom number) can both be divided by the same number.

Six twelfths can be simplified to one half, or 1 over 2 because both numbers are divisible by 6.
6 goes into 6 once and 6 goes into 12 twice.

In order to simplify a fraction into its simplest form, it is simply a case of dividing the numerator/ denominator by the highest common factor.

Converting from improper fractions to mixed numbers and then the other way

Converting between improper fractions and mixed numbers is an essential skill. The following website gives a clear guide on how to do this.

[Mixed Numbers & Improper Fractions \(solutions, examples, videos\) \(onlinemathlearning.com\)](http://www.onlinemathlearning.com/mixed-numbers-and-improper-fractions.html)

Equivalence between fractions, decimals and percentages

It is essential that children are fluent when converting between fractions, decimals and percentages. See the website below to read further and for some activities for the children to have a go at.

[Order and compare fractions, decimals and percentages by converting them - Maths - Learning with BBC Bitesize - BBC Bitesize](http://www.bbc.com/1/learningzone/2014/09/140916_maths_bitesize_fractions_decimals_percentages)

Finding a fraction or a percentage of a number

To find a fraction of a number, divide that number by the denominator and multiply the result by the numerator.

$$\begin{array}{l} \text{Step 2} \\ 5 \times 2 = 10 \\ \text{Step 1} \\ 35 \div 7 = 5 \\ = 10 \end{array}$$

To find percentages, knowing key facts will really help with our understanding:

To find 50%, half the number
To find 25%, divide the number by 4 (half and half again)
To find 10%, divide the number by 10
To find 1%, divide the number by 100

Find 45% of 440

$$45\% = 25\% + 10\% + 10\%$$

By breaking up 45% as seen above we can calculate the smaller percentages and add them together

$$25\% \text{ of } 440 = 440 \div 4 = 110$$

$$10\% \text{ of } 440 = 440 \div 10 = 44$$

So,

$$45\% = 25\% + 10\% + 10\% = 110 + 44 + 44 = 198$$

Adding Fractions

$$\frac{1}{2} + \frac{1}{3} = ?$$

$$\frac{1 \times 3}{2 \times 3} = \frac{3}{6} \quad \frac{1 \times 2}{3 \times 2} = \frac{2}{6}$$

$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

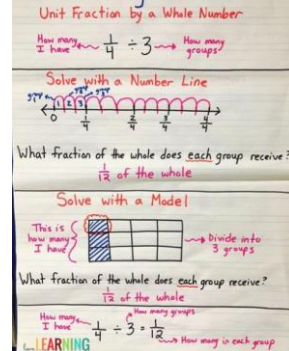
Subtracting Fractions

$$\begin{array}{r} \frac{1}{4} - \frac{1}{5} \\ = \frac{5}{20} - \frac{4}{20} \\ = \frac{5-4}{20} = \frac{1}{20} \end{array}$$

Multiplying Fractions

$$\frac{4}{5} \times \frac{3}{7} = \frac{4 \times 3}{5 \times 7} = \frac{12}{35}$$

Dividing Fractions



Unit Fraction by a Whole Number
How many I have $\frac{1}{4} \div 3 \rightarrow$ How many groups?

Solve with a Number Line
0 $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ 1
What fraction of the whole does each group receive?
 $\frac{1}{12}$ of the whole

Solve with a Model
This is how many I have $\frac{1}{4} \div 3 \rightarrow$ Divide into 3 groups
What fraction of the whole does each group receive?
 $\frac{1}{12}$ of the whole
How many groups $\frac{1}{4} \div 3 = \frac{1}{12}$ How many in each group

LEARNING

When completing any maths work at home, try to make it fun. Play games, solve problems and apply them to real life contexts. After all, maths is everywhere. From measuring ingredients to calculating change at the store, maths is an essential part of our daily lives (whether you notice it or not!).

Spelling

First and foremost, please encourage your children to make use of Spelling Shed. All children have logins and can access an array of spelling activities. This will support the work we are doing in class and provide the children with the extra support they need. Each week, 'assignments' are set which match the spelling patterns being taught in lessons. In short, they can play games which directly practice the words in that week's spelling lists. All children have logged on at school and know how to use spelling shed.



By the end of year 6, all children need to be able to spell accurately and confidently to meet the end of year expectation. This must be demonstrated in their writing and in a formal test of 20 words. It is important the children learn:

- High frequency words and homophones which they may frequently make mistakes in
- All of the words in the year 3/4 and year 5/6 word list (from the national curriculum)
- How to apply their knowledge and make plausible attempts at more complex words by applying the rules they know.

Below are the words from the Y5/Y6 spelling list:

accommodate	communicate	equip	immediately	physical	sincerely
accompany	community	equipped	individual	prejudice	soldier
according	competition	equipment	interfere	privilege	stomach
achieve	conscience	especially	interrupt	profession	sufficient
aggressive	conscious	exaggerate	language	programme	suggest
amateur	controversy	excellent	leisure	pronunciation	symbol
ancient	convenience	existence	lightning	queue	system
apparent	correspond	explanation	marvellous	recognise	temperature
appreciate	criticise	familiar	mischievous	recommend	thorough
attached	curiosity	foreign	muscle	relevant	twelfth
available	definite	forty	necessary	restaurant	variety
average	desperate	frequently	neighbour	rhyme	vegetable
awkward	determined	government	nuisance	rhythm	vehicle
bargain	develop	guarantee	occupy	sacrifice	yacht
bruise	dictionary	harass	occur	secretary	
category	disastrous	hindrance	opportunity	shoulder	
cemetery	embarrass	identity	parliament	signature	
committee	environment	immediate	persuade	sincere	

Here are some more useful activities to support your child with their spellings

www.spellzone.com	Have commonly misspelt words stuck around the house. Randomly test your child on them. E.g. which/witch; were/where; there/their/they're	Find the definition of each word in your spelling list and put them in sentences. Explore synonyms and antonyms of that word. Create a competition: who can use them the most during the week	Ask your child what pattern/rule they are looking at this week. How many words can they remember from their lists without looking? Create your own list at home of other words which use the same spelling rule/pattern
Create a graffiti board of this week's spelling list – use fancy pens!	Backwards words Spell a word verbally, backwards. The child has to picture the letters and recognise patterns to decipher what the word is.	Play classic games such as hangman and anagrams	

Grammar

Children demonstrate their grammatical knowledge through the construction of their writing. Different genres and formality of writing require different grammatical structures in order to be effective at meeting their purpose. In writing, all children's work must be correctly punctuated and match the purpose of the task. Children are required to demonstrate their understanding of grammatical terminology and its application to writing through a grammar, punctuation and spelling test paper. First and foremost, all children should complete their grammar homework, currently set fortnightly, on SPaG.com.

Suggested workbooks:

- Rising stars
- CGP

<https://www.teachwire.net/news/7-of-the-best-online-grammar-games-for-ks2>

Although some aspects of this website require you to sign up, it is a great selection of online games/ activities for addressing different areas of grammar.

Spelling Shed 

Spelling Shed also has grammar games, where children can practice grammatical elements of their choosing.

Always ensure the children take time to edit their writing; this could be notes, letters or even emails. Editing is an essential part of the writing process. In class we edit, looking for the following things:

- Vocabulary
- Spellings
- Handwriting
- Punctuation

Play the 5 word game.

Select 5 random words (a mix of nouns and verbs). The aim of the game is to create one sentence which uses all 5 words and is as random and crazy as possible. Of course, it must be grammatically correct and correctly punctuated.

Reading

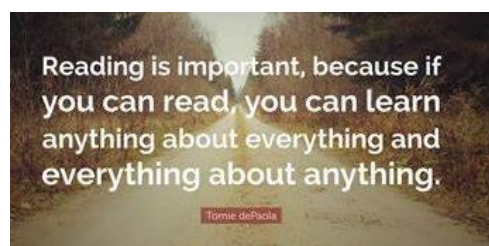
We encourage all children to read independently and keep a close eye on what they are reading and the frequency at which they are completing books. Quizzes allow us to assess their understanding of the book they have read. If your child is struggling to find a book they enjoy, please encourage them to talk to us. As year 6 teachers, we have read hundreds of fantastic books and are able to make recommendations based on interests and preferences.

All children read for 10-15 minutes in school each day and listen to the teacher read daily. We encourage all children to read independently for **at least 20 minutes at home every day**. It is important to establish a routine where this is consistent i.e. reading before bed.

Reading is proven to improve confidence and mental well-being. Children who read are more understanding of others and have a more comprehensive understanding of the world. Also, improving reading has shown to have a positive impact on progress in other subjects, particularly writing and mathematics.

Children are tested explicitly on their reading ability in a 1 hour exam at the end of year 6. This requires reading fluency and the skills required to answer questions about the texts.

The best way to support your child's reading is to show enthusiasm towards reading. Discuss with them what they are reading and ask questions about the book. Read with them and experience the story at the same time. Make time for reading and ensure books and reading are valued.





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