

Mental Fluency is key to success  
in the new curriculum.

There is so much more than just  
holding numbers in your head.

# New 2014 SATS

- **Changes to KS2 tests**
- In 2016, tests will be based on the new curriculum.
- Paper 1 – arithmetic (30 minutes and 30 marks).
- Paper 2 & 3 – mathematical fluency, solving problems and reasoning (40 minutes and 40 marks per paper).

## Number fluency - Aims

- Three key goals – efficiency, accuracy and flexibility.
- **Efficiency** – children have strategies that they understand, that don't have too many steps, where they can keep track of their working etc.
- **Accuracy** – children can record carefully, use known facts correctly and check their answers.
- **Flexibility** – children can choose appropriate skills and strategies to solve problems.

## How to learn Times Tables

The new curriculum expects 9 year olds to have efficient recall of table facts up to  $12 \times 12$ .

Use known facts to reach others

- Learn  $8 \times$  by doubling  $4 \times$
- Learn  $6 \times$  by doubling  $3 \times$
- Learn all square facts e.g.  $4 \times 4$ ,  $5 \times 5$ ,  $6 \times 6$ , etc

## **Number Sense and Flexibility**

Most calculations we do as adults daily are done mentally or with the aid of jottings rather than formal written methods and we would be remiss if we did not prepare our pupils adequately for this. Developing good number sense is crucial to overall mathematical development. Number sense is the ability to use number flexibly

Consider the problem:  $21 - 16 =$  . Pupils with good number sense are more likely to change the numbers to  $20 - 15$  to make the calculation easier or to use the up and over ten strategy (bridging through 10). Whereas, pupils with poor number sense tend to count back - this is inefficient

## **Number Magnitude**

Developing number magnitude or estimation skills is crucial for pupils to identify how “reasonable” their answer is.

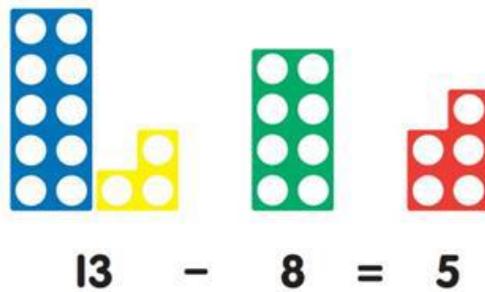
# Concrete, Visual, Abstract

The new curriculum expects all concepts to be underpinned by a true depth of understanding, using visual modelling. This is called the Concrete, Visual and Abstract approach (CVA).

There are three phases in the CVA approach they need to master: concrete, pictorial and abstract. Reinforcement is achieved by going back and forth between these representations.



Active/Concrete



Building Visual Images

$$13 - 8 =$$

Abstract

# Language & Reasoning

The 2014 National Curriculum is explicit in articulating the importance of children using the correct mathematical language as a central part of their learning.

The Talk Task is a crucial opportunity for children to perform tasks where recording is at a minimum with the focus instead being on the correct use of mathematical language.

**Write as many words meaning '+' symbol as possible in 15 seconds**

**Explain why the square root of 15 cannot be 3**

How do you know?

Prove it to me using equipment

Why?

Yrs 3 and 4 spend a great deal of time developing an understanding of calculation methods.

Yrs 5 and 6 consolidate this knowledge using larger numbers and applying this to real life problems.

## **Other maths support**

- There are various websites aimed at helping parents to support their children's learning in maths.
- Oxford Owl has games, activities and a 'jargon buster' -  
<http://www.oxfordowl.co.uk/for-home/maths-owl/maths>
- National Numeracy Parent Toolkit has tips and advice for different age groups -  
<http://www.nnparenttoolkit.org.uk/>



# Reading in the new curriculum

This year nationally only 66% of children met the new reading standard.

The bar has been raised.

The amount of reading in a relatively short time is more demanding, and the depth of vocabulary is more challenging.

It is therefore more important than ever that good reading habits are developed using good quality texts.

The best way to help your child is to develop a love of reading using a range of texts, fiction and non-fiction. This takes time and input. It needs a daily routine from when your child is small to build from.

## Expectations

At KS2 children are expected to explain how the use of language creates images. e.g.

*In the paragraph beginning, There were, as I say... Malone compares the iguanodons to different animals. How do these comparisons help the reader understand what the iguanodons look like? (1 mark)*

We teach children to find the evidence in the text by referring back and use a quote to support their opinion. Children with slow reading speeds find this skill difficult.

*The iguanodons are described as inoffensive brutes... Look at the paragraph beginning: I do not know how long... (page 8). Explain how the descriptions of the iguanodons in this paragraph support the idea that they were both inoffensive and brutes. Use evidence from the text to support your answer. (3 marks)*

# Ways to help your child with comprehension

If your child is a confident reader, ask him/her to **read through the passage by themselves first**, then re-read the extract together, clarifying meanings of unfamiliar words and ideas in the text.

**Don't accept the decoding of words as evidence of your child's comprehension** They need to understand the meaning, inference and deductions within the book, which may not be obvious.

**Spend a good amount of time thoroughly reading the text before looking at the questions**, and really make sure your child has understood what he is reading about.

**Discuss the contents** by asking simple questions about the characters, their actions and the setting. Discuss what the problem is in the story, how the characters try to solve it and what happens in the end. Make predictions about what might have happened before the beginning of the extract, or what might happen next.

**To help your child understand inference, encourage them to look out for anything that seems a bit strange** in the context of the text.

**Ensure your child reads the questions properly** Even simple questions can trip children up if, for example, they are asked to tick three boxes to show how a character is feeling, and only tick two.

Begin by **looking for key words** in the first question. Often the first question is literal and prepares the reader for more in-depth questions to follow.

**Make sure your child uses the text as evidence** to back up his answers, rather than his general knowledge.

Remind your child that they always needs to **answer in full sentences**, using part of the question and the information in the text to guide their answer.

**Reading comprehension is not a memory test; all the information your child needs is there on the page.** Encourage patience and perseverance; if the answer isn't immediately obvious, get your child to re-read the text, and it may come to them.

# Reading for pleasure

Here are some tips for encouraging reading in your home with older children:

**Ensure that your children see you reading.** It doesn't matter if it's the newspaper, a cookery book, romantic novel, detective mystery, short stories, computer manual, magazine - anything!

**Encourage children to join in** - ask a child to read out a recipe for you as you cook, or the TV listings when you are watching TV

**Give books or book tokens as presents**, and encourage others to do so

**Visit the local library together** on a regular basis, and enjoy spending time choosing new books

**Encourage children to carry a book at all times** so they can read on journeys or in spare moments – you can do this, too!

**Keep reading together.** There are lots of books that both adults and young people can enjoy. Try *The Curious Incident of the Dog in the Night-Time* by Mark Haddon, the *Harry Potter* series, or *The Life of Pi* by Yann Martel. Read books you can all talk about but make the talk light-hearted, not testing or over-questioning

**Go to libraries or bookshops when authors are visiting.** Children and teenagers love meeting their favourite writers - Jacqueline Wilson and Anthony Horowitz always have signing queues that are miles long!

**Make sure your home is a reading home** - have a family bookshelf and make sure there are shelves in your children's bedrooms as well.

**Don't panic if your child reads the same book over** and over again - be honest, we've probably all done it!

**Encourage your children and their friends to swap books** with each other. This will encourage them to talk and think about the books they are reading

**Thank you for coming**

**Questions**