



Harby C of E Primary School



Welcome to
Parents Information Evening -
Arithmetic
March 2017





So, why are we here?

Purpose of tonight's meeting;

**To explain the school calculation policy
in regards to arithmetic,**

**To give examples of arithmetic
calculation,**

**To demonstrate the need to consider
efficient strategies,**

**To look at some of the test material
and expected standards.**

School Calculation Policy

So, what is meant by 'arithmetic'?

Typically what is thought of:

'The Four operations'

Mental arithmetic

Written arithmetic

Times tables

Etc.

Harby Primary School Calculation Policy

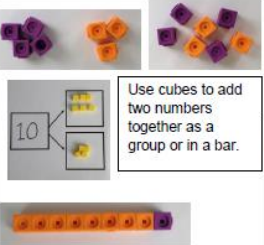
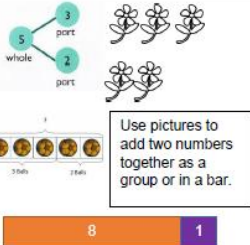
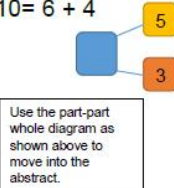

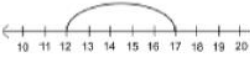
Tonight's presentation will revolve around our recently revised calculation policy.

Developed in line with new curriculum.

Supports children in wider understanding of number and calculation as well as formal methods

Progression in Calculations

Addition

Objective and Strategies	Concrete	Pictorial	Abstract
Combining two parts to make a whole: part-whole model	 <p>Use cubes to add two numbers together as a group or in a bar.</p>	 <p>Use pictures to add two numbers together as a group or in a bar.</p>	$4 + 3 = 7$ $10 = 6 + 4$  <p>Use the part-part whole diagram as shown above to move into the abstract.</p>
Starting at the bigger number and counting on	 <p>Start with the larger number on the bead string and then count on to the smaller number 1 by 1 to find the answer.</p>	$12 + 5 = 17$  <p>Start at the larger number on the number line and count on in ones or in one jump to find the answer.</p>	$5 + 12 = 17$ <p>Place the larger number in your head and count on the smaller number to find your answer.</p>

All the calculation work in school is underpinned by this document and reflects the work carried out in lessons.

It is published on our website

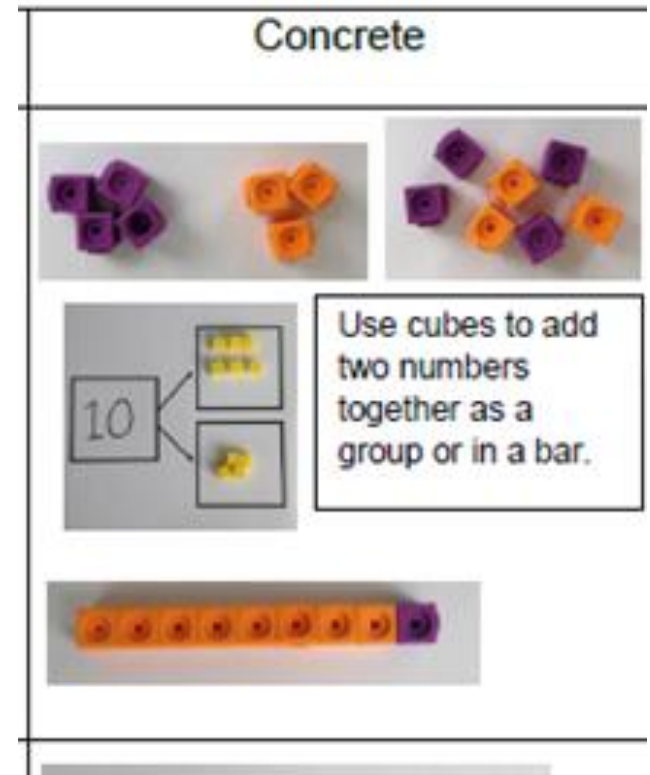
All children are able to access the same curriculum at their own depth of understanding

Concrete methods

What are concrete methods?

Concrete methods rely on the use of equipment or apparatus to illustrate numbers.

These are quite literally 'the building blocks' of Arithmetic.



Modelling (pictorial methods) of arithmetic

- As children develop concrete understanding we encourage the development of a range of ways to model the activities they are carrying out. These help the understanding of what they are doing and are not aimed at calculation but rather at developing number sense and spotting relationships.
- Bar model (part-part-whole). Used for all operations and fractions
- Arrays (area models). Used for multiplication and division as well as fractions.

Calculation methods

- There are many ways to crack a nut!
- Children have to consider the most appropriate method.
- Consider the numbers involved
- Partitioning – (supports use of vertical methods)
- Numberline – (useful for all operations and links to bar model)
- Vertical methods (abstract)

A sledgehammer to crack a nut!



Come on Darling! Surely,
you don't need a sledgehammer to crack a nut...

$$\begin{array}{r}
 \overset{0}{1} \overset{9}{0} \overset{9}{0} \overset{1}{0} \\
 - \quad \quad \quad 7 \\
 \hline
 993
 \end{array}$$

$$\begin{array}{r}
 08 \\
 7 \overline{) 56} \\
 \underline{49} \\
 6
 \end{array}$$

$$\begin{array}{r}
 \overset{1}{1} \overset{0}{6} \\
 - \quad \quad 9 \\
 \hline
 7
 \end{array}$$

$$\begin{array}{r}
 97 \\
 \times 100 \\
 \hline
 00 \\
 000 \\
 9700 \\
 \hline
 9700
 \end{array}$$

"A key issue ... to improve pupil's understanding of mathematics by focusing more on concepts and development of insight, and by relying less on teaching 'rules'."

Mathematics: made to measure, OfSIED, May 2012

Flexibility

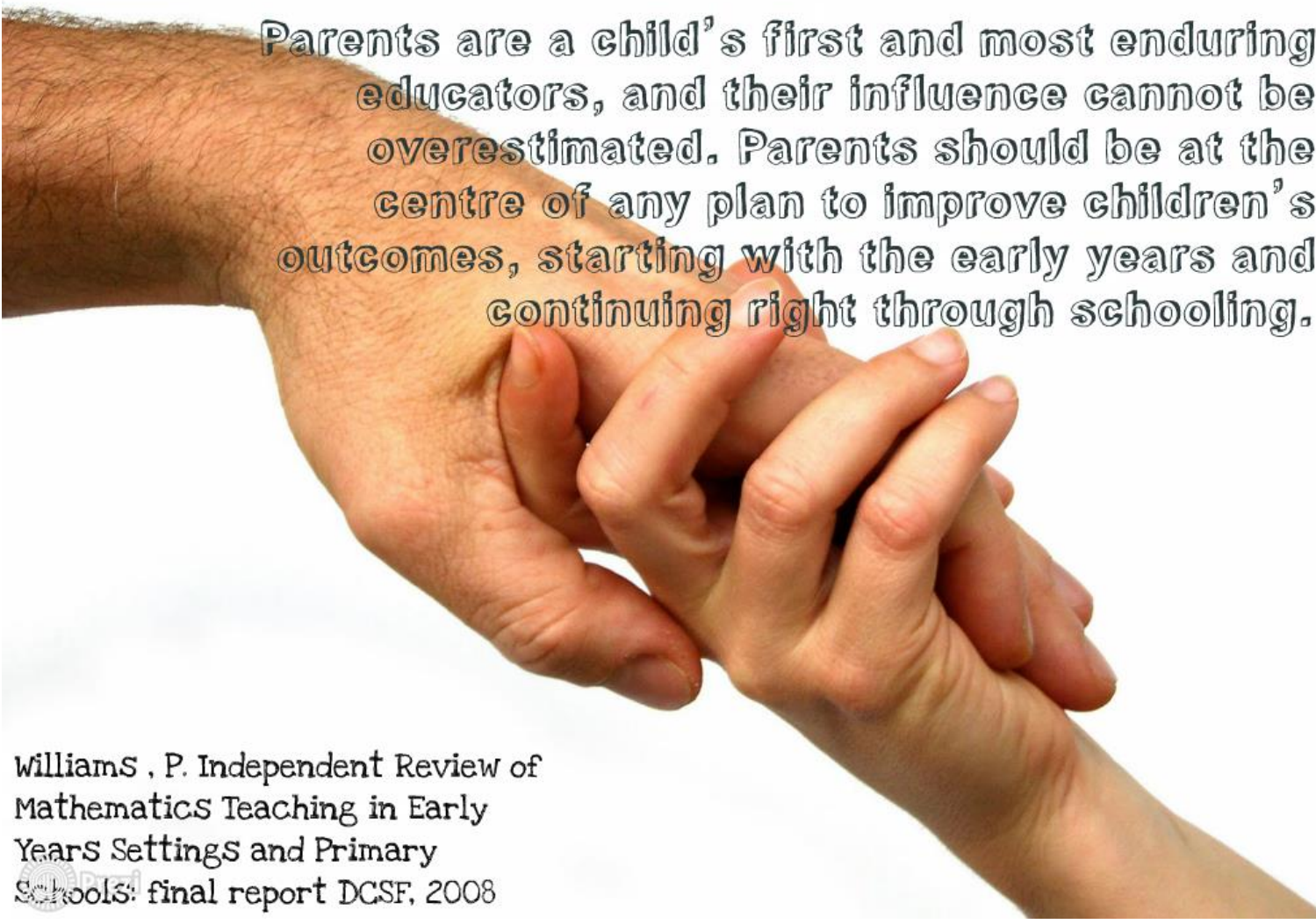
Fluency and mental strategies

- Don't just stick to a method
- Which of these can be done in our head?
- 8072-7989 8541-3876
- 6483-3998 5570-2568
- 7653-3768 9103-8975
- 6340-1339 8652-4995
- Lots of examples for all operations

KS1 and 2 tests

- KS1 - 14 out of the 25 available marks are addition and subtraction in some form but the different presentations of questions mean that children have to use different strategies
- KS1 – 7 marks available for division and fractions
- KS2 key more focus on fluency with all 4 operations, efficient strategies, flexibility (questions are presented in different formats)
- KS2 – use of place value changes, decimals, fractions

What can I do at home to support?



Parents are a child's first and most enduring educators, and their influence cannot be overestimated. Parents should be at the centre of any plan to improve children's outcomes, starting with the early years and continuing right through schooling.

Williams, P. Independent Review of Mathematics Teaching in Early Years Settings and Primary Schools: final report DCSF, 2008

What can you do at home to help?

Parental dos

- o Have a **positive attitude** to maths!
- o **Talk maths** with your child... e.g. "How much change will I get from...?", "Can you see five rectangles around us?", "How many...?"
- o Involve children when taking measurements or weighing items
- o Take note of numbers in real life e.g. telephone numbers, bus numbers, lottery numbers etc
- o Give children opportunities to use money to shop, check change etc
 - o Talking about the mathematics in sport e.g. How many points does your favourite team need to catch the next team in the division?
- o **Challenge** with mental arithmetic questions.
- o Encourage quick recall of times table facts (flash cards).
 - o Learn and show card and number tricks.
 - o Look at number puzzles/challenges from newspapers.
 - o Play number games
- o **Enable concentration:** does your child get enough sleep?
- o **Share strategies** and methods (allow child to be the expert)
- o When helping your child calculate, use the method that the child has been taught.
 - o Numbers such as 10, 100, 1000 will be called **Landmark Numbers**.

What shouldn't I do?

Parental don'ts

We all want the best for our children and are enthusiastic about helping them. The following is a list of things that will not help your child in the long run. Please don't teach your child the following things;

- o Please **do not teach your child a method that is 'out of order' developmentally**. Your child will be taught the appropriate method at school and this will be the method they will need to use for their homework.
- o Please **do not teach your child a different method to the methods used in school** unless you have discussed it with the class teacher beforehand.
 - o **The decimal point never moves!**
 - o **We do not 'just add a zero'** when multiplying by 10 - adding 0 changes nothing!
 - o **We do not do sums**. Sum is another word for addition and not a general term for calculations.
- o We encourage children to keep all work, even if it is wrong or a practice. Please **do not rub out and start again** as mistakes are the bedrock of learning and, as such, should be celebrated as part of the learning journey.

Thank you very much for your attendance.

- Please take a better look at the calculation policy
- Please email or come and see me if you have further questions. (lmartino@harby.leics.sch.uk)
- Please talk to your children and continue to support them with homework etc

Hopefully you feel better equipped support your children, if not then hopefully you now know where to find support.