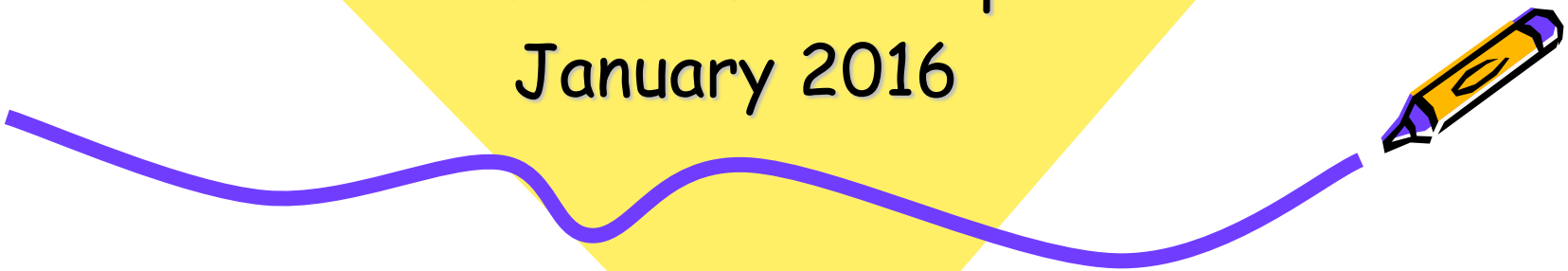
Perryfields Infant School

Maths Workshop

January 2016

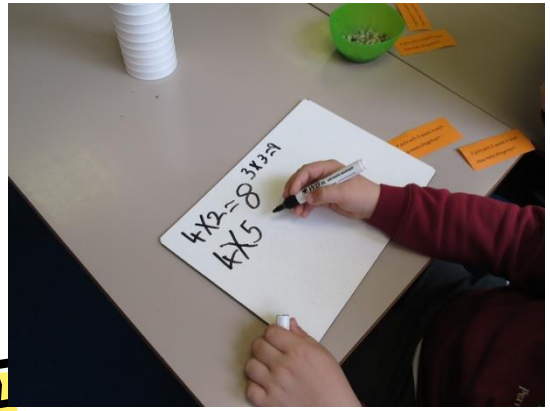


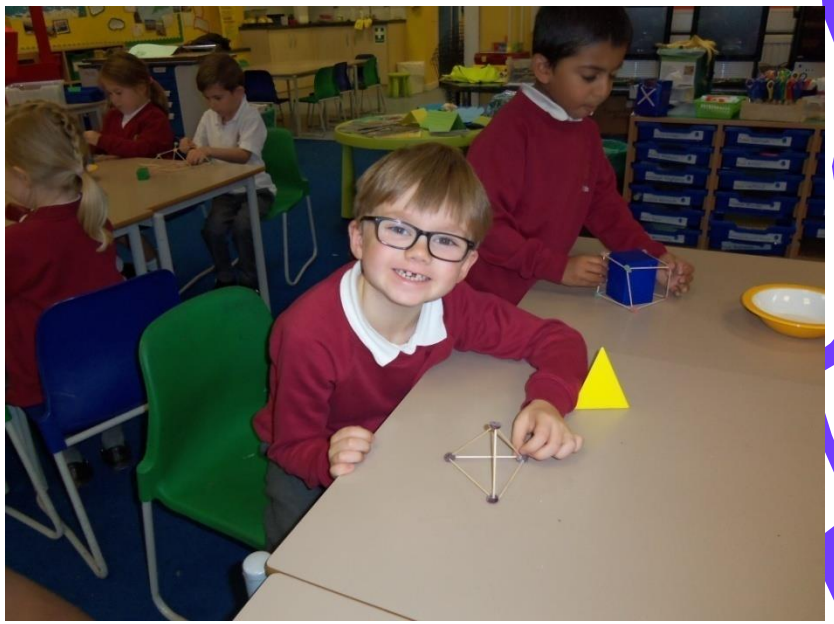
Objectives for the evening

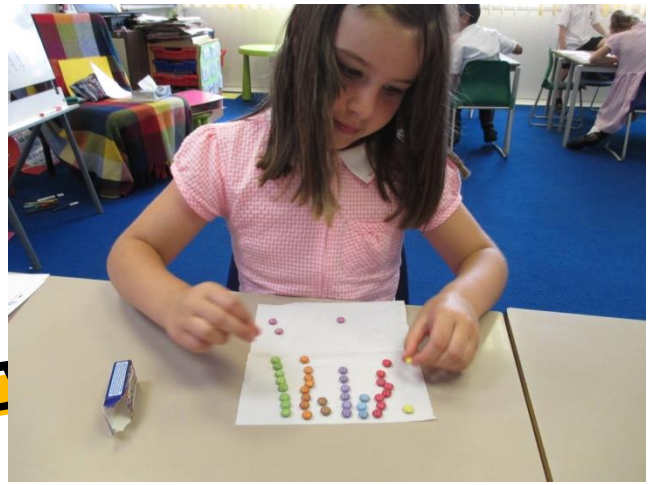
- Share the key features of the National Curriculum for Mathematics.
- Explain briefly how maths is assessed (at present).
- Show you some of the ways that we teach your children to master mathematical skills.
- Give you ideas about how you can help your children to develop confidence in maths.
- Identify websites that might be useful.

Maths at Perryfields

- We do maths in some form every day – emphasis on fun.
- Sometimes purely practical, sometimes record on whiteboards, sometimes in books or for topic book.
- Occasionally shorter mental maths session – counting, games, etc.







- Revisit same skills frequently in different contexts (outside, early morning challenges)
- Combine with other subjects too – science, PE, history, geography…
- Handwriting and spelling includes maths words and numbers.
- Number of the week and Speedy Numbers.

Maths in Foundation Stage

- Development Matters has 2 headings – Number and Shape.
- Saying the numbers in order – counting songs and rhymes help with this. Aiming to be fluent to 20 and beyond by the end of the year.
- Counting with 1 to 1 correspondence.
- Practical adding and taking away.
- Using positional language.
- Using the language of comparison (shorter/ longer, heavier/lighter).
- Recognising 2d and 3d shapes around them.

KS1: General aims and features of National Curriculum

- Teachers should use **every relevant subject** to develop pupils' mathematical fluency – suits our cross-curricular teaching!

Aims and features
Principal focus

- The principal focus in key stage 1 is to ensure that pupils develop **confidence and mental fluency with whole numbers, counting and place value**.
- This should involve working with numerals, words and the **four operations**, including with practical resources.

What does this mean?

- Good instant recall of facts (?+?=20)
- Counting forwards, backwards and in steps of different sizes.
- Understanding what a written number really means eg. 12 is not the same as 21 because of the position of the numbers.

Aims and features continued

- Recognise, describe, draw, compare and sort different **shapes** and use the related vocabulary
- Use a range of **measures** to describe and compare different quantities such as length, mass, capacity/volume, time and money.
- Pupils should read and spell mathematical **vocabulary**.

Starting to read and record – "number sentences"

- Children need to be able to convert signs into words and words into signs.

12 + 8 = 20

20 = 12 + 8

12 + 8 = 14 + 6

- They begin to understand the impact of the sign on the answer (and explain)

Inverses

- Sometimes recommended that + and – are taught together to help children recognise the relationship between the 2, where the biggest number goes, the importance of the sign.

- 3 + 5 = 8
- 8 – 5 = 3
- 3 + _ = 8

Place value

- What does this say? 3
- Are you sure?
- What if I put a 0 after it? 30
- What if I put 12 after it? 312
- What if I move it to the other side of a decimal point? 0.3
- This is a BIG thing for children to understand!
- Also understanding how to write the bigger numbers: 123 not 100203

Teens and tea (ty)!

- Some children get confused between 13 and 30, 14 and 40 etc. Here are some ways to help them remember…
- Skinny teenagers – 1 – at the start of the teen numbers.
- Round teabag – 0 – at the end of a ty number.
- Really about recognising how many lots of 10 there are in it.
- Constant reference to number lines in class!

Adding by counting on

- Use a number line/ ruler to help them add by counting on.
- Put the biggest number first.
- Count on by the other number.
- Mistakes – count the number itself. Stand on it, then won't count again!
- Mental skills – put the bigger number in your head and count on.

The amazing, marvellous 100 square!

- There are so many ways to use it…
- Number recognition – put your finger on 36
- Addition by counting on
- Subtraction by taking away
- Adding and subtracting multiples of 10.
- Patterns in times tables.
- Identifying bigger and smaller/ numbers between.

We use it a lot and help the children to be able to visualise it when it is not there!

Partitioning

- This just means chopping a number into tens and ones.
- Eg. 23 = 20 + 3, 156 = 100 + 50 + 6
- This knowledge can be used to add too.
- Eg. 40 + 5 = 45.
- And then to add 2 numbers.
- 24 + 35 = 20 + 4 + 30 + 5
- = 50 + 9 = 59

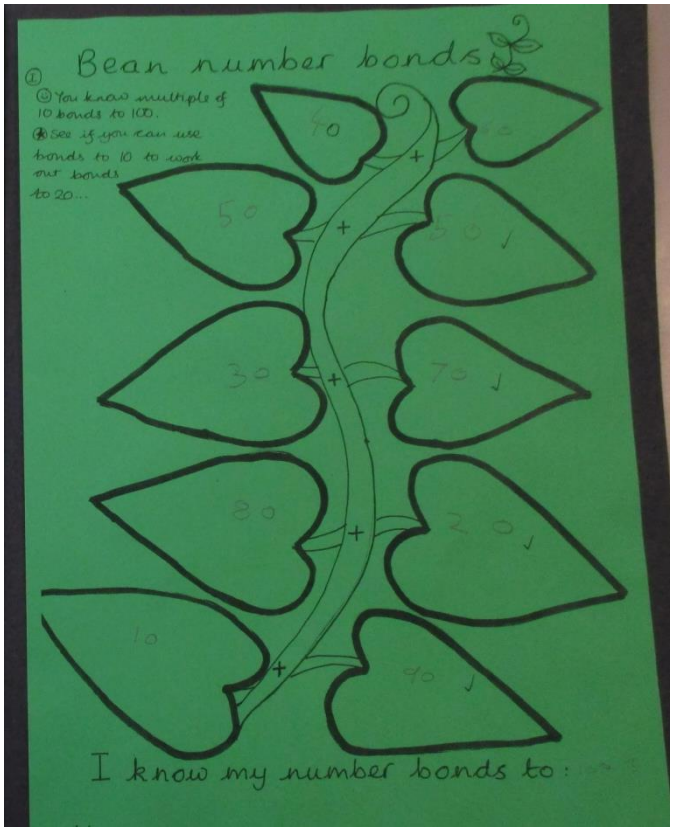
Partitioning in different ways

- The new curriculum takes things on a step.
- 23 = 20 + 3

So 23 = 10 + 13

Counting in steps of different sizes…the first step in multiplying

- Different actions for different multiples
- Corners game



Multiplying – lots of

- Children already familiar with counting in 2s, 5s, 10s
- Make sets and then count the sets
- Repeated addition
- Arrays – a visual representation of times tables
- Recognise that 2 x 4 is the same as 4 x 2

Dividing

- Sharing into a given number of groups – 12 shared between 3 gives 4 each.
- Repeated subtraction – 12-3-3-3-3=0
- Splitting into groups of a given number – how many groups of 3 will you be able to make from 12?

Linked to this is fractions

- Recognise that $\frac{1}{4}$ means 1 out of 4 equal parts.
- Not just fraction of circle, also of straight line, shape made out of triangles etc.
- To find fractions of numbers, share out cubes/ counters on a shape.

Worded problems and vocab.

- Children need to understand maths vocabulary and which words lead to which operations – maths vocab on display and discussed in lessons.
- Under the new curriculum they are expected to be able to read and write words for numbers.
- To have a deeper understanding, children are expected to be able to solve problems written in different ways and to EXPLAIN their own reasoning.

End of KS1 test (this year only)

- When they happen – summer term
- Where they happen – in class
- 2 papers – arithmetic and problem solving.
- MASSIVE emphasis on understanding and applying number (up to 90%).
- How – not now differentiated (same papers tackled by all), no resources in the arithmetic paper.

Solving problems without apparatus

- Remember being told to show your workings? Some children only like the answers!
- The test papers have lots of space – we encourage the children to use this to...
- Draw dots/ crosses etc. to add.
- Draw arrays or sets to multiply.
- Draw a section of number line/ hundred square or what is called a "blank number line."

Reported Teacher assessment (this year only)

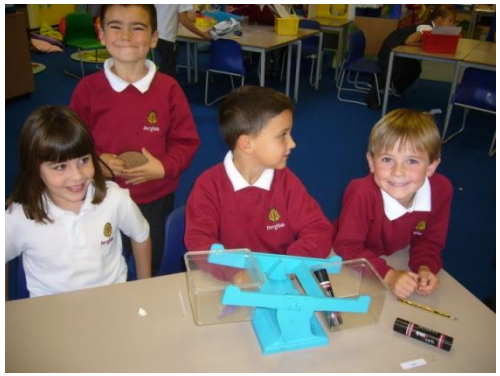
- Teacher assessment will be working towards expectations, working at expectations, working above expectations.
- Must have met EVERY item for the band described AND the ones below.
- This may not tie up exactly with the description generated from the test!

How you can help

- Count everything and everywhere!
- Notice numbers – door numbers, packaging, prices and ask questions like "What if there were 10 more?"
- Notice the time and talk about how long it is until something happens.
- Model using your fingers to count on and say things like "how many more?"
- Try not to say "I was never very good at maths!"

How to help continued

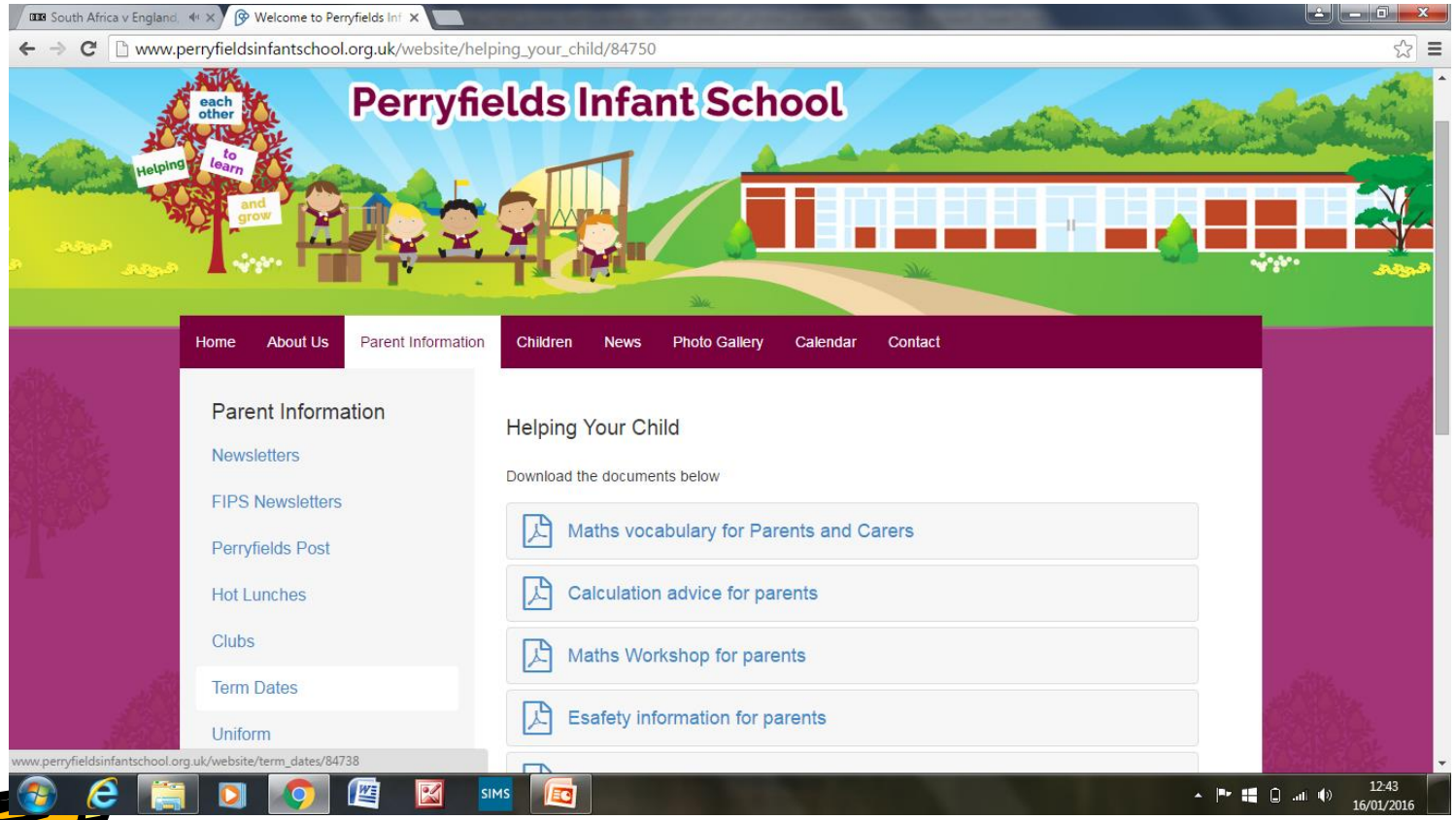
- Let them play with money and make amounts using different coins.
- Let them help weigh ingredients.



A word about homework

- Reinforcement of that week's teaching, not new concepts.
- Usually capable of tackling independently, but chance to chat about learning.
- Spellings of days and number words.

Help on our website



Other websites

- www.ictgames.co.uk
- www.primarygames.co.uk
- www.bbc.co.uk/bitesize/ks1
- www.crickweb.co.uk
- www.nrich.com
- www.digitalbutterflies.co.uk
- www.woodlands-junior.kent.sch.uk/maths
- www.topmarks.co.uk
- www.mathszone.co.uk

Any Questions?