Points we will cover this morning.

- Why we wanted a change
- Philosophy behind the scheme
- Day-to-day running
- Impact
- Resources
- Q & A
Why we are changing...

• New Curriculum and Ofsted framework were introduced, and we wanted to provide the children with a 'Mastery' curriculum.
• The new curriculum places a high importance on mental maths skills and fluency of these.
• Next step to further maths teaching
• 'Mastery' means doing fewer things in greater depth to ensure skills are learned. The new National Curriculum is a Mastery curriculum.
Maths-No Problem!

• In line with the National Curriculum 2014

• Recommended by NCETM. The National Centre for Excellent Teaching in Maths and the national and local (West London maths hub)

• Government (DfE) preferred way of teaching maths. £40 million being made available for schools to buy resources. (We don’t qualify for this funding).
Maths-No Problem!

• Emphasis is on problem solving and comprehension, allowing children to relate what they learn and to connect knowledge.

• Careful scaffolding of core skills:
  - visualisation
  - mental strategies
  - pattern recognition, to make links between ideas.

• Emphasis is on the foundations for learning and not on the content itself so children learn to think mathematically as opposed to merely reciting formulas or procedures.
Maths-No Problem!

• The focus of the scheme is on teaching to mastery (complete understanding), by allowing enough time on a topic for a child to comprehend it thoroughly before moving on.

• The programme emphasises problem-solving and pupils using their core skills to develop a relational understanding of mathematical concepts. It uses 3 key stages.
The CPA approach

Concrete representation
- The active stage - a child is first introduced to an idea or a skill by acting it out with real objects. ‘Hands on’

Pictorial representation
- The iconic stage - a child can now relate the ‘hands on’ to representations, such as a diagram, picture of the problem or a bar model.

Abstract representation
- The symbolic stage - a child is now capable of representing problems by using mathematical notation. E.g 6+4=10
The CPA approach

Concrete representation
The CPA approach

Pictorial representation

Example

2 and 8 make 10.

7 and 9 make 10.

3 and 7 make 10.

(a)

Add by counting on.

9 + 2 = 11

(b)

8 + 3 = 11

(c)
The CPA approach

Abstract representation

**Challenge**

a) Harry had 6 marbles. His friend gave him 12 more. How many marbles does Harry have now?
b) How did you find out the answer?

\[
\begin{align*}
12 + 6 &= 18 \\
6 + 12 &= 16 \\
\text{I did add on } 12 \text{ and I ended up with } 18\\
\text{Which number would be best to start on? Why? 12.}
\end{align*}
\]

Then:

\[
\begin{align*}
\text{I counted on from } 12 \text{ baces as it is the bigger number.}
\end{align*}
\]

**In Focus**

A website estimates the populations of these countries as follows:

<table>
<thead>
<tr>
<th>Country</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liechtenstein</td>
<td>37,370</td>
</tr>
<tr>
<td>Guam</td>
<td>159,358</td>
</tr>
<tr>
<td>Brunei</td>
<td>393,372</td>
</tr>
<tr>
<td>Malta</td>
<td>425,384</td>
</tr>
<tr>
<td>Bhutan</td>
<td>759,780</td>
</tr>
<tr>
<td>Fiji</td>
<td>859,178</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>562,958</td>
</tr>
</tbody>
</table>

Do you agree?

Yes I do because 393,372 rounded to the nearest hundred thousand is 400,000 and 425,384 rounded to the nearest hundred thousand is 400,000.
Lesson Structure

Each lesson will follow this structure:

In Focus task: hook, hands-on, practical task to introduce concept.

Discussion: discussion of learning in In Focus task and modelling of different methods.

Guided Practice: teacher modelling solving a given problem step-by-step

Independent Practice: children answering workbook questions independently.

Greater Depth Task: Involves reasoning, applying skills in different contexts, non-routine problems.
Lesson Structure

Differentiation

• Children are expected to fully master a concept before moving onto the next.
• Extension takes the form of greater depth activities rather than acceleration.
• Ideas for both support and challenge are provided.
• Deeper activities rather than acceleration; like comparing a ladder to a climbing frame.
Aims

• All classes will receive a practical and well-pitched curriculum
• Practice will be consistent across the school
• We will continue to foster good links with the NCETM through the local maths hub
- Topmarks
- National Numeracy Parent Toolkit
- Maths Zone
- Woodlands Resources
- Nrich
- Jargon Buster

- Maths: No Problem Parent videos
  http://www.mathsnothelp.co.uk/parent-videos
- The Maths No Problem section of our website:
  http://smi.hounslow.sch.uk/helping-at-home/maths-no-problem.html
- Textbooks
- Workbooks