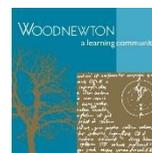


# Woodnewton - a learning community



## Mathematics Lesson Design

**Fluency** – all lessons to start with rolling numbers or flashback 4 and a fluency activity supporting maths mastery

**5 minutes**

### Explore - In Focus

Present problem to explore - chn try to solve it using manipulatives.

**10 minutes**

### Structure - Let's Learn

Teacher models chn's methods on board and helps to organise their ideas. Emphasise the method we want chn to pay attention to - have we used/found the same method today?

### Reflect – Your turn

Reflection supported by teacher. Chn practise skills, with talk partner – work through examples to move from concrete/pictorial to abstract.

**30 minutes**

### Practise -Independently

Chn complete independent work – pupil book.

**10 minutes**

### Deeper challenge

Chn complete a more complex problem that enables them to use their mathematical reasoning.

**5 minutes**

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**Mastery!**

**A pupil really understands a mathematical concept, idea or technique if he or she can:**

- describe it in his or her own words; (prompts for chn could be: I noticed that...I think that...I wonder if...)
- represent it in a variety of ways (e.g. using concrete materials, pictures and symbols – the CPA approach)<sup>1</sup>;
- explain it to someone else; (are they able to explain the mathematics to one of the children who have not yet understood, so that they understand?)
- make up his or her own examples (and non-examples) of it;
- see connections between it and other facts or ideas;
- recognise it in new situations and contexts;
- make use of it in various ways, including in new situations.

**Examples of challenge on planning could show:**

- Find another way/use a different way of solving the problem
- Write a story about what you have done
- Write a note to a teacher and explain what we have been doing in our maths lesson today

**Quick 6 activities:**

- Create a word problem to match today's learning.
- Write an explanation of your preferred method with words and pictures.
- Write an explanation of a method which you did not choose.
- Develop a new method for solving the problem.
- Show a physical model of the problem.
- Show a visual model of the problem.

**Depth 5:**

- Do you agree? (true/false, etc)
- Explicit use of misconceptions and mistakes
- Probing questions (show me, convince me, what's the same, what's different?, etc)
- The missing digit/number (empty box)
- Here's the answer, create the question