Mathematics at Chalford Hill

10.5.18.

STEM

Science Technology Engineering Mathematics

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Once upon a time...

Up to 2014, the National Curriculum for Mathematics, in its various incarnations, comprised :-

A programme of study for each year group
Which some of the pupils in a class would be studying
Whilst others worked on the previous year's programme
Or even the one before that!
Meanwhile, some pupils worked on next year's programme
Or even the one after that!

This made effective teaching and learning...challenging.

Pupils' progress though the pre-2014 curriculum was assessed using attainment levels...

Level 1
Level 2
Level 3
Level 4
Level 5
Level 6

A typical upper junior class may well have contained pupils assessed as working at each of these six levels.

This also made effective teaching and learning...challenging.

But now...

All the pupils in a year group work to master the same programme of study.

Rapid graspers are provided with opportunities to work at greater depth.

Slower graspers are given support to enable them to keep up.

Teaching and learning is more effective.

Instead of progressing through a series of numbered levels,
each year pupils have the opportunity to demonstrate that they are:

Working at expected standard

By the end of the year, increasing numbers of pupils will have the opportunity to demonstrate that they are working at:

Greater Depth Standard

By the end of the year, pupils who are still working towards expected standard will:

Have experienced all the maths in their year group's curriculum

Have interventions in place to help them achieve expected standard next year

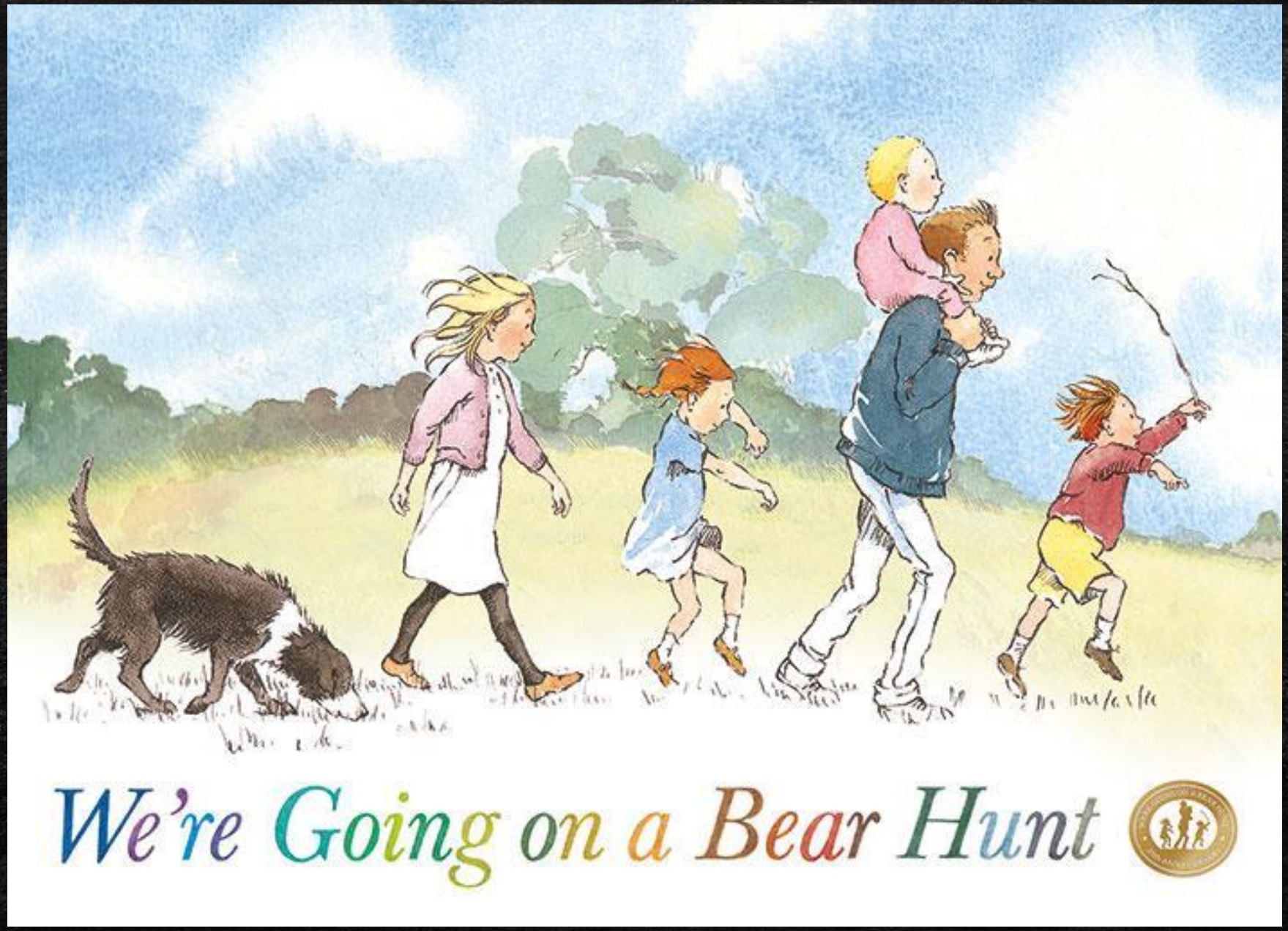
A teaching approach based on the idea that all pupils are capable of successfully accessing a given curriculum is known as:

"a mastery approach"

and is closely aligned with a theory known as

"growth mindset"

perhaps best illustrated by Helen Oxenbury...


We're Going on a Bear Hunt

The programmes of study in the National Curriculum are based on three key areas:

Fluency

Reasoning

Problem Solving

Our separate, daily Fluency Lessons are all about helping pupils to develop:

a confident facility with numbers and the number system

key skills such as written methods for arithmetic

knowledge of key number facts and the ability to apply these facts

A fluent pupil would solve 40 x 7 by thinking to themselves:

I know that 4 x 7 = 28

And...

I know that 40 is ten times as big as 4

So...

40 x 7 = 280

However, fluency is only useful when it is combined with thinking skills (reasoning) to enable one to solve problems efficiently.

Mrs Flood is taking the "Forty Week Challenge".

How many days without Prosecco is that?

I know there are 7 days in a week

I know that $4 \times 7 = 28$

So $40 \times 7 = 280$

So that's 280 days without Prosecco!

At Chalford Hill, our daily mathematics lessons provide opportunities for pupils to solve problems, with increasing efficiency, by combining reasoning and fluency.