

## Maths at Southwold School - The Mastery Model of Learning

The Mastery learning model forms the basis of our approach to teaching maths. This means spending greater time going in to depth about a subject as opposed to racing through the concepts and knowledge pupils are expected to know by the end of each year group. Previously, accelerating through the content led to some children having large gaps in their knowledge because the concept they had just learnt was either too big or learnt too quickly. As a primary school, it is our duty to ensure that children have an absolutely solid, concrete understanding of subject knowledge and skills as well as being emotionally resilient for the next year of their education.

Our intention is to take learning at a measured pace. This will better ensure no child is left behind as well as providing deeper and richer experiences for children who are grasping ideas quickly. We focus on the majority of children achieving what is expected of their age group and not going beyond this. Evidence shows that children need to be able to understand a concept, apply it in a range of situations and then be creative with it to really understand (or master) it. Simply going beyond the requirements of their age group does not guarantee they have fully understood something – just that they have heard it.

At our school, the majority of children will be taught the content from their year group only. They will spend time becoming true masters of content, applying and being creative with new knowledge in multiple ways.

In essence, this means working towards:

- **Teach less, learn more** – focussed content, evidencing learning and progress
- **No child being left behind** – the majority of children are enabled to keep up every day
- **Space and time** – to experience and apply, with all children entitled to additional support to ensure they do not fall behind or to be challenged in their learning and go deeper with their understanding.
- **Understanding real life applications** – wherever possible for learning to be relevant and not abstract, to teach with a clear purpose

### **We aim for all pupils to:**

- become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- to be able to solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
- to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.
- to have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately to be successful in mathematics.

All this means there may be a change in the way we have historically taught and assessed pupils. We will be doing more of this:

- Teaching all pupils in class, together, most of the time
- Verbal feedback during lessons and 'on the spot' marking
- Spending longer on one idea

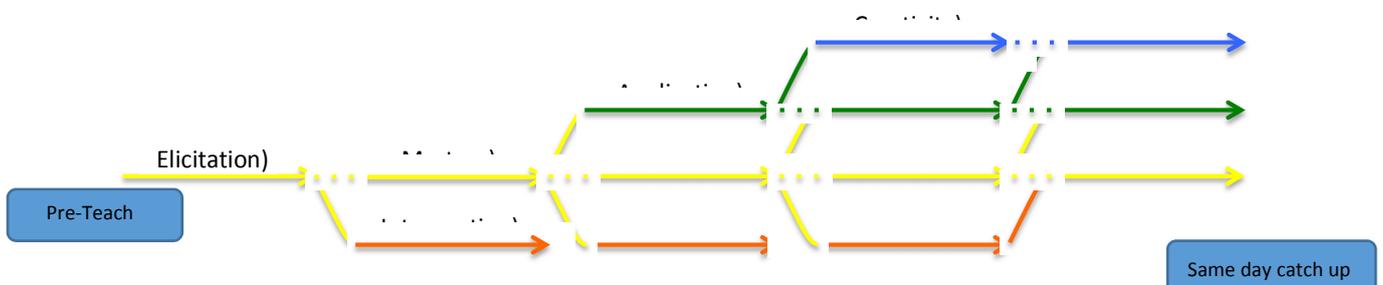
- Giving pupils who need it additional support over shorter more intense timescales – ideally same day - to prevent gaps in learning occurring
- Giving pupils who need it additional support to challenge them and apply their thinking
- Regular assessments

And less of this:

- Covering lots of ideas in one week
- Formal, long term interventions to boost pupils out of class
- Separating in to ability groups
- Formal testing of pupils termly

## What will you see in Maths Lessons?

- Whole class teaching
- Whole class response/talk to partners/tell yourself
- Extended partner practice
- Careful, one step variation
- Limiting the number of calculations children do before applying
- The focus on depth of understanding
- Links being made between questions to encourage children to look for patterns/relationships



## Changes to the structure of Maths lessons at Southwold School from January 2017

### Maths teaching – 1 hour 15 minutes a day.

#### 1 hour 'Maths lesson'

1.	30 minute whole class teaching using pre-prepared visual prompts on smartboard, whiteboard or demonstration.
2.	15 minute intervention for those who have not shown their understanding during the first 30 minutes (TA or T led) whilst the rest of the class secure and deepen their understanding (T or TA circulate around the class)
3.	Whole class plenary bringing everyone back together, sharing and celebrating examples 'WAGOLL'
4.	15 minute 'Fluency/Number sense' The 15 minute lesson may come after a break or follow straight on in KS2.

#### The Maths lesson design:

1. The key learning point
2. Teach it – introduction, hook, modelling
3. Twist it – do it with simple examples
4. Twist it 2 – active argument ( yes/no/true/false) misconceptions, probing questions to secure
5. Deepen it - reasoning, missing digits/ boxes, generating the question, probing questions

The fluency lesson design (this will depend on what has been covered by year groups during the year)

KS2 and Year 2 –

- day 1: Addition/subtraction focus
- day 2: Multiplication and division focus
- day 3: Times tables (taught and practised)
- day 4: Arithmekits
- day 5: Close the gap – revisit and add depth to work – intervention if needed.

Year 1 terms 1,2 and 3 –

- day 1: oral and object counting with ‘Prove it’
- day 2: number formation and recognition
- day 3: counting in steps and using objects and drawings as ‘Prove it’
- day 4: Arithmekits
- day 5: Close the gap – revisit and add depth to work – intervention where needed.

Year 1 terms 4,5 and 6 –

- day 1: addition and subtraction with oral counting
- day 2: Multiplication (lots of) with oral counting
- day 3: Division (grouping and sharing) with oral counting
- day 4: Arithmekits
- day 5: Close the gap – revisit and add depth to work – intervention where needed.

