# Easington C of E Primary School-Mathematics Policy
# What does Mathematics look like at Easington C of E Primary School?
# 2020-2021

## INTENT

At Easington C of E Primary School, we aim for all of our wonderful children to develop the roots to grow and the wings to fly. Through the explicit and accurate teaching of mathematics, children will have the roots to grow by developing the understanding, confidence and independence to gain a deep and meaningful knowledge and understanding in all areas of mathematics (e.g. place value, number, geometry, calculation etc). They will then be able to 'fly' within the subject by applying their knowledge and skills, from all areas of mathematics, in real life situations, problem-solving contexts and across the other National Curriculum subjects being taught.

A key question to be considered at Easington C of E Primary School was:

What is 'Mastery'?

At Easington C of E Primary School, the term 'mastery' refers to the ability of the children simply to have understood a mathematical idea or concept and in practical terms, have the ability to apply mathematical knowledge in different ways (fluency, problem solving and reasoning). This would mean that the children have confidently 'mastered' the concept.

## IMPLEMENTATION

**Teaching Time:**

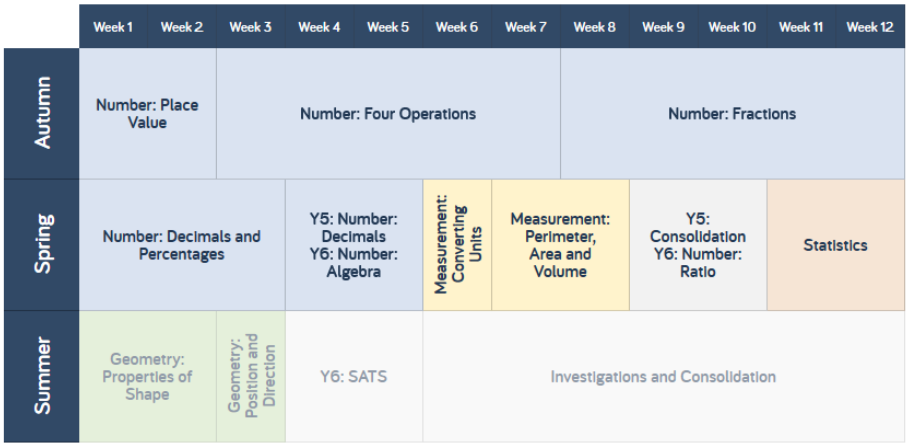
Mathematics is taught on a daily basis with each lesson an hour in duration.

- 38 school weeks of 5 x 60 minute maths lessons including cross-curricular links when appropriate.

**Planning**

- **Long Term Planning**: The National Curriculum.

- **Medium Term Planning**: White Rose Hub Yearly overviews. These are specific to each year group. An example is provided below.




- **Short Term Planning**: There is a daily mathematics lesson-60 minutes. Essential components of each lesson include a clear, year group specific Learning Objective and a clear and concise Success Criteria. This will be evident in books using the 'Success Criteria' label which will also be used by the children and teachers to show assessment within each lesson. Short term planning is supported by numerous materials from a range of sources and incorporates the Teaching Cycle (Teach, Practice, Apply and Review/Assess).

- **Daily Maths Meeting**: IN Key Stage 2, children complete a Daily Maths Meeting (DMM). The DMM will focus on recapping and consolidating key basic skills (times tables and procedural elements) and concepts, as well as basics such as counting etc identified and highlighted by ongoing AfL. This will take place **EVERY DAY FROM 12.00-12.30**-this will be evident in classes on Learning Walks etc. This will be monitored closely by SLT. The content for this should come from AfL from lessons as well as the achievement of the children. The children will have a 'Daily Maths Meeting' exercise book for this work-the DMM should be a practical, collaborative and enjoyable session. The exercise book should be used for Guided Practice, working out, jottings etc that will allow children to understand concepts. Where procedural/fluency work has been completed, this should be marked and assessed by the teacher at the point of learning (see Marking and Feedback policy for further guidance). Peer assessment should also be utilised during this session.

**Teaching Time:**

38 school weeks of 5 x 25 minute daily maths meetings.

**Teaching and Learning**

At Easington C of E, a 'blocked' approach is used. However, there is flexibility concerning the length of the blocks-these can be made longer or shorter (in consideration to time) depending on continuing Assessment for Learning and Teacher Assessment. The blocks may also be taught in a different order-it is the teacher's professional responsibility to ensure that the expectation of the curriculum

objectives being covered by the end of the academic year is met. Teachers use their professional judgement to judge what is most beneficial for their own class.

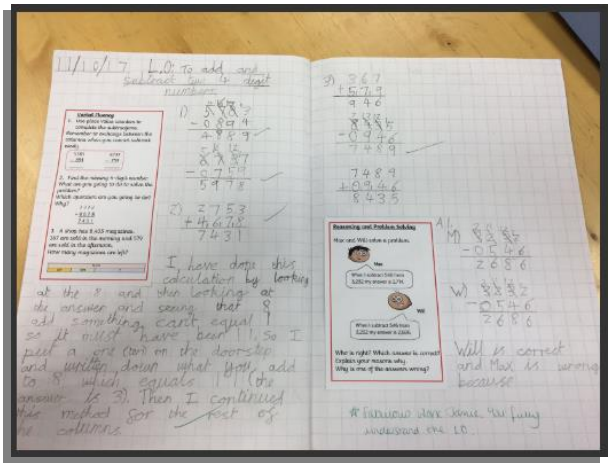
The mathematics subject lead is informed of the coverage for each class on a weekly basis. This occurs before the content is taught to enable the subject lead to have an up-to-date and clear picture of mathematics across the school at any point in time. A record of this coverage will be filed by the subject lead in the relevant subject leader file.

Mixed year groups (EYFS/1, Y1/2 Y3/4) will utilise the WRH yearly coverage document to ensure accurate curriculum coverage but the input and modelling for each lesson should address the higher-level concept (the higher year group). The task should then be differentiated so that it meets the requirement of each year group (e.g. Place value in Y6 is to ten million whereas in Year 5 it is to one million etc). In instances where the National Curriculum requirements for each year group do NOT align, a split teaching approach **must** be employed to ensure that each year group receives their curriculum entitlement. Teaching Assistants should be utilised when appropriate to facilitate this process e.g. when the teacher is providing quality first teaching inputs to one year group, the teaching assistant may be utilised in providing immediate intervention for a concept for the other year group, then the 'teacher group' works independently with the support of a TA whilst the other year group receives their quality first teaching input. **Teachers will use their professional judgement to decide how best to utilise this support.**

Teachers design lessons with an emphasis on the representation of content (Concrete Pictorial Abstract-CPA-approach) and work designed to meet the needs of the objective (objective first, not task). A wide range of resources should be used in order to create specific tasks-teachers should 'dip in' to WRH, Maths No Problem (electronic version), Kenny's Pouch etc to create tailor-made worksheets for their cohorts. All worksheets need to contain Fluency, Problem Solving and Reasoning tasks **EVERY DAY** from Monday-Thursday. Every Friday all children should complete real-life problems, investigations, puzzles etc.

Worksheets are created using a standard format as this provide consistency of expectation across school and present a uniformed approach to presentation of content and appearance for moderation purposes. Children should record in squared books **not** on the sheet, unless it is a diagram/number-line etc to complete.

Example provided below.



Success Criteria labels are used as an indicator of the progress that has occurred throughout the course of the lesson. **The labels need to be specific to the year group objective and the Success Criteria specific to each year group.** The success criteria **SHOULD NOT** be generic but **SHOULD BE** differentiated and matched to the children's ability.

The modelling resources used by teachers to facilitate learning indicate progress clearly and use models and images vital to the children achieving mastery (by the end of the academic year). Marking and assessment within lessons (Verbal Feedback), at the point of learning, is an integral part of practice. Teachers use the 'Next Steps' to further challenge the Higher Standard children or to consolidate learning**.** It is an expectation that when the children's work merits it, the 'next step' will be given. **Crucially, teachers check and acknowledge the 'next step' feedback by marking and initialling it.**

**Example of aligning curriculum content:**

**Year 2/3 example:**

**Y2 Place value – Comparing and Ordering Numbers:**

- Place Value: Objective 2 - Can recognise the place value of each digit in a two-digit number (tens, ones).

**Year 3 Place value – Comparing, ordering and rounding numbers:**

- Place Value: Objective 2 - Can recognise the place value of each digit in a three-digit number (hundreds, tens, ones).

**Year 3/4 example:**

**Year 3 Place value – Comparing, ordering and rounding numbers:**

- Place Value: Objective 3 - Can compare and order numbers up to 1000.

**Year 4 Place value – Comparing, ordering and rounding numbers:**

- Place Value: Objective 5 - Can order and compare numbers beyond 1000.

**Year 5/6 example:**

**Year 5 Fractions, decimals and percentages:**

- Fractions: Objective 22 - Can compare and order fractions whose denominators are all multiples of the same number.

**Year 6 Fractions, decimals and percentages:**

- Fractions: Objective 15 - Can compare and order fractions, including fractions less than1.

Once the objectives have been carefully selected from the MTP, teachers can deliver the content. In the Year 2/3 example, all children would receive the main input to meet the Y3 objective (pre-signalling content for Y2). The Y3 children could then be sent off to begin their task whist the Y2 children remain with the teacher for the extended input to deliver the Y2 objective (this 'extended' time may only be 5 or 6 minutes depending on the objective/how well the objectives have been aligned). Once the Y2 input has been completed, the teacher would be able to send these children off to begin their task whilst checking the Y3 children and providing

appropriate feedback. The teacher must then ensure that ALL children receive appropriate feedback throughout the course of the lesson.

It should be noted that not every objective on the MTP may not require a whole lesson e.g. Year 1 Place Value – Rote counts from 0 – 30 or beyond and back from any given number up to 30. This objective may be addressed in a mental and oral starter, DMM etc.

A crucial point to note is that whilst the place value and calculation content is being delivered in the 60 minute maths lesson, the KS2 DMM must be utilised to address any gaps in knowledge that have become apparent from any area of mathematics from the previous year due to COVID 19 e.g. fractions, shape, statistics etc. It is essential that the DMM of 25 minutes is utilised for the maximum benefit of the children-the content taught will vary from cohort to cohort and should be bespoke to that cohort of children's needs and assessment for learning.

Also, cross curricular are made to alleviate some of the time pressures for delivering mathematics e.g. the 'statistics' requirement of the mathematics NC could be taught exclusively in science but the teacher would need to ensure that the maths being delivered (through science) is age appropriate and will be used to satisfy the expectations for the maths curriculum.

In all year groups, teachers will use their **professional judgment** to deliver the mathematics curriculum for the maximum benefit for all children within their cohort. In a mixed age class, the children from each year group should have evidence of learning from their own year group rather than it being the same e.g. in Y2/3 – the Y2 children should have evidence of Y2 National Curriculum objectives whereas the Y3 children should have evidence of Y3 National Curriculum Objectives. This also applies to the Year 5/6 mixed age class.

**This is a non-negotiable and will not be deviated from for any reason.**

There will be **NO** requirement for teachers to produce short term planning, unless they choose to. For moderation purposes, the children's books and teacher's lesson preparation materials (activeinspire files, powerpoints, notebook files etc) will be collected and analysed.

There would be freedom within the teaching sequence to have specific problem solving and specific reasoning lessons where the children are taught the discrete problem solving and reasoning skills necessary to solve problems and reason within various areas of mathematics. Teachers endeavour to make maths fun and use a range of experiences and practical maths activities to engage the children.

**Elements of maths:**

Fluency (learning the skills), Problem Solving (applying the learnt skill in different contexts) and Reasoning (thinking more widely about the skill and in different ways).

Children should have access to fluency, problem solving and reasoning **EVERY DAY**-the children may NOT always address all three elements but the children need to have access to all three to cater for their needs (HS may not need/choose not to complete all Fluency questions whereas LA may only complete the Fluency etc).

**Higher Standard Children**

Children who are assessed as being potentially Higher Standard by the end of the academic year should also have access to more complicated/sophisticated questions (NCETM Mastery booklets-'Mastery with Greater Depth' questions, Higher Ability challenge booklets etc) when **teachers feel it is appropriate to challenge** and using **professional judgement**. There should be evidence in potential GD children's books of these challenges and also the use of scaffolding, layered support designed to challenge understanding to a greater degree. **This will be a specific element of internal monitoring by SLT during the academic year 2020-2021, specifically for the moderation of assessment judgements at the end of each term.**

**Monitoring:**

The monitoring of mathematics within Easington C of E is of vital importance to ensure that children are being provided with the 'roots' of knowledge that will allow them to flourish and grow (fly) with confidence within the subject. The monitoring of mathematics is rigorous and specific. Mathematics books are monitored on a half-termly basis, with a specific focus for each book collection (e.g. challenge for HS etc).

Formal observations of mathematics take place across the academic year to ensure that Quality First Teaching is occurring and any areas for improvement are rapidly identified and addressed as well as celebrating and sharing good practice.

## IMPACT

**Assessment:**

At Easington C of E, the mastery approach is followed. This is where each child is taught explicit fluency, reasoning and problem solving skills. Only by being able to complete all three disciplines are children able to 'master' the concept. Resources from the White Rose Hub are utilised and the teaching of blocks of concepts (place value, geometry etc) occurs across year groups. Each block taught is then assessed throughout the year and an overall judgement made based on evidence in books, observations and results of formal assessments.
By assessing each block, gaps in knowledge can be identified and addressed. This approach also ensures that children have assessments and judgements made that are specific to each concept of learning.ie. a child who is extremely strong in number and place value may not be in geometry. This approach to assessment allows each child's mathematical curriculum to be individualised to their own specific needs.

Children who are assessed as being potentially higher standard at the end of the academic year are given specific challenges and tasks, within each block, to allow them to demonstrate their level of mathematical knowledge and understanding.