



<b>POLICY TITLE</b>	Maths Policy
<b>RESPONSIBLE COMMITTEE</b>	Curriculum Committee
<b>RATIONALE</b>	<b>Inspire and Empower Others To Achieve</b> At the academy we endeavour to ensure our early learners develop into lifelong learners. We strive to provide a safe, secure and stimulating environment where curiosity is welcomed, enquiry is encouraged and learning is fostered.
<b>PURPOSES</b>	At Estcourt Primary Academy we believe that as well as bringing enjoyment and advancing learning, Mathematics is an essential skill, for leading a happy, healthy and full life. Our purpose is to ensure all pupils make good or better progress in Mathematics
<b>GUIDELINES</b>	<p><b>Assessment</b></p> <ul style="list-style-type: none"> <li>Teachers will, every half term, use the Sheffield STAT assessment grids to assess pupils Maths and identify clear ways forward.</li> <li>In Year 2 and Year 6, teachers assess weekly against the Interim Framework.</li> <li>Children progress is monitored during weekly RAG meetings which determines any interventions necessary for children who are a cause for concern</li> <li>Assessments are moderated at different intervals:             <ul style="list-style-type: none"> <li>half termly by the Deep Learning team</li> <li>termly within the Delta Hull cluster</li> </ul> </li> </ul> <p><b>Teaching and Learning</b></p> <ul style="list-style-type: none"> <li>Teachers set challenging teaching and learning objectives which are relevant to all pupils in their classes. These are based on knowledge of pupils' past and current achievement and the expected standards for pupils of the relevant age range. (<a href="#">Appendix 1 Planning Example</a>)</li> <li>Teachers teach clearly structured lessons or sequences of work which interest and motivate pupils and which:</li> <li>Start with a clear learning objective, taken from the STAT curriculum, understood by all pupils</li> <li>promotes active and independent learning that enables pupils to think for themselves and to plan manage and assess their own learning.</li> <li>All marking is carried out in accordance with the marking and feedback policy.</li> <li>All independent work is marked following the marking agreement.</li> <li>The deep learning team support teaching and learning in line with the triangulation of the learning cycle, including work scrutinies, drop ins and weekly RAG meetings</li> <li>All planning coverage is stored on one drive for Deep Learning team to access</li> <li>focuses on reasoning and the skills of using and applying</li> <li>follows the progression model as in the Calculation Policy</li> <li>Children in Years 1 and Years 2 will work from Singapore Maths for lessons to make explicit ARE</li> <li>Children using Singapore Maths will have access to reasoning and mastery learning challenge in Maths books</li> <li>Teachers will provide weekly cross curricular opportunities for using and applying through problem solving.</li> </ul> <p><b>Lesson Structure</b></p> <p>Teachers will follow the Same Day Intervention Maths format as below:</p> <ul style="list-style-type: none"> <li>The lesson will be facilitated over two sessions each day</li> </ul> <p><b>The first session</b></p> <ul style="list-style-type: none"> <li>30 minutes long (Singapore: There is no time limit for this session; typically it would be between 25 and 40 minutes.)</li> <li>Mixed ability seating</li> <li>The first 5 minutes of the session will focus entirely on arithmetic style questions. (<a href="#">Appendix 2 Example</a>)</li> <li>Teach-practice model where the objective is demonstrated by the teacher before being completed by the pupils in books (<a href="#">Appendix 3 Marking Example</a>) (Singapore: The session will take place in the Maths: No Problem workbooks)</li> <li>WAGOLL to introduce, leading into HOQ</li> <li>Independent on whiteboards</li> <li>Pupils completing 5 questions independently in books after the arithmetic and teach-practice model input (Singapore: After any whole class input, teachers are encouraged to step back and observe/assess. The teacher will be able to focus on children for relevant learning discussions based on their observations.)</li> <li>First 5 questions will primarily focus on fluency and reasoning style questioning becoming progressively more complex. Teachers will use the Fluency Fox, Reasoning Raccoon and Problem Solving Penguin characters so that pupils are able to identify what type of questions they are. (<a href="#">Appendix 5 Example</a>)</li> <li>Mark independently according to marking policy (Singapore: The teacher will not mark the work books unless they identify errors or misconceptions.)</li> <li>Self-assess at the end</li> </ul>

**Between Sessions**

- At the end of the session, the teacher should have made appropriate formative assessments, which will enable the teacher to provide extra support for pupils who require it before the second session. ([Appendix 4 Marking Example](#))
- Teacher marks any work which hasn't already been self-marked
- Creates the groups for the same day intervention:
  - SDIB (Same Day Intervention Bronze)
  - ATS - Achieved Target Silver (Age related Fluency/Skills practice)
- ATG – Achieved Target Gold (Age related Greater Depth)
- The activities will be already be planned by the teacher on a planning pro forma

**The second session**

- The session will take place after marking.
- The time between sessions will help demonstrate that the pupils have retained the learning from the first session.
- This session will be 30 minutes (Singapore: it will be shorter than first session).
- Teacher/TA works with SDIB group to help them meet the LO through pictorial or concrete methods
- ATS and ATG work independently on age related and deeper thinking tasks such as problem solving, investigations and reasoning activities. ([Appendix 5 Example](#))

**Marking Expectations**

- Children in Key Stage 2 will mark almost all of their closed number work
- Between sessions the Teacher marks any work which hasn't already been self-marked
- If children have achieved the ATS or ATG, code is highlighted green
- Any support adults give children should be indicated with VF (verbal feedback) with a brief description of support
- All CTGs should move learning forward.
- Children identified through RAG meetings will be extended by the deep thinking CTGs that they are given, which really probe their using and applying skills, ensuring they find evidence to support why they have come to that opinion.
- Any children needing further intervention before the next lesson will be coded INT and any work carried out in the afternoon session will be clearly evident.

**Academy Environment**

A working wall should have:

Key mathematical vocabulary
Bronze, Silver and Gold WAGOLL sections
Age related fraction work examples
Evidence of a number rich environment
A working whiteboard section

**Parental Engagement**

- Families will receive a half termly newsletter which sets out learning expectations

**FURTHER DETAILS  
CONTAINED IN  
DOCUMENTS**

Calculation Policy  
Assessment Policy

Teaching and Learning Policy  
Behaviour Policy

Marking and Feedback Policy

<b>DATE APPROVED: SEPTEMBER 2017</b>	<b>NEXT REVIEW DATE (every two years)</b>

<b>Reference Number:</b>	<b>MF-15</b>
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Appendix 1: Planning Exemplar

Objective	Context	Success Criteria	Notes										
<p><u>LO: To multiply</u></p>	<p>Complete different multiplication problems</p>	<p><b>YEAR 4 STAT</b> Multiply two-digit and three-digit numbers by a one and two-digit number using formal written layout.</p> <p><b>Fluency</b></p> <table border="1" data-bbox="548 632 1101 814"> <tr> <td>1.</td> <td>12 x 14 =</td> </tr> <tr> <td>2.</td> <td>13 x 14 =</td> </tr> <tr> <td>3.</td> <td>? = 12 x 17</td> </tr> <tr> <td>4.</td> <td>Find me the product of 13 and 15.</td> </tr> <tr> <td>5.</td> <td>11 x 14 &gt; 13 x 12. True or False?</td> </tr> </table> <p><b>STEPS TO MOVING LEARNING FORWARD (CTG):</b></p> <p><b>SDIB</b> Numicon, visual grids, number cards</p> <p><b>ATS</b> What could the numbers in the multiplication be? Every digit is different. ??? x 3 = ????</p> <p><b>ATG</b> Penny says a two digit number multiplied by a one digit number will always give a two digit answer. Is she correct? Justify your answer.</p> <p>Find the mistake that has been made in the calculation below. Explain and correct it.</p> <pre> 47 X 8 --- 3256 </pre>	1.	12 x 14 =	2.	13 x 14 =	3.	? = 12 x 17	4.	Find me the product of 13 and 15.	5.	11 x 14 > 13 x 12. True or False?	<p><b>Vocabulary:</b> product, the sum of, multiply</p> <p><b>Questioning:</b> Justify... Explain your answer... Create... Investigate...</p> <p><u>1:1</u></p>
1.	12 x 14 =												
2.	13 x 14 =												
3.	? = 12 x 17												
4.	Find me the product of 13 and 15.												
5.	11 x 14 > 13 x 12. True or False?												

Assessment

Independent

With Help

Couldn't do it

Appendix 2: Arithmetic Example

5 a day before you go out to play!

1.  $109 + 12 = ?$
2.  $212 - 17 = ?$
3.  $129 + ? = 145$
4.  $124 = 70 + ?$
5.  $12? + 6? = 191$



Appendix 3: I do, you do Example

XXVI . VI . MMXVII

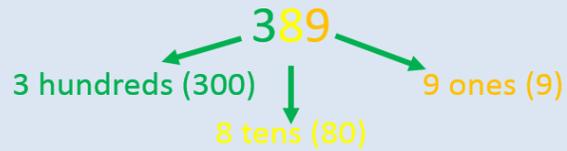
LO: To recognise the place value of each digit in a three-digit number (hundreds, tens, ones).



WAGOLL – I do



I will partition the number below.



What have I done?

Can you represent this number in different way?



You do



Partition these three numbers into hundreds, tens and ones using the previous method.

782

120

654

Do you agree? Disagree? Reason.



Let's look even deeper...



True or False?

318 > 381

Do you agree? Do you disagree?  
Explain your reasoning as to why.



Extra challenge time!



Using place value counters, how many different ways can you make four hundred and fifty (450)?

Show your solutions as a calculation.





Appendix 5: Fluency Fox, Reasoning Raccoon and Problem Solving Penguin Example

The first session

1.	Partition the number 729 into hundreds, tens and ones.							
2.	What is the value of the number represented in the place value chart?	<table border="1" data-bbox="682 556 998 703"><thead><tr><th>Hundreds</th><th>Tens</th><th>Ones</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr></tbody></table> 	Hundreds	Tens	Ones			
Hundreds	Tens	Ones						
								
3.	What number would this make?	<table border="1" data-bbox="487 724 917 777"><tr><td>3</td><td>0</td><td>0</td></tr></table>  <table border="1" data-bbox="787 724 917 777"><tr><td>3</td></tr></table>  	3	0	0	3		
3	0	0						
3								
4.	271 is equal to $200 + 7 + 1$ . <b>True or False? Reason.</b>							
5.	$135 < 153$ <b>Has the sign <math>&lt;</math> been used correctly in this number sentence?</b>							

The second session

ATS

1. Tanya says the number in the table is 3101.  
Amber disagrees saying the number is 355.

Hundreds	Tens	Ones
		



**Who do you agree with?**  
**Explain your reasoning.**

2. One hundred and fifty seven =  $100 + 50 + 7$



**True or False? Reason.**

ATG

1. I am thinking of a number.  
It is between 300 and 500. The digits add up to 14. The difference between the greatest digit and smallest digit is 2.



**What could my number be?**  
**Is there only one option?**  
**Explain your method of working it out.**

2. A counter has dropped off the place value chart.

Hundreds	Tens	Ones
		



**What number could it have been?**

