

Policy & Procedure

Newcroft

Primary Academy



Aspiring for Excellence

Mathematics & Calculations Policy 2018-2021

This policy is reviewed every three years and was agreed by the Governing Body of Newcroft Primary School in Spring 2018 **and will be reviewed again in Spring 2021**

Signed: _____ Chair of Teaching and Learning

Date: _____

Non-Statutory Policy

Aims and Vision



Mathematics Policy Introduction

Mathematics teaches children how to make sense of the world around them through developing their ability to use number, calculate, reason and solve problems. It helps children to understand relationships and patterns in both number and space in their everyday lives. The Mathematics curriculum should be bold, provide breadth and balance and be relevant and differentiated to suit the needs of all children in the modern world. It should be flexible, motivating all pupils, thus encouraging success at all levels.

This policy is made up of two parts

- Mathematics Policy
- Written Calculation Policy

Aims

General

- To ensure all staff, children, parents/carers and Governors are aware of the aims for learning and teaching Mathematics at Newcroft Primary Academy and that these are consistently applied.

School Staff

- To promote a confident, positive attitude towards the learning and use of Mathematics making it an enjoyable experience;

- To promote confidence and competence with numbers and the number system;
- To promote the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To promote mathematical reasoning by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To promote a practical understanding of the ways in which information is gathered, presented and used;
- To promote the exploration of features of shape and space and develop measuring skills in a range of contexts; and
- To understand the importance of Mathematics in everyday use, especially in relation to essential life skills, such as telling the time and understanding money.

Children

- To develop an enjoyment of learning through practical activity, investigation, exploration; mental exertion and discussion;
- To develop confidence and competence with numbers and the number system;
- To develop the ability to solve problems through connecting ideas, decision-making and applying their mathematical skills in a range of contexts, including other subjects such as Science;
- To develop the ability to reason mathematically by following a line of enquiry, developing an argument and making justifications using mathematical language;
- To develop a practical understanding of the ways in which information is gathered and presented;
- To explore features of shape and space, and develop measuring skills in a range of contexts;
- To understand the importance of Mathematics in everyday life, especially in relation to essential life skills such as telling the time and handling money; and
- To foster positive attitudes towards Mathematics by developing pupils' confidence, independence, persistence and co-operation skills.

Parents and Carers

- To be understanding and supportive of our aims in learning and teaching Mathematics.
- To attend and contribute to Parent Consultation Meetings.
- To support their children with Mathematics homework activities (please refer to Homework Policy) including the importance of learning their number bonds and times tables off by heart.
- To praise their children for the good things that they do in Mathematics.
- To communicate and work with School whenever further support is needed to develop their children's mathematical skills and understanding.

Governors

- To appoint a designated link governor who will:
 - a) Meet with the Mathematics Subject Leader at least twice a year to find out about;
 - ❖ the school's systems for planning work, supporting staff and monitoring progress;
 - ❖ the allocation, use and adequacy of resources; and
 - ❖ how the standards of achievement are changing over time.
 - b) Visit School and talk to pupils about their experiences of Mathematics;

- c) Promote and support the positive involvement of parents in Mathematics;
 - d) Attend training and other events relating to the Mathematics curriculum;
 - e) Report jointly with the Subject Leader, to the governing body with recommendations, if appropriate, twice a year.
- To be understanding and supportive of our aims in the learning and teaching of Mathematics and to review this policy annually.

Implementation of the Mathematics Policy

1. FS organisation

- Our Foundation Stage teachers use the Early Years Foundation Stage Curriculum to support their teaching of Mathematics in the Foundation Stage.
- The children have the opportunity to talk and communicate in a widening range of situations and to practise and extend their range of vocabulary and mathematical skills.
- The children explore, enjoy, learn about, and use Mathematics in a range of personalised situations.
- Mathematics is planned on a weekly basis and assessed using the criteria from the Early Learning Goals.
- Mathematics is taught both as a discrete subject (20-30 minutes per day) and within the whole Early Years Curriculum to give children opportunities to use their mathematical skills in real life situations.

2. The National Curriculum for Mathematics (Programmes of Study)

- Our KS1 and KS2 teachers use the National Curriculum and Symphony Assessment System, to support their planning of Mathematics teaching.
- Securing progression for all children and ensuring mastery of the curriculum is considered crucial. Teachers use the Symphony Assessment System to follow a robust skills progression that outlines what skills children need to acquire and when, meaning all children are supported to access age related expectations. Prerequisites for learning are built into planning, mathematical building blocks which may be impeding understanding are identified and opportunities to ensure full mastery of concepts are provided before moving on to new concepts.
- The short term planning is done weekly, listing the specific learning objectives that are to be covered in each year group class or set for each lesson that week.
- Teaching and learning is differentiated to best match the needs of the class or set and the individuals within it.
- If the needs of the children are best met following an alternative plan, which deviates from the National Curriculum, then the class teacher and the Subject Leader discuss this and decide on a way forward.

3. KS1 and KS2 organisation

- Children in KS1 and KS2 are taught Mathematics for approximately 1 hour daily in mixed ability class groups or in ability sets where class arrangements allow for this to take place.
- Regular (at least thrice weekly) Lemon Curd and Strawberry Jam sessions take place to improve pupils' mental arithmetic and pace. During KS2, children are introduced to Chocolate Spread as well, which supports children in rapid calculation of fractions, decimals and percentages.

4. Planning formats

- The School uses its consistent formats for long and medium term planning and this informs our teachers' weekly short term planning.
- Short term planning is based on each year group's expectations set within National Curriculum 2014.
- All year groups follow the Mathematics medium term plan, which is based upon the Symphony Assessment System. Each mathematical theme is revisited each half term to ensure consolidation and progression. In all year groups, teachers supplement their planning with appropriate resources from a range of sources and ensure that regular opportunities are built in to all year groups for children to develop their fluency, reasoning and problem solving skills.

5. Calculation Policy

- Our teachers are asked to follow the school's Calculation Policy when teaching calculation.
- Our Calculation Policy explains the key written methods that need to be taught in each year group, to support the planning, delivery and assessment of learning and teaching in Mathematics and to ensure consistency and progression across the School.

6. Cross curricular

- Opportunities are used to draw mathematical experiences out of a range of activities in other subjects, such as in PE, Science and other subjects studied, to enable children to apply and use Mathematics in both real life and academic contexts. During registration time, children are also engaged in a short challenge and this is sometimes Mathematics based.

7. Provision for More Able students

- Our differentiated and personalised teaching in Mathematics, targets the needs of individual students. In each year group, More Able students are identified.
- The Symphony Assessment System allows for provision beyond the specific year group when children have a deep understanding of their Year Group objectives.

8. Resources

- The use of Mathematics resources is planned into our learning and teaching as much as possible.
- We have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our learning and teaching.
- These resources are used by our teachers and children in a number of ways including:
 - a) Demonstrating or modeling an idea, an operation or method of calculation, e.g.: a number line; place value cards; money or coins; measuring equipment for capacity, mass and length; bead strings; the interactive whiteboards and related software; 3D shapes and/or nets; Numicon and related resources and software; multilink cubes; clocks; protractors; calculators; dice; number and fractions' fans; individual whiteboards and pens; and 2D shapes and pattern blocks, amongst other things;
 - b) Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required; and

c) Providing a context for the application and practice of calculation strategies and number skills.

- Standard resources, such as number lines, multi-link cubes, hundred squares, shapes, etc. are located within individual classrooms.
- Resources within individual classes are accessible to all pupils who should be encouraged to be responsible for their use.
- A range of Mathematics related software is also available and this is accessible via the shared server, which children can access when projected onto the Interactive Whiteboards in each classroom; by using individual class-based laptops.
- Teachers are encouraged to use the school playgrounds as an outdoor classroom when possible, for example, when teaching length, area or perimeter.

10. Homework (please refer to the School's Homework Policy)

- Mathematics homework (optional) is set for children in Years 1-6 most weeks.
- Homework provides opportunities for children to: practise and consolidate their skills and knowledge; develop and extend their techniques and strategies; and prepare for their future learning through out of class activities and homework.
- Homework activities are varied, interesting and fun so that the children are motivated; the tasks often compliment the area of Mathematics being taught that week.

11. Parents/Carers

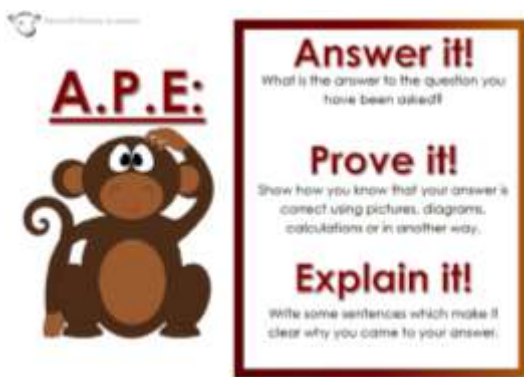
- The School aims to involve parents/carers in their children's learning as much as possible and to inform them regularly of their child's progress in Mathematics.
- Parents/carers have the opportunity to meet with child's class/set teachers at least twice a year at Parent Consultation Meetings and receive written reports during the year.
- Parents/carers are encouraged to speak to their child's Mathematics teacher at any point during the year, either informally or by making a specific appointment.
- Information about their child's standards, achievements and future targets in Mathematics is shared with parents/carers at these times and also ways that parents/carers may be able to assist with their child's learning.
- Parents/carers are encouraged to support their children with homework and to attend Parent Consultation Meetings.

12. Subject Leader

- The role of the Subject Leader is to provide professional leadership and management in Mathematics in order to secure high quality teaching, effective use of resources and high standards of learning and achievement for all pupils.
- They will achieve this by affecting the following key areas: strategic direction and development; learning and teaching (including planning and marking and presentation); leading and managing staff; and efficient and effective deployment of staff and resources.
- The role of the Subject Leader is detailed further in the Subject Leader Job Profile.
- During the academic year the Subject Leader has specific allocated time for subject self-evaluation activities.

The Mathematics Lesson: Good Practice

- The Learning and Teaching Policy identifies the aims, principles and strategies for promoting effective learning and teaching at Newcroft Primary School. These apply to learning and teaching in Mathematics as well as every other curriculum subject area.
- In Mathematics the overall structure of the lesson will generally be the same and consist of a mental and oral starter, a main teaching activity and a plenary or series of mini plenaries throughout the lesson if appropriate.
- Regular mental arithmetic tests are undertaken at an appropriate time in the day, not necessarily in Mathematics lessons.
- Opportunities for reasoning about Mathematics are built in to each lesson. Children across the school are given opportunities to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language. To support children in structuring their reasoning responses, we use A.P.E (Answer it, Prove it, Explain it).



A Typical Lesson

A typical 45 to 60 minute lesson in Years 1 to 6 may be structured like this:

- **oral work and mental calculation** (5 to 10 minutes) this gives the whole class the opportunity to rehearse, sharpen and develop mental and oral mathematical skills. For some classes this time includes a regular 2 minute mental maths test, planned to encourage their memory of number facts/bonds or mental arithmetic test, planned to develop mental arithmetic strategies. Pupils will complete lemon curd, strawberry jam and chocolate spread (in KS2) at least thrice weekly where pupils will recall number bonds, multiplication facts and calculate with fractions, decimals and percentages at speed. Pupils are encouraged to better their own personal scores throughout the week. For each year group there are also lengthier mental arithmetic tests that are completed regularly.
- **the main teaching activity** (30 – 40 minutes) this provides time for introducing a new topic, consolidating previous work or extending it; developing vocabulary, using correct notation and terms and using new ones; using and applying concepts and skills. To begin with, the teacher will work with the whole class demonstrating and explaining the concept to be covered that day. The pupils are involved interactively through carefully planned questioning and any misunderstandings can be identified and corrected. In the next part of the lesson the children are provided with differentiated activities which they work on in small groups, pairs or as individuals.

- **the plenary session** (5 – 10 minutes) this provides the opportunity for the teacher to draw together the main teaching points of the lesson with the whole class. It also gives the pupils the opportunity to assess their developing knowledge and skills and see for themselves the progress they are making. Links may be made to other work, and pupils may be introduced to extensions or developments of the topic.

Assessment, Record Keeping and Reporting (please refer to the School's Assessment and Teaching and Learning Policies)

- Children's standards and achievements in Mathematics are assessed in line with the School's Assessment Policy. Assessment in Mathematics for Years 1-6 includes:
 1. On-going Assessment for Learning (AfL) practices within class and group sessions, including the sharing of and reference being made to pupils' next steps and self and peer assessments of understanding, outcomes and progress;
 2. Marking of children's work; against the shared Learning Objective and for accuracy of answer (for all written work) and diagnostically (regularly in line with School expectations) including clear next steps to consolidate or progress the child's Mathematical understanding;
 3. Opportunities for children to follow up on marking and extend their learning;
 4. Formal assessments, which generate a Symphony Assessment System Sub-level for Mathematics each half term annually and further assessments for particular aspects of Mathematics as necessary. These are recorded within the School's electronic assessment system.
 5. Teachers' class records for number bonds (lemon curd) ; multiplication tables (Strawberry Jam) and fractions, decimals and percentages in KS2 (Chocolate Spread)
 6. Summative assessments of each child's performance using Progress in Maths tests in all year groups and SATS tests in Years 2 and 6
- Children's standards and achievements in Mathematics in the Foundation Stage are assessed in line with the School's Foundation Stage Policy. Assessment in Foundation Stage includes both on-going assessment and marking of children's work as noted above but at an age appropriate level. The Development Matters is used to assess children throughout and at the end of the academic year.
- Assessments are used diagnostically by teachers to evaluate learning and inform teaching and by teachers and senior leaders to evaluate individuals and groups of children's standards and achievements - and to inform future provision and school development.
- All children in Years 1-6 have Mathematics Targets both in terms of Symphony Assessment System grades and within on-going AfL and diagnostic marking practices. The class teachers, the Subject Leader and other Senior Leaders review progress against these targets regularly. This information is used by each of these to affect provision and potentially school development.
- Assessment information for Mathematics, both standards and achievements, are shared with parents/carers at Parent Consultation Meetings. Mathematics is reported on in detail in each child's School Report; which includes information about the next steps for learning in the subject.

Monitoring and Review

- The Head teacher and Mathematics Subject Leader will monitor the effectiveness of this policy on a regular basis. The Head teacher and Mathematics Subject Leader will report to the governing body on the effectiveness of the policy at least annually and, if necessary, makes recommendations for further improvements.

Equality Statement

At Newcroft Primary School, we actively seek to encourage equity and equality through our teaching. As such, we seek to advance the equality of opportunity between people who share any of the following characteristic:

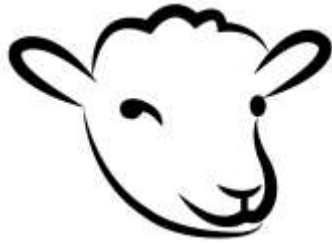
- gender;
- ethnicity;
- disability;
- religion or belief;
- sexual orientation;
- gender reassignment;
- age;
- civil partnerships;
- pregnancy or maternity.

The use of stereotypes under any of the above headings will always be challenged.

Inclusion

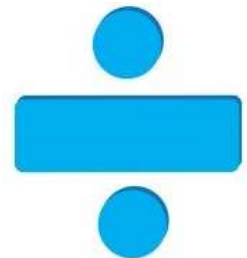
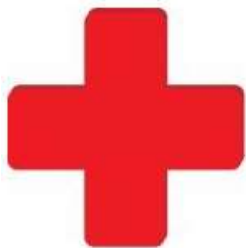
Our school is an inclusive school. We aim to make all pupils feel included in all our activities. We try to make all our teaching fully inclusive. We recognise the entitlement of all pupils to a balanced, broadly-based curriculum. We have systems in place for early identification of barriers to their learning and participation so that they can engage in school activities with all other pupils. We acknowledge the need for high expectations and suitable targets for all children.




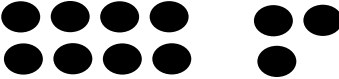
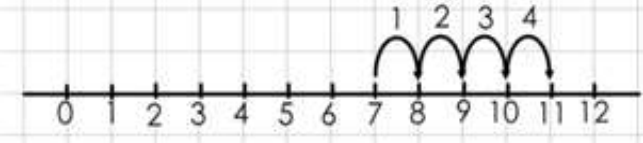
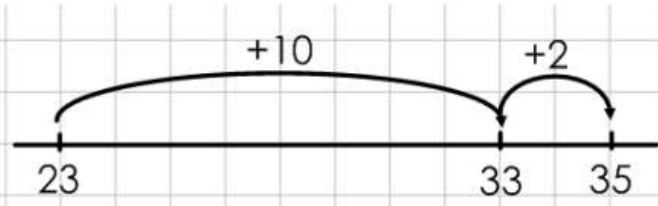
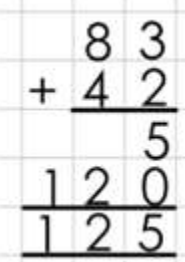
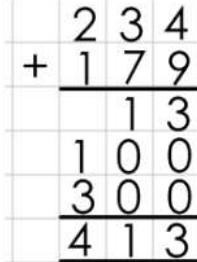
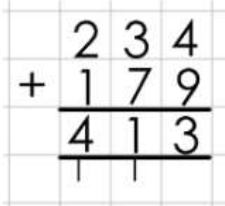
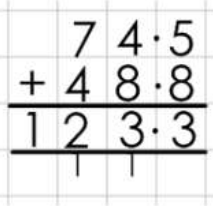
The Newcroft Written Calculation Policy follows



Newcroft Primary Academy

Written calculation Policy



 ADDITION		
Step 1	$4 + 2 = 6$ 	Pictures or objects Children use pictures or objects to help them count, and add what they need to.
Step 2	$8 + 3 = 11$  $8 + 3 = 11$ 	Tallies or dots Children use tallies or dots to help them be more efficient and add what they need to.
Step 3	$7 + 4 = 11$ 	Addition number line (jumping in 1s) Children 'jump' in 1s on a number line from one number.
Step 4	$23 + 12 = 35$ 	Addition number line (jumping in 10s and 1s) Children 'jump' in 10s and 1s from one number to help them be more efficient.
Step 5	$83 + 42 = 125$  $234 + 179 = 413$ 	Expanded column method Children add the numbers together starting from the right hand side (smallest place value column), writing the answers to each column added separately.
Step 6	$234 + 179 = 413$  $74.5 + 48.8 =$ 	Column method Children add the numbers together starting from the right hand side (smallest place value column), writing the answers to each column on a single line, and 'carrying' if needed.



SUBTRACTION (2)

Step 5

$87 - 35 = 52$

$137 - 28 = 109$

$87.6 - 49.7 = 37.9$

$$\begin{array}{r} 87 \\ - 35 \\ \hline 52 \end{array}$$

$$\begin{array}{r} 1\overset{2}{3}7 \\ - \quad 28 \\ \hline 109 \end{array}$$

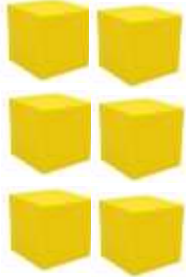

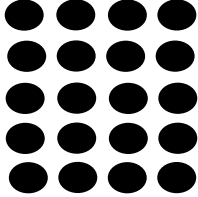
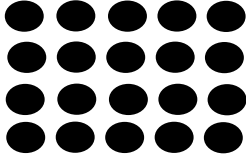
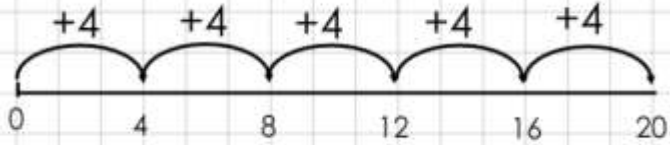
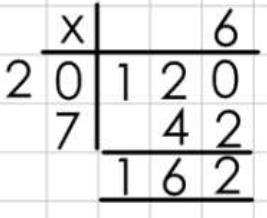
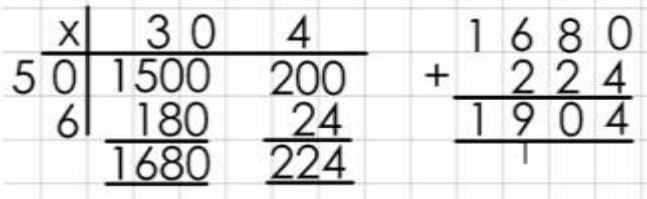
$$\begin{array}{r} 7\overset{1}{8}\overset{1}{6} \\ - 49.7 \\ \hline 37.9 \end{array}$$

Column method

Children take the bottom digits away from the digits above it, starting from the right hand side (smallest place value column), and 'borrowing' from the larger column to the left if needed.



MULTIPLICATION (1)

<p>Step 1</p>	<p> $2 \times 3 = 6$ 2 cubes, 3 times is 6  </p> <p> $3 \times 2 = 6$ 3 cars, 2 times is 6  </p>	<p>Pictures or objects Children use pictures or objects to help them count.</p>
<p>Step 2</p>	<p> $4 \times 5 = 20$ 4 dots, repeated 5 times  </p> <p> $5 \times 4 = 20$ 5 dots, repeated 4 times  </p>	<p>'Arrays' using dots Children use dots to help them become more efficient, arranging the dots into rectangles (or 'arrays') according to the numbers.</p>
<p>Step 3</p>	<p> $4 \times 5 = 20$  </p> <p>Repeatedly add 4 (in this case, 5 times)</p>	<p>Repeated addition Children use a number line to repeatedly 'jump' forward the number of times needed.</p>
<p>Step 4</p>	<p> $27 \times 6 = 162$  </p> <p> $56 \times 34 = 1904$  </p>	<p>Grid method Children 'partition' the numbers into ones, tens, hundreds etc. and arrange outside a grid. Each number within the grid is made by multiplying the numbers in the same row and column. The answers are then added together to give the answer.</p>


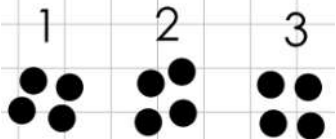

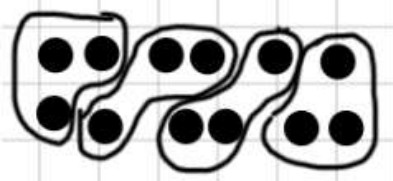
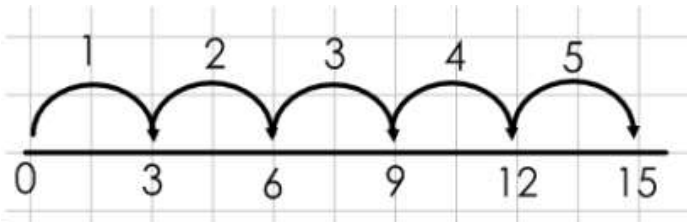
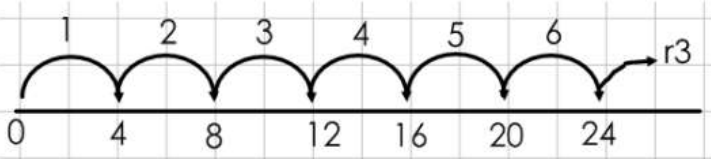


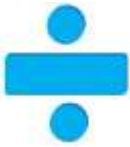
MULTIPLICATION (2)

<p>Step 5</p>	<p>$27 \times 6 = 162$</p> <pre> 27 x 6 ---- 42 (6 x 7) 120 (6 x 20) ---- 162 </pre>	<p>$56 \times 34 = 1904$</p> <pre> 56 x 34 ---- 24 (4 x 6) 200 (4 x 50) 180 (30 x 6) 1500 (30 x 50) ---- 1904 </pre>	<p>Expanded column method</p> <p>The digit(s) at the bottom are multiplied by each digit from the top number in turn, with each answer written on a new line below.</p> <p>Each of those answers is then added together to give the answer to the question.</p>
<p>Step 6</p>	<p>$27 \times 6 = 162$</p> <pre> 27 x 6 ---- 42 162 </pre>	<p>$56 \times 34 = 1904$</p> <pre> 56 x 34 ---- 224 1680 ---- 1904 </pre>	<p>Compact column method</p> <p>The digit(s) at the bottom are multiplied by each digit from the top number in turn. Each answer is written on a single line and 'carrying' is used if needed. When multiplying by more than one digit, each answer is then added together to give the answer to the question.</p>

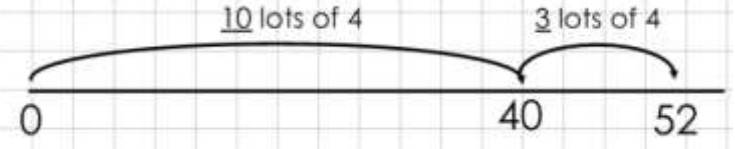
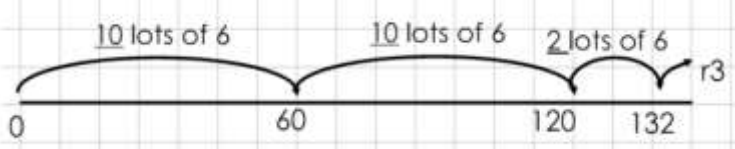
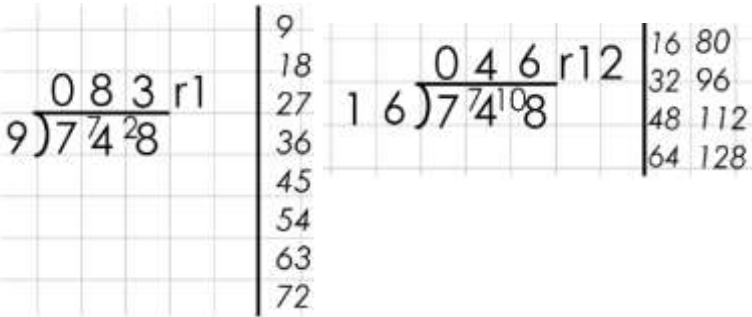

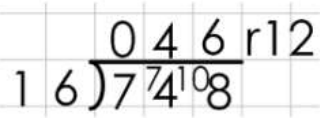


DIVISION (1)

<p>Step 1</p> <p>Sharing</p>	<p>$6 \div 2 = 3$ What is 6 <u>shared between</u> 2? = 3</p>  <p>$12 \div 3 = 4$ What is 12 <u>shared between</u> 3? = 4</p> 	<p>Pictures or objects then Tallies or dots</p> <p>Division as 'sharing' (<i>What is 18 <u>shared between</u> 3?</i>)</p> <p>This involves children 'sharing' objects or numbers between 2, 3, 4 etc.</p>
<p>Step 2</p> <p>Grouping</p>	<p>$6 \div 2 = 3$ How many <u>groups</u> of 2 are in 6? = 3 <u>groups</u></p> <p>1 group 1 group 1 group</p>  <p>$12 \div 3 = 4$ How many <u>groups</u> of 3 are in 12? = 4 <u>groups</u></p> 	<p>Pictures or objects then Tallies or dots</p> <p>Division as 'grouping' (<i>How many <u>groups</u> of 3 are there in 18?</i>)</p> <p>This involves children 'grouping' / sorting objects or numbers into groups of 2s, 3s, 4s etc.</p>
<p>Step 3</p>	<p>$15 \div 3 = 5$ Count in 3s until reaching 18.</p>  <p>$27 \div 4 = 6 \text{ r } 3$ For 'remainders', count in 4s until just <u>before</u> 27, as you can't land directly on 27. What is left over is the 'remainder'.</p> 	<p>Division number line in jumps of the divisor</p> <p>Children count in 'jumps' of the 'divisor' (the number they are dividing by) and count the number of jumps they made to get to the 'dividend' (the number being divided).</p> <p>This links division with multiplication (counting in the times table of the divisor, called 'repeated addition').</p>



DIVISION (2)

<p>Step 4</p>	<p>$52 \div 4 = 13$ The <u>lots</u> of the divisor are 10 in the first jump (because 10 lots of 4 is 40) and 3 in the second jump (because 3 lots of 4 is 12), so the answer is 13.</p>  <p>$135 \div 6 = 22 \text{ r } 3$</p> 	<p>Division number line in larger jumps of the divisor Children ‘jump’ much larger steps forwards towards the ‘dividend’ in large multiples of the ‘divisor’. This is more efficient when dividing large numbers, and the children don’t have to write <u>every</u> multiple on their number line up to the dividend. To find the answer, the <u>lots</u> of the divisor are added together</p>
<p>Step 5</p>	<p>$748 \div 9 = 83 \text{ r } 1$ $748 \div 16 = 46 \text{ r } 12$</p>  <p>Children write out the multiples of the divisor that they need in their margin, to help with how many times the divisor goes into each digit.</p>	<p>Bus stop method 1 (short division) The dividend is under the ‘bus stop’, with the divisor outside to the left. The children see how many times the divisor ‘goes into’ each digit of the dividend, starting from the left. The number of times is written above the bus stop, and any spare digits left over are written next to the next digit of the dividend.</p>
<p>Step 6</p>	<p>$135 \div 6 = 22 \text{ r } 3$ $748 \div 9 = 83 \text{ r } 1$</p>  <p>$748 \div 16 = 46 \text{ r } 12$</p> 	<p>Bus stop method 2 (short division) As above, but the children don’t write the multiples of the divisor in their margin. This means they are more efficient.</p> <p>Remainders are the amount of the dividend that is ‘left over’.</p>



DIVISION (3)

<p>Step 6</p> <p>Extension 1</p>	<p>$748 \div 9 =$</p> $\begin{array}{r} 083 \frac{1}{9} \\ 9 \overline{)748} \end{array}$ <p>$748 \div 16 =$</p> $\begin{array}{r} 046 \frac{12}{16} = \frac{3}{4} \\ 16 \overline{)748} \end{array}$ <p>The remainder above is simplified to $\frac{3}{4}$.</p>	<p>Bus stop method 2 (short division)</p> <p>As before, but any remainders are written as <u>fractions</u> instead of writing r__.</p> <p>If there are any remainders, the children write them as a fraction of the divisor.</p> <p>They can then 'simplify' the fraction if possible.</p>
<p>Step 6</p> <p>Extension 2</p>	<p>$748 \div 9 =$</p> $\begin{array}{r} 083.11 \\ 9 \overline{)748.00} \end{array}$ <p>$748 \div 16 =$</p> $\begin{array}{r} 046.75 \\ 16 \overline{)748.00} \end{array}$	<p>Bus stop method 2 (short division)</p> <p>As above, but any remainders are written as <u>decimals</u> instead of fractions or writing r__.</p> <p>If there are any remainders, the children carry them to a '0' digit to the right of the dividend (beyond a decimal point that they draw for remainders), repeating as necessary – e.g. to 2 decimal places.</p>



DIVISION (4)

Step 7	$250 \div 6 = 41 \text{ r } 4$ $432 \div 15 = 28 \text{ r } 12$ <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> $\begin{array}{r} 41 \text{ r } 4 \\ 6 \overline{)250} \\ - 240 \\ \hline 10 \\ - 6 \\ \hline 4 \end{array}$ <p>(6×40) (6×1)</p> </div> <div style="text-align: center;"> $\begin{array}{r} 28 \text{ r } 12 \\ 15 \overline{)432} \\ - 300 \\ \hline 132 \\ - 120 \\ \hline 12 \end{array}$ <p>(15×20) (15×8)</p> </div> </div> <p style="color: blue; font-size: small;">For example: 6 goes into 25 4 times (24) so you put a 4 in the tens place above the bus stop line and you subtract 240 from the dividend (250). This leaves 10, which you bring down. Now we calculate how many times 6 goes into 10 (1), write 1 above the bus stop line and bring the remainder down.</p>	<p>Long division method</p> <p>Write the dividend under the 'bus stop', with the divisor outside to the left. Determine how many times the divisor can go into the first digit of the dividend without exceeding it. If the divisor is a larger number than the first digit, determine how many times the divisor goes into the first 2 digits without exceeding it. Put the number of times the divisor goes into the first digit(s) above. Record this underneath as a subtraction, write the remaining amount of the dividend, bring the next digit down and repeat the process.</p>
Step 7 Extension 1	$250 \div 6 =$ $432 \div 15 =$ <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> $\begin{array}{r} 41 \frac{4}{6} = \frac{2}{3} \\ 6 \overline{)250} \\ - 240 \\ \hline 10 \\ - 6 \\ \hline 4 \end{array}$ <p>(6×40) (6×1)</p> </div> <div style="text-align: center;"> $\begin{array}{r} 28 \frac{12}{15} = \frac{4}{5} \\ 15 \overline{)432} \\ - 300 \\ \hline 132 \\ - 120 \\ \hline 12 \end{array}$ <p>(15×20) (15×8)</p> </div> </div> <p style="color: blue; font-size: small;">Both remainders here are simplified.</p>	<p>Long division method</p> <p>As before, but any remainders are written as <u>fractions</u> instead of writing r__.</p> <p>If there are any remainders, the children write them as a fraction of the divisor. They can then 'simplify' the fraction if possible.</p>
Step 7 Extension 2	$432 \div 15 =$ <div style="text-align: center;"> $\begin{array}{r} 28.8 \\ 15 \overline{)432.0} \\ - 30 \downarrow \\ \hline 132 \\ - 120 \downarrow \\ \hline 120 \\ - 120 \\ \hline 0 \end{array}$ <p>$(15 \times 2 \text{ tens})$ (15×8) $(15 \times 8 \text{ tenths})$</p> </div>	<p>Long division method</p> <p>As above, but any remainders are written as <u>decimals</u> instead of fractions or writing r__.</p> <p>If there are any remainders, the children carry them to a '0' digit to the right of the dividend (beyond a decimal point that they draw for remainders), repeating as necessary – e.g. to 2 decimal places.</p>