Balmalloch Primary School

Numeracy & Mathematics Policy

responsi**B**ility
gr**A**titude
BEL**IEVE IN YOURSELF**
hu**M**ility and forgiveness
persever**A**nce
Love
ACHIEVE YOUR GOALS
h**O**nesty and gener**O**sity
respe**C**t
friends**H**ip & family

A Place of Enthusiastic Learning and Achievement!

Vision Statement

Learners in Balmalloch Primary School study Numeracy and Mathematics to develop skills for learning, life and work. They should be encouraged to value Numeracy and Mathematics and have an awareness of its importance and relevance to their daily lives. This will enable them to become functioning adults, who are able to think mathematically, enabling them to reason and problem solve in a variety of contexts.

At Balmalloch Primary School, our staff teach engaging Numeracy and Mathematics lessons that involve a carefully planned blend of teaching and learning approaches. Staff provide progressive, broad, coherent and meaningful learning experiences that are relevant, challenging and enjoyable. Expectations of all learners are high, and we challenge our learners to ensure they make the best possible progress. Our learners build confidence by applying their Numeracy and Mathematics learning in real life and relevant contexts. Staff regularly ask pupils to explain, justify or prove their thinking, talking through the strategies they have used to solve problems.

Balmalloch Primary School aims to ensure that all Curriculum for Excellence Numeracy and Mathematics Experiences and Outcomes, relevant to the age and stage of our learners, are fully addressed.

Rationale

The purpose of this policy is to ensure a consistent approach and a shared understanding of effective teaching, learning and assessment of Numeracy and Maths within Balmalloch Primary School. This policy has been written in line with Curriculum for Excellence (CfE) Experiences and Outcomes and the Benchmarks, as well as the 7 Principles of Curriculum Design; Challenge and Enjoyment, Breath, Depth, Progression, Personalisation and Choice, Coherence and Relevance.

"To face the challenges of the 21st century, each person needs to have confidence in using mathematical skills, and Scotland needs both specialist mathematicians and a highly numerate population."

(Building the Curriculum 1)

Aims

- To develop staff confidence and confidence in numeracy and maths through CLPL opportunities organised by the Numeracy and Maths Coach/Co-ordinator.
- To nurture and develop a positive attitude towards Numeracy and Mathematics through a range of rich numerical and mathematical experiences across the curriculum, where all learners' experience success.
- Use of ICT: Incorporate digital tools to enhance engagement.
- To ensure Numeracy and Mathematics is taught in a progressive way across all stages at Early, First and Second level, considering learners' individual strengths, interests and areas for development, making connections both within Numeracy and Mathematics and to other curricular areas.
- To provide a safe and secure mathematical environment where learners can confidently experiment, take risks and learn that mistakes are part of the learning process.
- Promoting a Growth Mindset through the development of resilience and positive attitudes towards mistakes as learning opportunities.
- To engage learners in mathematical communication where they can explain their thinking, learning, understanding and identify their next steps in learning.
- To enable learners to make mathematical connections in real-life situations and provide experiences that are relevant to everyday life.
- To provide differentiation that best meets the needs of all learners.
- To provide a high level of challenge through questioning and the use of Higher Order Thinking Skills.
- To continue to develop a reflective team of teaching, leadership and support staff who collaborate and share new ideas and learn from each other.
- To involve pupils in leading their own learning through the sharing and co-creation of Learning Intentions and Success Criteria and pupil enquiry-based approaches.

"Every child has the right to an education."
(Article 28)

"Education must develop every child's personality, talents and abilities to the full."
(Article 29)

Learning and Teaching

Numeracy and mathematical skills are embedded in the Experiences and Outcomes and cannot be taught in isolation. These skills can be developed through careful planning of learning activities, questioning and a range of assessments. These should encourage learners to think about the concepts, going beyond the recall of knowledge and encouraging them to explain their thinking. As learners progress through Curriculum for Excellence levels, they should demonstrate increasing sophistication and independence in their ability to demonstrate, link, transfer and apply the following skills in a range of increasingly more challenging contexts:

- Interpret questions;

- Select and communicate processes and solutions;
- Justify choice of strategy used;
- Link mathematical concepts;
- Use mathematical vocabulary and notation;
- Use mental agility;
- Reason algebraically; and
- Determine the reasonableness of a solution.

Challenge and Enjoyment

In order to challenge and stimulate learners and promote their enjoyment of mathematics, a skillful mix of approaches and different teaching styles will be adopted. These include:

- Carefully planned active learning experiences in Numeracy and Maths CfE Organisers; Number, Money and Measurement/Shape, Position and Movement; Information Handling in order to engage pupils in their learning with opportunities for learners to observe, explore, investigate, experiment and play.
- Activities differentiated and taught at an appropriate pace to match the needs of learners. Where appropriate, learners may select the level of differentiated tasks (e.g. Number Talks/Mental Agility) to allow personalisation and choice.
- The implementation of concrete, pictorial and abstract approaches to support and develop learning.
- Effective use of engaging resources, including ICT, to support and enhance learning.
- Modelling and scaffolding different skills and strategies.
- Making links across the curriculum through the implementation of interdisciplinary learning.
- Providing opportunities for both collaborative and independent learning.
- The use of both indoor and outdoor environments to maximise learning potential.
- Building on the principles of Assessment is for Learning (AIFL), including discussing and/or co-creating Learning Intentions (Purpose of Learning) and Success Criteria (How learners will be successful) at all stages. These should be displayed and referred to throughout the lesson.
- Developing problem solving and critical thinking skills and encouraging higher order thinking skills through questioning.
- Providing opportunities for pupil-led and enquiry-based learning.
- Each year, learners throughout the school will participate in whole-school events with a Numeracy and Maths focus such as Maths Week Scotland, NSPCC Number Day and National Numeracy Day organised by the Numeracy and Mathematics Coach/Co-ordinator. These events will raise the profile and promote a positive attitude towards Numeracy and Mathematics while encouraging cross-curricular links.

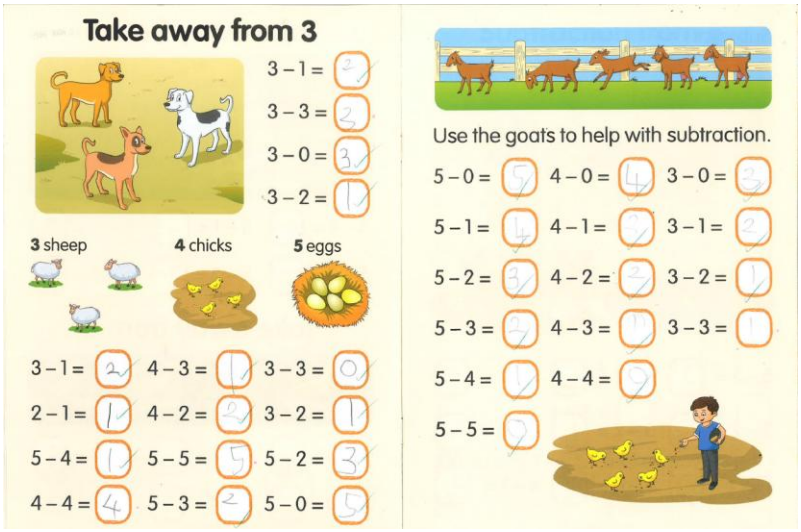
Problem Solving

Problem Solving skills are a tool for thinking across all aspects of learning and should be imbedded across all areas of the curriculum. Through problem solving, learners can apply their knowledge and

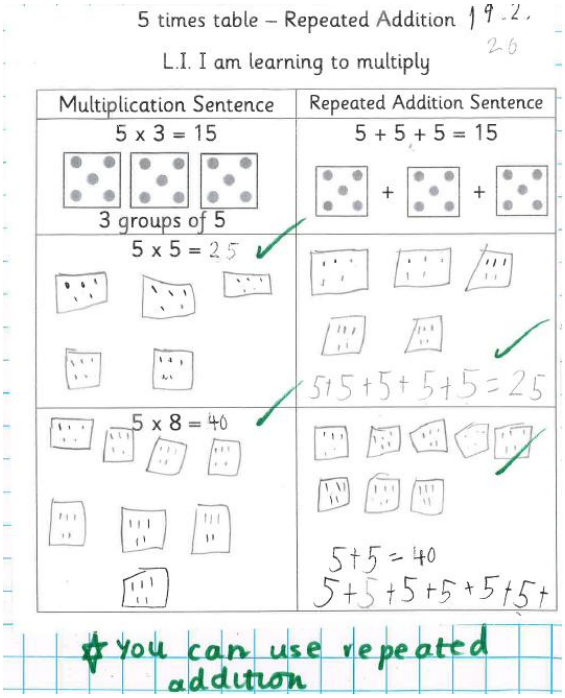
understanding of concepts. This should be a real-life skill which will be developed across all curricular areas, including Numeracy and Mathematics.

Maths in Action

PRIMARY 1



PRIMARY 2



PRIMARY 3

Patterns and relationships 11/3/24

LI: I am learning to recognise patterns in numbers

Q1. Finish the Patterns

a. 10, 12, 14, 16, 18, 20 ✓

b. 31, 33, 35, 37, 39, 41 ✓

c. 100, 102, 104, 106, 108, 110 ✓

d. 1, 3, 5 ,7, 9, 11, 13 ✓

Q2. Write ODD or EVEN beside these numbers

9 odd ✓
13 odd ✓
14 even ✓
20 even ✓
50 even ✓
88 even ✓
124 even ✓

77 odd ✓
31 odd ✓
66 even ✓
98 even ✓
90 even ✓
140 even ✓
150 even ✓

Miss McFadden says Super work!

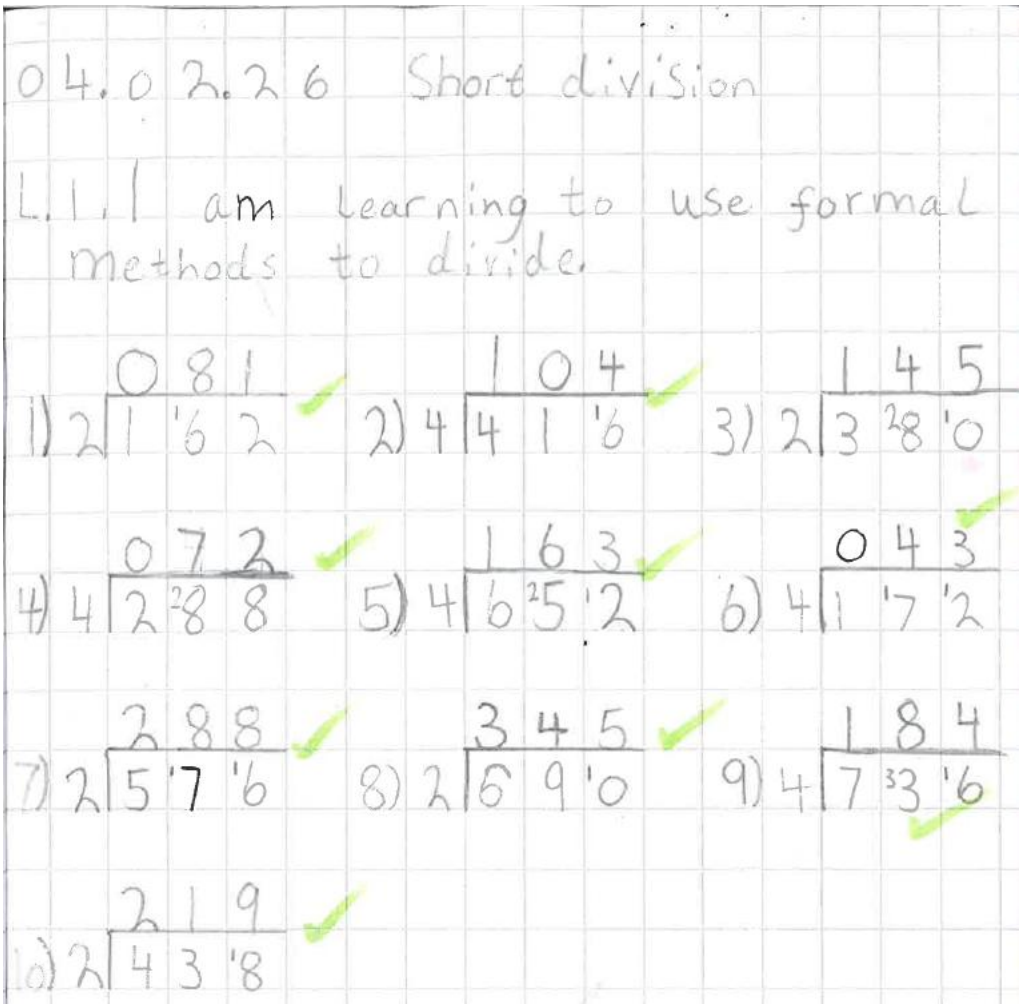
Q3. Explain your reasons

a. 12 is an even number. I know this because... it ends in 2 and it is an even number it is even. ✓

b. 99 is an odd number. I know this because... it ends in 9. ✓

c. 201 is an odd number. I know this because... it ends in 1. ✓

PRIMARY 4


04.02.26 Short division
L.I. I am learning to use formal methods to divide.
1) 2 | 1 '6 2 = 081
2) 4 | 4 1 '6 = 104
3) 2 | 3 28 '0 = 145
4) 4 | 2 28 8 = 072
5) 4 | 6 25 2 = 163
6) 4 | 1 '7 '2 = 043
7) 2 | 5 '7 '6 = 288
8) 2 | 6 9 '0 = 345
9) 4 | 7 33 '6 = 184
10) 2 | 4 3 '8 = 219

PRIMARY 5

LI: I am learning to Solve Problems

1.	The cost of a caravan shared with 5 people for the week is £695. How much does each person pay? They pay 1343	5)695 (139) ✓	(1)
2.	A farm collects 258 eggs every morning. It shares the eggs equally into cartons which hold 6 eggs. How many cartons are needed for all the eggs? 443 egg cartons	6)258 (043) ✓	(1)
3.	The total weight of 8 identical crates is 56 kg. How many crates have a combined mass (weight) of 77 kg? There are 11	8)56 (7) 7×11=77 ✓ ☆	(2)
4.	A cyclist completed 4 laps of a long distance race course covering a distance of 356km. How long is each lap? It is 89 km	4)356 (089) km ✓	(1)
5.	There are 686 tickets available at the cinema. If there are only $\frac{1}{7}$ of the tickets left, how many seats have been already been sold? There are 98 seats	7)686 (098) → Another step	(1)
6.	There are 753 balls. If you try to place an equal number of balls in 9 boxes, will there be enough boxes? No because there are 8 left	9)753 (083 r8) ✓	(2)

Total 9

Extension Task:

1.	585 people need buses for a school trip. If each bus can carry a maximum of 65 people. What is the minimum number of buses needed to transport all of the people?	
2.	It costs £2850 for 5 people to go to Spain for a week. How much will it cost for 8 people?	
3.	The total weight of 3 identical elephants is 16,329kg. How many elephants have a combined mass (weight) of 27, 215 kg?	

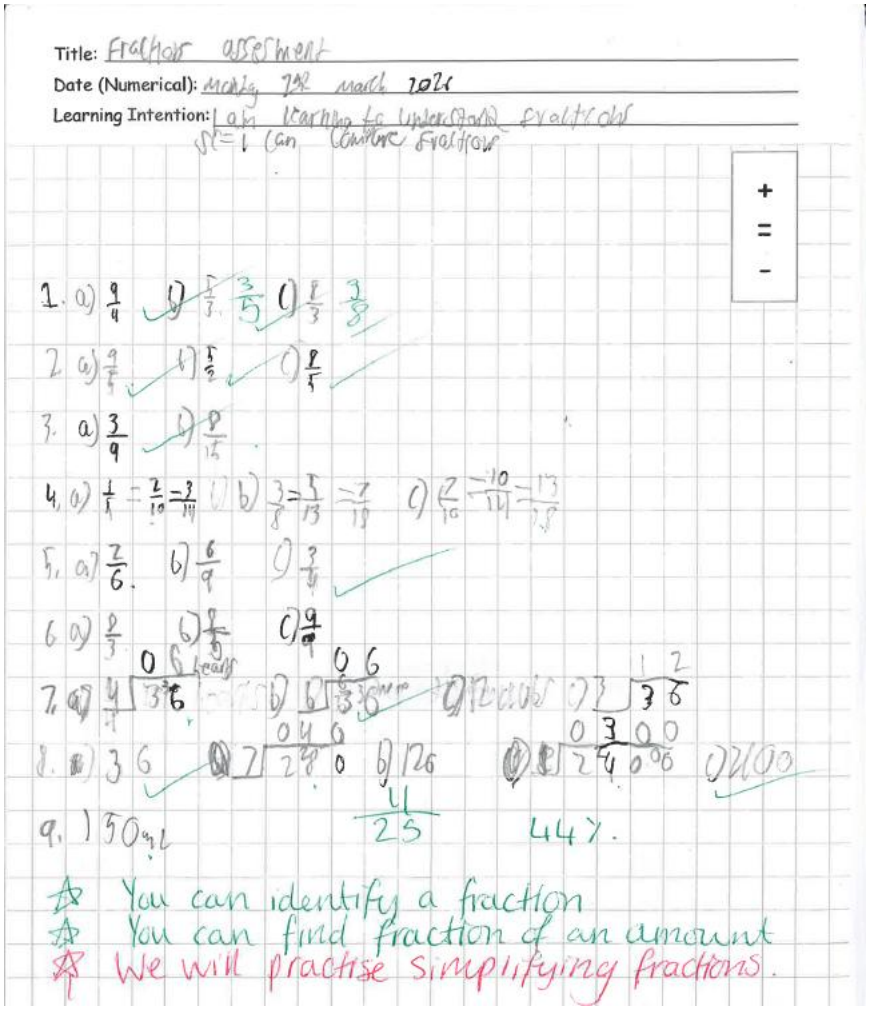
Total 5

8/9 = 89% (+)

- Wow! Sam! You are amazing at solving multi-step problems ☆
- Next time, challenge yourself to the Extension Task!

Mrs Varnett

PRIMARY 6



Title: Fractions assesment

Date (Numerical): Monday 29th March 2021

Learning Intention: I am learning to understand fractions
SC = I can compare fractions

+
=
-

1. a) $\frac{9}{4}$ b) $\frac{5}{3}$ $\frac{3}{5}$ c) $\frac{8}{3}$ $\frac{3}{8}$

2. a) $\frac{9}{5}$ b) $\frac{5}{2}$ c) $\frac{8}{5}$

3. a) $\frac{3}{9}$ b) $\frac{8}{15}$

4. a) $\frac{1}{5} = \frac{2}{10} = \frac{3}{14}$ b) $\frac{3}{8} = \frac{5}{13} = \frac{7}{18}$ c) $\frac{7}{10} = \frac{10}{14} = \frac{13}{18}$

5. a) $\frac{2}{6}$ b) $\frac{6}{9}$ c) $\frac{3}{4}$

6. a) $\frac{8}{3}$ b) $\frac{8}{5}$ c) $\frac{9}{9}$

7. a) $\frac{4}{4}\overline{)36}$ 06 hearts b) $\frac{6}{6}\overline{)36}$ 06 c) 12 clubs c) $3\overline{)36}$ 12

8. a) 36 b) $7\overline{)280}$ 040 b) 126 c) $8\overline{)2400}$ 0300 c) 2100

9. 150 mL $\frac{4}{25}$ 44%.

☆ You can identify a fraction
☆ You can find fraction of an amount
☆ We will practise simplifying fractions.

PRIMARY 7

29.1.26. Adding Fractions

L.I - I am learning to add fractions.

1.) $\frac{3}{4} + \frac{2}{3} = \frac{9}{12} + \frac{8}{12} = \frac{17}{12}$ ✓

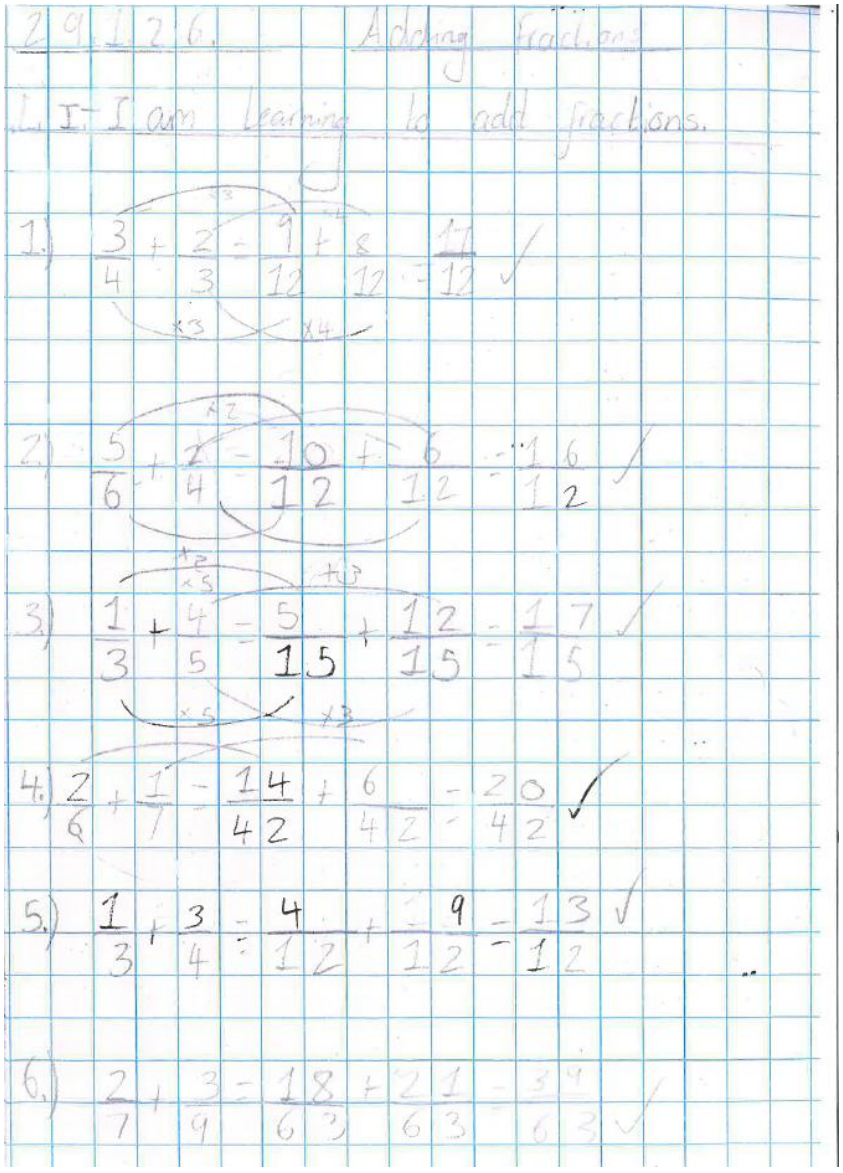
2.) $\frac{5}{6} + \frac{2}{4} = \frac{10}{12} + \frac{6}{12} = \frac{16}{12}$ ✓

3.) $\frac{1}{3} + \frac{4}{5} = \frac{5}{15} + \frac{12}{15} = \frac{17}{15}$ ✓

4.) $\frac{2}{6} + \frac{1}{7} = \frac{14}{42} + \frac{6}{42} = \frac{20}{42}$ ✓

5.) $\frac{1}{3} + \frac{3}{4} = \frac{4}{12} + \frac{9}{12} = \frac{13}{12}$ ✓

6.) $\frac{2}{7} + \frac{3}{9} = \frac{18}{63} + \frac{21}{63} = \frac{39}{63}$ ✓



Pupil Views

The Primary 7 Leadership Team were asked about Numeracy and Mathematics and shared the following views:

"We learn about maths in school because it is used a lot in daily life including telling the time, using money for shopping and measuring for furniture."

"All jobs involve some sort of numeracy and maths (e.g.) ladies in the office at school when paying for your trips, accountants, cashiers, teachers and us as learners in collecting house points for example."

"We learn about maths in school because we need it now and in the future."

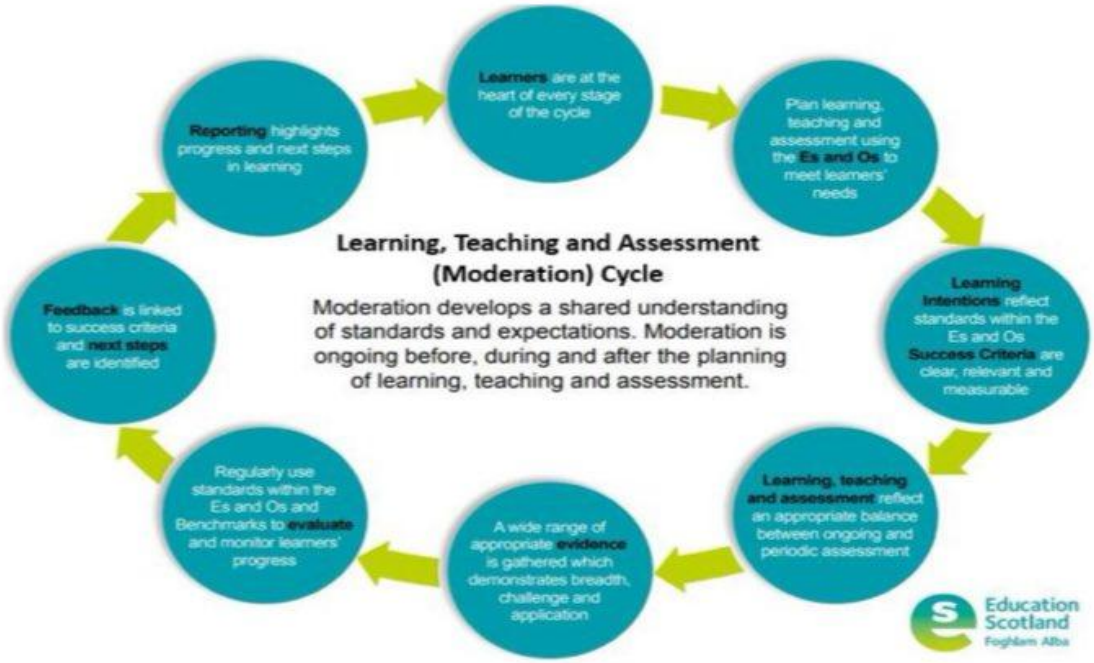
"In maths, I like learning in groups or pairs as we share strategies which helps us to find the answer."

"I like learning new skills and strategies as it helps me to keep track of my money or when I am making a cake and measuring out the ingredients."

"I like the challenge of maths – times tables, adding decimals and algebra."

"I like discussing different strategies in Number Talks to solve difficult problems."

"Maths is linked to other areas including art where we might use it to measure or create shapes/objects."



Children's learning in Numeracy and Mathematics is planned using our skills-based progression pathways. Planning documents take into account the CfE Benchmarks and the above cycle from Education Scotland. The progression planners are based on expected levels at a stage; however teachers use their own judgement and plan for the ability of their pupils, referring to and teaching skills that are at an appropriate level. This is to ensure that appropriate support and challenge are provided.

Forward planning is carried out collaboratively with stage partners, where teachers plan for groups and individuals. Well-planned learning, teaching and assessment provide opportunities for learners to experience choice, breadth, challenge and enjoyment. Teachers continually assess and reflect upon the planned learning and make any appropriate amendments to their planning.

At the start of each term, the progression planners should be highlighted to plan the skills that will be covered, ensuring pupils are provided with challenge and support. These working documents should then be referred to throughout the term to reflect on learning and teaching and evaluate pupils' progress.

Assessment

Assessment is an integral and continuous part of learning and teaching at Balmalloch Primary School. Teachers work together throughout the year to plan assessments that measure learners' progress, linked to the skills highlighted in forward plans. The results of these assessments are recorded on the school's monitoring and tracking system, and this information and other information including observations and classwork are then used to inform future planning and identify strengths and areas for development. In order for pupils to understand and take ownership of their progress in Numeracy and Mathematics, they are actively encouraged to participate in 'Assessment is for Learning' strategies such as self and peer assessment.

Pupils will be assessed using a variety of summative and formative assessments as follows;

Formative assessments include:

- Self-assessment
- Peer-assessment
- Teacher feedback – verbal and written
- Teacher observations during lessons/play

Summative assessments include:

- Periodic assessments focusing on the skills/concepts taught that term
- Sumdog
- Basic Number Screening
- Scottish National Assessments

All assessment information will be used to support a teacher's professional judgement of a child's progress within CfE levels.

Resources

A variety of resources are used to support active learning and teaching methodologies. Commercial resources are not used to drive teaching, learning and assessment but are used as a tool to support the delivery of lessons and activities.

- Teejay Maths workbooks and textbooks
- Heinemann Active Maths games
- Sumdog
- Concrete material; Numicon, Dienes materials, place value counters, Unifix cubes, bead strings, hundred squares

Monitoring and Evaluation

In Balmalloch Primary School Numeracy and Mathematics is monitored and tracked by the Numeracy and Mathematics Co-ordinator/Coach, supported by the Senior Leadership Team across all stages through teacher dialogues, observations, jotter monitoring, assessment data, forward plans and learner dialogues.

Forward Plans are reviewed by the SLT on a termly basis and discussed during learning and teaching dialogues. Professional dialogue between class teachers and SLT about pupils' progress and attainment takes place during tracking meetings agreed in the Working Time Agreement and Quality Assurance Calendar.

Jotters

All work in Numeracy and Maths jotters should include;

- Evidence of a variety of concepts throughout the year
- Date written in number form
- The Learning Intention which shows the purpose of learning – 'I am learning to …'
- Lines drawn with a ruler
- One digit per box
- Appropriate spacing between titles, equations and question numbers
- Correct formation of numerals.
- Presentation/Marking Code outlined in Snapshot Jotters

Expectations for jotter layout should be modelled at the beginning of the year and reinforced throughout the year. Examples of good work should be discussed with pupils, showing expectations.

Parental Engagement

Share strategies for supporting numeracy at home. Provide regular updates on progress and learning through reports and workshops.

Policy Created – Mr Paterson & Miss McCarthy – February, 2026