



# Bonnyrigg Primary School

## Maths and Numeracy policy

June 2021

Review August 2022

'To face the challenges of the 21<sup>st</sup> 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)

## Maths and Numeracy Vision Statement

Learners at Bonnyrigg Primary School study Maths and Numeracy to develop skills for learning, life and work. They should value Maths and Numeracy 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 Bonnyrigg Primary School, our staff teach engaging Maths and Numeracy lessons that involve a carefully planned blend of Learning and Teaching approaches, which direct the children's learning. Staff provide progressive, broad, coherent and meaningful learning experiences that are relevant, challenging and enjoyable. Expectations of all learners are high and we aim for progress to be made by all children. Confidence is built in our learners by applying their Maths and Numeracy learning in real life and different contexts. Staff regularly ask pupils to explain, justify or prove their thinking, talking through the strategies they have used to solve particular problems.

Bonnyrigg 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.

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## Aims of teaching Maths and Numeracy

We aim to create a rich and stimulating environment providing experiences to engage learners of all ages, interests and abilities. Each classroom will have a minimum of a large hundred square displayed prominently. Infant classrooms will also have a number line displayed. Wherever possible we will use cross-curricular links and contextual opportunities.

Maths and Numeracy are tools for everyday life, allowing us to make sense of the world around us and become:

- Successful learners
- Confident individuals
- Responsible citizens
- Effective contributors

## Links to Curriculum for Excellence

Maths and Numeracy experiences will provide opportunities to develop the seven principles of CfE:

- Challenges and enjoyment
- Breadth
- Progression
- Depth
- Personalisation and choice
- Coherence
- Relevance

## Learning and Teaching

The Maths and Numeracy outcomes are designed to stimulate children's interest and promote creativity and innovation. We aim to deliver carefully planned, well-paced learning and teaching activities using a mix of approaches including:

- Planned active learning with opportunities to observe, explore, investigate, experiment and play
- Outdoor learning will be used as an opportunity to connect Numeracy and Maths with their environment. E.g angles and tessellation
- Development of problem-solving strategies (See Appendix 1)
- Development of mathematical thinking skills
- Use of relevant contexts, indoors and outdoors, familiar to young people's experiences
- Appropriate, effective use of technology
- Building on the principles of Assessment is for Learning
- Collaborative and independent learning
- Where appropriate children may select the level of differentiated tasks to allow for personalisation and choice
- Making links across the curriculum through thematic work
- Sharing their understanding and explanation of thinking through discussion
- Each year the school will take part in Maths week Scotland which will raise the profile of Numeracy and Maths as well as encouraging cross curricular links

## Structure of Lessons

1. Recap on previous knowledge
2. Share Learning Intention and Success Criteria
3. Teaching/Learning Experience/Activity or activities
4. Plenary/Assessment

Midlothian's Numeracy and Mathematics GLOW group has produced the table below with advice on classroom expectations.

Learning intentions and success criteria shared, link to prior learning and sharing big picture	Non routine questions and numeracy challenges incorporated into lessons when appropriate	Opportunities in lessons to work independently	
Numeracy taught every day in every week for at least an hour	Feedback – asking pupils to share and explain their answers, using shoulder partners, etc. Pupils encouraged, helping each other, teaching each other, sharing and discussing strategies and answers.	Visual, auditory and kinaesthetic learning activities to be provided to accommodate the needs of all learners.	
Revisit learning within lessons, built in consolidation regularly	<b>Numeracy and Mathematics-Expectations</b>	Pupils working co-operatively and collaboratively, eg. In pairs, trios, groups	
Range of learning evidence in maths diaries, posters, photographs, self/peer assessments, etc.		Frequent opportunities to consolidate and demonstrate mental agility	
Use of interactive maths wall displaying relevant maths vocabulary, learning journey		Plenary which allows dialogue around the learning	
Use of real and relevant contexts		Effective use of ICT	
Incorporate problem solving capabilities and skills regularly		Use of open ended questions	
Use of AfL strategies shoulder partners, think pair, and share, thumbs up, traffic lights.....		Use of open ended questions	
		Use of open ended questions	Use games to support learning.
		Positive ethos involves 'have a go' attitude learning from mistakes and celebrating achievements in maths	Direct teaching input within each lesson

## Planning

Within the curriculum, some outcomes have been identified as Numeracy and some are specifically Maths.

### Planning Maths and Numeracy

- Year Plans should show some elements of Maths being taught in a context. Some will be taught as discrete subjects
- Staff will use Midlothian Understanding Mathematics Programme (MUMP) planners to plan Maths and Numeracy. SEAL planners may be used as a guide to strategies but is not to be used as the main planner
- Staff should record which areas are to be covered by highlighting in the appropriate stage colour and then dating when experienced
- Topics will be revisited regularly
- Numeracy will be taught every week, and timetables should show Maths and Numeracy sessions at least 4 times a week

## Presentation

The school will:

- Use squared Maths jotters (P3-7)
- Follow the school presentation policy (See appendix 2)

## Assessment

- Teachers will use their professional judgement to assess children, in both formative and summative ways
- SNSA assessments will be carried out at Primary 1, 4 and 7
- MUMP assessments will be used, where appropriate
- SEAL (Stages of Early Arithmetical Learning) diagnostic assessments may be used, if necessary
- Classes will be given the appropriate evaluation exercise at the end of the session to identify areas of need
- Curriculum for Excellence Levels will be assessed using the Benchmarks as set out by Education Scotland. These will show when children have achieved a level

## Tracking and Monitoring

- Teachers will use the adapted ASG tracking formats for Early, First and Second level to record results of assessments and to track pupil progress, ensuring pace and challenge
- The school uses a tracking format to record results of formal evaluations in March to collate and track pupil progress, ensuring pace and challenge. There is a copy of this in the planning folder
- Maths and Numeracy will be moderated across the school at least twice a year

## Meeting Learners Needs

A variety of strategies are used to ensure that all children's needs are met and they leave Bonnyrigg Primary as confident mathematicians. SEAL (Stages of Early Arithmetical Learning) strategies are used throughout the school to consolidate basic number knowledge. The Basic Facts programme can be used, to ensure children are confident in mental calculations. There are opportunities for children to be challenged in a variety of ways within their Numeracy and Maths lessons. Staff will liaise with the ASG Numeracy Co-ordinator to further challenge high achieving children.

## Resources

At Bonnyrigg Primary School we are very lucky to have a wide range of Numeracy and Maths resources. Every classroom is equipped with a Numeracy box, appropriate to their level. This box remains in the classroom and has a list of resources on the lid. If any of these resources need replacing, please speak to the Numeracy Co-ordinator. The Numeracy box should be accessible to the children, encouraging independence. It includes resources such as counters, number fans, dice, digit cards, dominoes etc. Every class should have a large Hundred Square displayed on the wall. There is also a wide range of equipment stored in the resource cupboard and in the internal street.

Staff must use MUMP planners, but can choose to teach their lessons from a range of resources such as:

- Heinemann
- Teejay
- SEAL
- Basic Facts
- Badger Maths
- Brain Busters
- iPads/SmartBoard
- Outdoor Learning

## Marking

A number of Assessment is for Learning strategies should be used, including peer and self-marking.

## Parental Involvement

Parents have access to an ASG information booklet which explains strategies taught in the classroom to allow further support to be provided at home

BOATS (Bring Our Adult To School) sessions will include one Numeracy focus throughout the year. This will demonstrate how Numeracy skills are developed in school

Staff will provide meaningful Maths and Numeracy key strengths and next steps for each child at Parent Consultations and when reporting

## Transfer of Information

Teachers will pass on the following information to the next teacher:

- Group names with levels e.g. achieved second level
- MUMP overview per group which has been highlighted and dated
- ASG digital tracking sheet
- Basic Facts level attained
- MUMP assessments with score and areas requiring consolidation

## Appendix 1

1. Problem Solving Strategies

## Appendix 2

2. School Presentation Policy

## Appendix 3

3. Mathematical language/parent information leaflet

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