



Baden Powell Primary School Mathematics Policy 2020



Rational:

At Baden Powell we aim to inspire all children to reach their full academic potential. In mathematics this means ensuring a curriculum that is fully inclusive of all children's needs.

Approaching curriculum delivery with a strong belief that mathematics equips children with key skills such as problem solving, logical reasoning and the ability to move between the concrete and the abstract will underlie our approach to whole school teaching.

The National Curriculum (2014) lays down a detailed list of clear learning outcomes for each year group. Using the curriculum in combination with a concrete, pictorial and abstract approach we will ensure that all children have their needs met within daily mathematics lessons.

At Baden Powell we are committed to pupils achieving mastery of mathematical concepts appropriate for their age group and overcoming barriers to their conceptual understanding. To ensure this we will develop staff subject knowledge, pedagogical knowledge and knowledge of formative assessment.

This document should be read in conjunction with the:

- Calculation Policy
- Assessment Policy
- Curriculum Policy
- Marking and Feedback Policy
- Special Educational Needs Policy
- Single Equality Policy

Aims:

We aim to provide the pupils with a mathematics curriculum that ensures progression and continuity across all year groups and key stages. We seek to provide a curriculum that aids pupils to be numerate, inquisitive, collaborative, confident and independent in the application of mathematical concepts.

Using an engaging but challenging curriculum combined with effective teaching we seek to ensure our pupils should have:

- A well developed sense of number.
- Appropriate knowledge, conceptual frameworks and experience to be able to understand the size of number and where it fits in value composition.
- Know by fact number bonds, multiplication facts and number rules.

- Appropriate knowledge and understanding of the above to aid problem solving mentally.
- Knowledge and understanding that will allow them to be able to synthesize mathematical knowledge to solve problems,
- Sufficient knowledge and skill to understand how to use pictorial representations to aid solving number and word problems.
- Sufficient knowledge, understanding and experience to be able to calculate both mentally and when using standard methods.
- Knowledge and understanding that will allow them to explain their reasoning using correct mathematical language.
- Knowledge and understanding that will allow them to judge if the answer they produced is reasonable and what would be the most effective checking strategy.
- Knowledge and understanding of shape space and measure so that they can investigate different aspects of measurement and properties of shape.
- Knowledge and understanding of data and how to interpret charts and make predications.

Teaching and learning:

Pupils should be provided with a range of opportunities to develop and extend their mathematical skills including:

- Whole class teaching
- Collaborative work (both group and in pairs).
- Individual work
- Challenging investigations both individually and in pairs or groups.

Through these approaches children should be engaging with:

- The development of mental strategies
- The development of written strategies
- Practical work
- Investigations
- Problem solving
- Mathematical discussion
- Consolidation of basic mathematical concepts

The basic building block of all mathematical conceptual frameworks is the secure foundation of number work and mental calculation. This should be reinforced by the correct use of mathematical vocabulary across all year groups. From this building block more challenging conceptual frameworks and written calculations can be introduced and deepened (see calculation policy for progression across year groups).

It is important that we realize that mathematical concepts and skills are transferable across all areas of the curriculum and that teachers plan appropriately for the reinforcing of key skills and concepts within medium term plans – i.e. reinforcing problem solving, reasoning, calculation, graphs, shape,

space and measure across science, geography, history, art and design and technology.

It is important that we understand the social construction of knowledge and plan for group and paired work within curriculum provision.

For the best outcomes for our children mathematics should be taught daily and discretely – no day should pass within school that children do not experience a daily mathematics lesson. The daily math's lesson should be of sixty minutes – they may be extended but should never be shorter than forty-five minutes and this should be kept to a minimum of occasions.

The daily math lesson should incorporate the following:

- Ten minute review of previous knowledge of current knowledge that children are struggling with.
- A main teaching session that will include teacher input using a range of pedagogical strategies. This should have balance between whole class, guided group work and independent work (individual, paired, group collaboration). All learning activities should be appropriately differentiated to ensure challenge and engagement with the learning. The conceptual framework that the children experience should be influenced by ongoing assessment and it may incorporate the introduction of new material or the practice of previously introduced conceptual frameworks to ensure the children master the application of this framework.
- A plenary that will involve interaction with the whole class to clarify misconceptions, identify progress, summarise key facts, ideas and what to remember, make links to other learning and discuss next steps.
- Time allotted for self-reflection on the learning process.

Learning should be differentiated and the math subject lead should see clearly this differentiation when doing book scrutiny across all year groups. There should be clear differentiation for higher achieving, middle achieving and lower achieving children. There should be clear differentiation for children with special educational needs provision who may not be able to access the curriculum outcomes for that year group. For more able children who are gifted in mathematics there should be provision within the lesson that will challenge and move them on.

Assessment:

Formative Assessment:

Teachers should integrate clear formative assessment strategies within each lesson and across each block of work. This should include clear learning intentions for each lesson and the block of work (i.e. national curriculum outcomes); clear success criteria for all lessons that are linked to the learning intention and show clear steps to achieving it while being able to be used by both children and adults to provide effective feedback; clear feedback that highlights achievements and next step prompts and effective questioning. This approach

should be used to identify gaps in learning and appropriate teaching to intervene to close these gaps.

Summative assessment:

Summative assessment is most effectively used formatively and should be used in conjunction with teacher assessment, monitoring and tracking to aid overall judgment. Outcomes for summative assessments should not be the final decider upon a child's understanding.

Termly summative assessment will occur in year one, two, three, four and five. Year six will have termly assessment benchmarked from previous years and will have three half-termly benchmarks based on previous national test materials.

In line with the national curriculum (2014) the school will adopt the Progress in Reading Assessment and Progress in Understanding Math that Rising Stars have issued to match the curriculum.

EYFS:

We will follow the EYFS recommendations for the provision of mathematics across the Foundation Stage. This will be supported by a CPA approach that ensures all children make progress and deepen their understanding to ensure they are well prepared for the next stage of their education.

Resources:

- Numicon for reception and year one.
- Deines for all year groups.
- Counters
- Counting beads
- Number strings.
- Objects for counting
- Number lines
- Number squares

Role of the Subject Leader

The role of the subject leader should incorporate the following:

- Ensuring teachers understand the requirements of the national curriculum (2014).
- Prepare, organise and lead CPD.
- Work with the Inclusion Manager to ensure high quality mathematical interventions across the school.
- Work with colleagues to identify any support needs.
- Attend CPD that will aid the development of mathematics teaching and learning across the school.

- Keep parent informed about mathematics issues and developments.
- Meet with the curriculum governors to discuss mathematics across the school.
- Conduct regular book scrutiny, learning checks, learning walks and analyse assessment data to highlight areas for improvement across the school.

Signed: _____ Governing Body

Signed: _____ Headteacher