



Maths Policy

Mathematics is not about numbers, equations, computations and algorithms: it's about understanding

(William Paul Thurston)

At Baden-Powell and St. Peter's Church of England School, we recognise Maths as one of the most essential skills we can teach our children. It supports children's understanding across the curriculum and prepares them for life, which is permeated by number and shape.

We embrace the ethos of the 2014 Maths Curriculum which promotes a mastery approach to learning: we strive to add depth and breadth to our teaching and learning.

Intent

We aim to:

- Develop confident mathematicians who can manipulate number with **fluency**
- Build a child's **conceptual understanding** by following a concrete → pictorial → abstract approach to our teaching and learning
- Teach each child a wide range of skills, approaches and techniques, thus allowing them to make choices about the most **efficient approach** to completing a calculation
- Equip each child with the required skills to **apply** Maths to real-life scenarios and to **solve problems**
- Give each child the mathematical skills they need to **access all areas of the curriculum**: from Roman numerals in History to graphs in Science, and from ratio in Art to fractions in musical notation.
- help each child to develop their **reasoning skills** and their ability to **communicate**. For example, being able to explain patterns, generate and predict sequences or describe similarities and differences in shape and number

Through robust and progressive provision of Maths, each child will learn how to execute a calculation; become proficient at choosing the most efficient method to do so; and know how using such a skill might be relevant to their lives.



Implementation

At Baden-Powell and St. Peter's Junior School, we do not follow one particular scheme. We generate our own ideas, supplementing them with resources from a variety of schemes and alternative sources. We tailor our lessons to the particular needs of the children we are teaching each year.

Maths at BPSP is currently taught in class in Year Three and Year Four, and in ability groups from Year Five onwards. As the range of mathematical ability becomes broader, we believe that the children are better served by being taught in this way. Work is differentiated to ensure that activities both challenge and support children, regardless of what ability group they work in.

There is flexibility in how we create our setting structure. Most often though, we organise the children into two upper, two middle and two lower sets. When we are able to do so, we create a seventh set in Year Six in order to help prepare them for the SATs. This benefits all children in those year groups by ensuring that set sizes are lower than they would usually be.

Lesson Planning and Delivery

Teachers begin their planning by looking at the Maths objectives from previous years to ensure that children have secured the required knowledge. Once this has been established, teachers progress onto planning around the child's current year's objectives. In the spirit of the National Curriculum 2014, teachers explore ways in which to enrich and broaden a child's experience of their cohort's stated objectives. Very occasionally, higher set teachers may introduce objectives from a higher year group but only once the relevant objective has been truly mastered.

Teachers work their way through the objectives listed on an overview for each term. These are available to see on the school's website. They follow a logical sequence with place value being followed by number work, which in turn leads logically to work on fractions, decimals and percentages. This sequence is important as these are the skills that underpin and allow success in other topics such as statistics, measure, shape etc.

At BPSP, we understand that children forget much of what they have learned and that their long-term memory is best served by revisiting topics frequently. We therefore adopt a cyclical approach to teaching Mathematics, typically revisiting key areas at least three times a year.



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Medium term

Lessons are then combined into units of work that may span one, two or three weeks. Each lesson builds sequentially on the last.

Lessons are then mapped out in more detail on a short-term planner. This briefly outlines which objectives are being covered each day and how that lesson will be differentiated for the children. Teachers plan a progressive set of questions or activities (purple, yellow, green and blue), ensuring that lessons are accessible for all yet rich enough to challenge the most able child in the cohort.

Lesson structure

The warm-up/starter

A lesson begins with a short series of questions that are designed to support long-term retention of key information or sharpen mental skills. The questions look to support our cyclical approach to learning by revisiting topics that have already been covered, recapping something they have been taught last week, last month or last year. This serves as a useful (but not prescribed) scaffold around which to build the planning of such revision.

Main input

When a topic is first introduced to the children, they all take part in the input and then start independent work when the input has been completed. However, given the cyclical nature of the teaching, tagging is used when a topic is revisited.

Tagging consists of the children completing a quick assessment at the start of the lesson to ascertain whether they need to be actively involved in the input or whether they can begin independent work immediately at the green level. Tagging ensures that potential is not capped, preventing teachers from making assumptions about the ability of a child in a given topic: for instance, some children who are weak in number may excel at shape. In turn, this builds the confidence of every child as they start at a point where they can succeed and make progress.

Independent work

The children start work at the level at which they are told to start or which they have independently chosen as most appropriate to their needs. Teachers monitor their choices and encourage children to take a step back if they have been over-ambitious or encourage more ambition if they have made safe choices.

Pitstop plenaries/peek sheets



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The following are strategies that are commonly used to ensure that children are addressing misconceptions, correcting errors or moving to a more appropriate level.

- Pitstop plenaries, where some common misconceptions are addressed.
- Calling out some answers so that children can mark their own work and take appropriate action, for example to skip to the next level of work.
- Peek sheets where children can check they are on the right track.

Lesson content

Teachers will focus on teaching skills in the early part of the year but, as soon as possible, will integrate questions that develop the children's ability to apply and talk about Maths into lessons. Questions that develop the children's ability to reason, communicate, solve problems and identify, extend and explain patterns, form an integral part of lessons once the children have developed a working knowledge of the skills required to allow this to happen.

Plenary

The plenary is used to explore some of the harder questions that caused problems or that fewer children reached. This may well be a question that requires reasoning, communicating or problem-solving skills. This part of the lesson may also serve as an opportunity to make the link between the Maths that they are using in that lesson to another aspect of Maths, or to real life.

Assessment

Throughout the year, there are key assessment points which are used to pinpoint children's stages of learning as well as progress within the subject. These are at the following times:

- December (Autumn, DC2)
- March (Spring, DC3)
- June (Summer, DC4)

Between these points, teachers will make regular use of AfL (Assessment for Learning) to inform their planning, identifying gaps in learning and children of with barriers.

Use of regular arithmetic tests also help teachers build a picture of children's needs and strengths.

Following our school's Feedback Policy, formative assessment is collected in Maths Feedback books every lesson; using this information, children are provided with regular feedback to practise and consolidate skills. Feedback books are also an essential tool for teachers to review and adapt Maths planning in response to formative assessment.



Impact

Monitoring and Evaluation

Lesson observations, book looks, planning checks and discussion with pupils and teachers, together with rigorous analysis of the termly data, combine to build a clear picture of the impact of our teaching on the learning of the children.

Such information might be used in variety of ways;

Ongoing Professional Development

Staff training is provided either through in-house staff meeting or INSET time, or by directing staff to external professional development provision.

Intervention

The setting structure allows for more targeted support, with the lower sets benefiting from smaller class sizes and more adult support. Smaller groups of children are sometimes withdrawn to work on core skills that they have not yet mastered and, in some cases, 1:1 support is provided within lessons.

Pupil Premium & SEND

All teachers are made aware of the SEND and Pupil Premium children in their Maths set. This is vital as a child on the SEND register for Reading must not be disadvantaged in Maths due to this need. Their progress is very carefully monitored and they will be provided with additional support within class or through some of the interventions outlined above if needed.

At BPSP, we strive to provide the best possible Maths experience for the children. We regularly monitor, review and adapt our practice to ensure that the children enjoy Maths, see the relevance of their learning and ultimately succeed in the subject.