Maths @ Barnes Farm Junior School

Our Ethos

Mathematics is an essential part of a balanced curriculum that is both challenging and enjoyable. All learners should become fluent in the fundamentals of mathematics and should be able to reason mathematically and solve problems by the application of their mathematical understanding. We endeavour to ensure that children develop an enthusiastic and creative attitude towards mathematics that will stay with them throughout their lives.

Mastery Statement

We describe mastery as being able to do something 'standing on your head'. Mastery is an ethos and an approach for learning. It is therefore our belief that everyone can master maths and the term is NEVER used as a descriptor for those classed as 'more able' mathematicians.

Teaching & Learning

At Barnes Farm Junior school we follow the Abacus Scheme of work and this Maths curriculum is based on the idea that all children need to master age-related skills.

This involves children becoming fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

The expectation set out in the Abacus mathematics programmes of study, is that almost all children are expected to be addressing the same objectives at the same time. The Abacus model is designed to ensure mastery for all and close the gap. It does this in the following ways:

1. Consistency of models and images

Abacus provides a consistent approach through both the visual models and images used in the classroom and through the vocabulary and language used within lessons. This consistent approach is reinforced through our whole school calculation policy which has been updated to include the Abacus teacher tools (TT). This means that children in Year 5 and Year 6 are drawing on models and explanations that have been consistently developed throughout the school and with which they are very familiar.

2. Bank of memorised number facts

Our maths policy and the Abacus model works on children having recall of a bank of mathematical facts. Number facts are rehearsed little and often both within the daily maths lesson, during additional activities and at home. We have a whole-school policy for teaching times tables in which children are encouraged to achieve a platinum level and know their times tables up to 12 inside out by the end of year 4.

3. Rehearsing key maths skills through over-learning

The key to mastery is distinct sections of learning which children do not move on from until they have been mastered. In Abacus the units of learning are kept small so that children can grasp them before moving on. Once taught, central concepts (such as place value, partitioning and recognising complements to 1, 10, 100) need to be rehearsed.

4. The concrete-pictorial-abstract approach

At Barnes Farm Junior School we adopt the concrete-pictorial-abstract approach to teaching maths. This is based upon research that there are three stages necessary for pupils to develop an understanding of a concept. Reinforcement is achieved by going back and forth between these representations. The concrete stage involves children using real (or concrete objects) to carry out a calculation. They then move on to the pictorial stage where concrete equipment is no used but children will use a diagram or picture to aid their calculation. Finally the abstract stage is where pupils are able to carry out a calculation using numbers or symbols alone.

Internal Assessment

At Barnes Farm Junior school we use the Chris Quigley Essentials milestone criteria to assess. Achievements are reviewed and recorded on a termly basis using Depth of Learning.

Formative assessment is carried out of day-to-day learning and feedback allows children to identify where they need to target their efforts in order to improve (see school's assessment policy for further details).

Summative assessment in maths is carried out half-termly using the Abacus arithmetic assessments and the rising stars reasoning assessments.

Pupils who have difficulties in maths are assessed in the same way as the rest of their cohort. Gaps are analysed and the class teacher) along with the Maths Lead and SENCO) will ensure that provision is made for those who require intervention beyond first quality teaching.

Moderation

We regularly moderate our judgements across phases within our school and also within our school's consortium – STEP (Springfield Teaching Excellence Partnership). Additionally we have visits from education advisors to validate our judgements and identify areas for improvement.

Appendix 1

Intervention Groups

Springboard – this intervention to close the gap takes place as follows:

Years 4 and 5 autumn term for 10 weeks before school twice weekly

Year 6 spring term for 11 weeks before school twice weekly

Third Space Maths

This intervention is primarily aimed at pupil premium children and takes place on a weekly basis This is on-line interactive provision whereby children are being led through a session by a tutor who is located remotely.

1:1 Tutoring

This is for Year 6 children who undertake 1:1 tutoring for one hour once a week over a 10 week period. Specific objectives will be identified by the class teacher in consultation with the tutor and worked on over the period.

Pupil Premium support

This is for year 6 pupil premium children and takes place once a week with a teaching assistant under the direction of the class teacher and will focus on specific objectives.

Power of 2

A targeted intervention for high need children usually carried out daily by the class teaching assistant.

Numicon

Small group intervention for years 3 and 4 carried out over 10 weeks, twice weekly.

Success @ Arithmetic

Small group intervention for Years 5 and 6 carried out over 10 weeks, twice weekly.