



Mathematics

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Crooksbar Primary School Mathematics Policy

Aims

- a) To promote a culture where children are not afraid to tackle problems and encourage all children to be involved in maths.
- b) To develop the confidence of children within the different areas of the maths curriculum.
- c) To allow and encourage the children to develop mathematical thinking, including using logical and sequential methods.
- d) To bring mathematics into the real world, using concrete objects and relate the topics taught to real life problems.

Foundation Stage

Our Foundation Stage children will access the EYFS framework, effective from September 2014. The learning objectives for Foundation Stage are organised in the following areas:

- ~ Numbers
- ~ Shape, space and measures

KS1 and KS2

Both KS1 and KS2 pupils will follow the objectives given in the National Curriculum. The learning objectives are organised into four main areas:

- Number
- Measurement
- Geometry
- Statistics

Teachers may include objectives from other year groups if they feel this is necessary and in the best interests of their children. This may be of particular use during the first few years of the new curriculum being in place.

Planning

- Long term planning for each year group is available to access via the eschools learning platform.
- Medium term plans are available to access via the eschools learning platform or through the 2014 curriculum folder on the staff shared drive. These should be reviewed by staff each year and amended if necessary.
- In our nursery, pupils access maths through adult led and child initiated activities, which are set up in different areas, in both outdoor and indoor environments.

- A daily Maths lesson is to be planned for Y1 - Y6 pupils (this includes Schofield and Sims marking session for Y3-6 pupils each Friday, and for Y2 pupils from January. In Reception, the children receive a Maths lesson twice a week. Child initiated activities are set up in different areas of the classroom for the children to access. In our Nursery, one adult-led activity is delivered weekly and frequently changed, child initiated activities are set up in the different areas.
- From Y1-Y6 short term planning is completed on a weekly basis; this can be shared planning if there is more than one class in a year group. The schools short term planning proformas should be used (as agreed by staff in October 2011) and uploaded at the beginning of each week onto the eschools learning platform.

Having all planning uploaded onto the Learning Platform means SMT and subject leaders can access planning for scrutiny at any time, but is also there if a member of staff is absent for a couple of days, which ensures continuity for pupils learning.

Activities should be planned to cater for all groups of children, including SEN and G&T children.

Assessment

Assessment is an integral part of the teaching process and should be carried out in order to monitor progress and achievements.

In reception, the children will be monitored against the Early Learning Goals for number and shape, space and measure.

From Y1-Y6, children's progress will be monitored by individual teachers, in line with the 'rising stars' framework. This will be completed via Classroom Monitor online. Further assessment may be taken from formative assessments such as end-of-term assessments. For further information, please refer to the school's assessment policy.

Differentiation

Differentiation within Maths may take place by outcome or task. The abilities of all children will be taken into account when they are given the task, the equipment and the support from adults within the school. Children in Year 5 and 6 are grouped according to ability to support their development.

SEN

Teachers should set high expectations and provide opportunities for all pupils to achieve and progress. Where appropriate individual needs should be catered for so that all pupils can take part in lessons fully, effectively and to the best of their ability. Where children exceed expectations, the teacher will extend their learning by providing more challenging work. In line with new curriculum guidelines, this should involve developing the pupil's understanding in the particular topic being taught.

Where there are concerns about a child's achievement, appropriate intervention groups will be used to support their understanding of mathematics. Pupil progress meetings will

play a big part in helping to identify and monitor these children. This support will be evident on our provision maps.

Cross Curricular Links

Mathematics can often very easily be linked to other subjects and should be carefully planned for wherever possible.

In Science opportunities arise for children to use a wide range of measuring equipment; this often involves reading a variety of scales and using timing apparatus. Children also develop data handling skills through the collation and presentation of evidence and through the interpretation of results. In Design and Technology children use measuring to an accurate degree, they also have opportunities to use and adapt recipes to cook for different amounts of people, as well as measuring out ingredients. Opportunities arise in Geography when developing map skills and in History when using statistical evidence.

Equal Opportunities

Mathematics provision will be accessible to all pupils in the school regardless of race, gender, class, religion and disability.

Development of skills

In mathematics, the rising stars descriptions (accessed through classroom monitor) indicate the progression in the knowledge, understanding and skills.

Progression by key stage (taken from National Curriculum)

KS1: The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the 4 operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Y3/4: The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.

Y5/6

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all 4 operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

Monitoring and Evaluation

Monitoring & evaluation are an essential part of the delivery of a well-planned mathematics curriculum and forms a strong basis for future planning. It also ensures that the requirements of the National Curriculum are being met.

Health and Safety

Staff will instruct children in the safe transport and storage of small resources around the area and activities which require children to move around or out of the area will be carefully supervised. Large pieces of equipment will generally be used at their place of storage.

Resources

Resources are mainly stored in the resource cupboard; however some resources which are relevant only to a particular year group(s) are stored in that classroom. Resources should be clearly labelled and stored carefully. Please return resources in a neat and tidy manner, any breakages should be reported to the Maths co-ordinator. Please be aware of financial constraints and use resources with consideration.

Teaching and Learning

Teaching will normally follow the suggested format in the daily mathematics lesson, however where necessary a teacher may decide to adopt an individual approach to meet the needs of specific children. Only by selecting the teaching method best suited to the concept can maximum progression be ensured for each child.

Co-ordinators Role

The person with the responsibility for developing mathematics throughout school will ensure that, within budgetary means, resources are readily available. Non-specialists will be offered support from the post holder and made aware of the resources, including courses, to develop their expertise.

The post holder should have an overview of standards, continuity and progression in mathematics throughout school and be aware of new developments and information.

Success Criteria

The success of this policy and Mathematics within school can be measured through:-

- Well organised and appropriate resources available.
- Clear understanding of systems in place and the development of skills needed to be taught
- High standard of work
- Children actively engaged in mathematic activities throughout the school
- The requirements of the National Curriculum are met.
- Opportunities are given to pupils to ensure they achieve to their full potential and enjoy the subject.

Agreed by

Reviewed ~ September 2015

Review Date ~ September 2017