

Cavendish Close Infant and Nursery School

Our Mathematics Policy

Rationale

Mathematics provides a way of viewing and making sense of the real world. Mathematics can be used to describe, to illustrate, to interpret, to predict and to explain. The utility of mathematics is unquestioned, but the skills and knowledge should be embedded in purposeful activities.

Aims

- To encourage a positive attitude to mathematics
- To develop the ability to think clearly and logically in mathematics
- To develop skills and knowledge and the quick recall of basic facts
- To develop the imagination, initiative and flexibility of mind
- To develop the skills of working systematically, independently and co-operatively
- To provide pupils with a supportive atmosphere in which to develop their mathematical skills
- To use and apply mathematics in practical and real life situations

Our mathematics curriculum

Early Years Foundation Stage (EYFS)

Mathematics is one of the seven **areas of learning and development** within the EYFS. It is divided into two sections:

- Number
- Shape, space and measures

Each area of focus is divided into progressive stages of development as outlined in the 'Early Years Foundation Stage Profile 2014'

Teaching and learning

The learning environments within the EYFS all include problem solving areas. Within these areas of continuous provision, children can independently access a range of mathematical resources to support their learning and development over time. Mathematics is also embedded into other areas of continuous provision within the classroom, for example, a telephone in the home corner, measuring jugs, bottles and funnels in the water tray etc.

The continuous provision is enhanced on a daily basis through a number of ways, for example:

- A whole class oral and mental starter activity (EYFS2)
- A whole class main teaching activity (EYFS2)
- Adult led group activities (indoors and outdoors)
- Independent table activities that reflect current learning

- Opportunities for cross curricular learning, for example, singing and acting out number rhymes, photographing shapes in the outdoor area etc

Assessment guidance

The EYFS **profile** is used in EYFS2 to assess in the summer term against the Early Learning Goals to state if each child is working towards, is working above or exceeding the age expected expectations. Prior to the Early Learning Goals children are assessed against age related goals as outlined in the profile. It is used in EYFS to provide staff and parents with reliable and accurate information about each child's level of development. The profile enables staff to plan an effective, responsive and appropriate curriculum that will meet all children's needs. Within the Mathematics area of the profile, staff record judgments against the assessment scales, based on the **ages and stages**. Judgments are made from observation of consistent and independent behaviour, predominantly from children's self-initiated activities.

By the end of the EYFS, some children will have exceeded the goals. Other children, depending on their individual needs, will be working towards some or all of the goals - particularly some younger children, some children with learning difficulties and disabilities and some learning English as an additional language.

Developmental ages are recorded and analysed termly. Intervention programmes can then be planned and implemented effectively. Targets can also then be set, shared and tracked.

Key Stage 1 (KS1)

“The national curriculum 2014 for mathematics aims to ensure that all pupils:

- *become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems*
- ***reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language*
- *can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.”*

The Mathematics curriculum is organized into the following areas:

- Numbers & the number system
- Calculation~ addition & subtraction
- Calculation~ multiplication & division
- Calculation~ Fractions, Decimals & Percentages
- Measures
- Shape & Space
- Statistics

Teaching and learning

The learning environments within KS1 enable children to make choices and to access the resources they need to support their learning.

KS1 classes explore a range of groupings. Numeracy groups are essential at times so that we can provide children with differentiated work that matches their individual needs. For problem solving activities, we often explore mixed ability groupings.

KS1 classes all have numeracy displays boards that reflect and support current learning.

All KS1 classes regularly experience whole class numeracy lessons. Lessons usually begin with a whole class oral and mental starter activity, followed by a whole class main teaching activity, followed by group/individual activities, finishing with a whole class plenary session.

During integrated days, numeracy activities are ongoing throughout the day and work well alongside the daily whole class oral and mental starter activity and whole class main teaching activity. Learning is reviewed throughout the day.

ICT as a teaching and learning tool

ICT supports children's learning in mathematics in a number of ways, this is evident in weekly and daily planning. Examples include:

- Using '101 mental and oral starters' on the smartboard with the whole class – lively, engaging, challenging, fun!
- Allowing the children time to explore the extensive software that we have in school to support mathematical learning
- Using programmable toys to support the understanding and use of positional language
- Using the digi-blue and digital cameras to explore mathematics in the local environment

Assessment guidance

Day to day assessments happen at the beginning of, during and at the end of units of work. They provide information about children's general attainment and progress and they help staff to identify any children who might need additional support.

Assessment for learning is ongoing and central to effective classroom practice. Much of the time, during interactions with individual children, groups or the whole class, there is some assessment being made. What children do or discuss is observed and listened to and then analysed against expectations. This analysis informs future planning and identifies where children are in their learning and what they need to learn next.

Preplanned assessment times are set across school and work from the term in books is analysed and specific observations are made in order to give children a best fit judgment towards their National Curriculum levels. National Curriculum levels are recorded and analysed termly. Intervention programmes can then be planned and implemented effectively. Targets can also then be set, shared and tracked.

Throughout Year 2 children will experience question based assessments to assess their understandings of Mathematics. In the Summer term teacher assessments and SATs assessments give their levels for Key Stage 1.

Targets

Targets are set in 3 tiers every half term and these are set to children's differentiated needs, they are achievable and the children are aware of the targets and are rewarded for meeting their targets with stickers and merit awards.

Children are encouraged throughout the term to work towards their targets in differentiated class work, target groups and through homework.

Sharing learning with parents

Every half term, each year group sends home a mathematical 'learning challenge for home'. Often in the form of an open ended investigation that enables the children to use a range of problem solving skills. It is also an opportunity to let parents know how they can support their child's mathematical learning at home and works towards their personal target.

Resources

Many resources are within classrooms and are available for children to access independently. Other resources are stored in classroom cupboards. Many other resources, including topic boxes are shared and stored centrally.

Role of the mathematics subject leadership team

Leadership responsibilities include:

- Analysing year group data and feeding back key points to staff
- Developing an annual action plan that forms part of the school improvement plan
- Sharing priorities/expectations with staff
- Organising staff meeting/INSET day time to work collaboratively towards priorities
- Monitoring year group targets for progression, pitch, expectation and challenge
- Monitoring class intervention programmes/target groups for focus and impact

Monitoring responsibilities include:

- Lesson observations
- Work scrutiny
- Talking to children
- Exploring year group plans
- Exploring learning environments

Other responsibilities include:

- Managing mathematical resources
- Keeping up to date with publications
- Keeping up to date with national and local priorities
- Developing links with the Local Authority (LA) and other local schools
- Attending termly network meeting led by the LA

- Keeping the link governor involved and up to date with developments
- Co-ordinating staff development opportunities
- Building up a bank of learning challenges for home for each year group
- Reviewing the mathematics policy annually
- Leading by example

This policy was reviewed and amended in September 2014.

The implementation of this policy is the responsibility of all staff.

This policy will be reviewed during the autumn term 2015.

Miss Kathryn Mason
Mathematics Coordinator

Policy Change History Sheet

Policy title: Mathematics		
Review Date	Section	Summary of change
<u>11.9.12</u>	End	Name of coordinator from Christina Diffin to Kathryn Mason
<u>11.9.12</u>	Early Years Foundation Stage (EYFS) planning guidance	Updated to new EYFS framework
<u>21.10.12</u>	Mathematics curriculum	Reflects the changes taken from the government changes to the national curriculum May 2012
<u>21.10.12</u>	KS1 planning guidance	
<u>21.10.12</u>	Assessment	APP removed as school no longer using the assessment- National curriculum levels added and Year 2 assessment put in
<u>21.10.12</u>	Targets	Section added
<u>21.10.12</u>	EYFS assessment	Adaptions made for the time being until we gain the actual assessment procedures from the government in Spring 2013
<u>21.09.14</u>	All sections	Policy rearranged to EYFS then KS1. New curriculum information updated in both areas.