

Christ Church CE Academy



Mathematics Policy

This Church of England Academy aims to serve its community by providing an excellent education for pupils of all abilities and backgrounds in the context of Christian belief and practice.

It encourages an understanding of the meaning and significance of faith and requires the valuing of other faiths.

It promotes Christian values and spiritual development through the experience it offers to all its pupils.

These values are implicit in this policy.

Status

Jan 2018	Draft for Governors
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29/1/18	Accepted by governors
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Jan 2020	Date for Review
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Policy for Mathematics at Christ Church CE Academy

Introduction

This policy outlines the teaching, organisation and management of the mathematics taught and learned at Christ Church CE Academy. The school's policy for mathematics is based on the revised National Curriculum programme of study 2013. Mathematics will be taught to all pupils throughout the school in ways appropriate to their ability. It will be taught as a separate subject as well as in cross-curricular topics. The school's Equal Opportunities Policy applies to the teaching of mathematics, as to all other subjects. All pupils will be helped and encouraged to make the greatest progress they can.

Aims

Mathematics is a tool for life. To function in society we all need to be able to communicate mathematically. We must ensure that the children in our care leave our school with high levels of Numeracy and other mathematical concepts (shapes, space and measures etc.).

In our teaching of mathematics at CCA we hope to:

- use interactive whole class teaching;
- use appropriate equipment and vocabulary;
- have a consistent approach;
- enable children to have opportunities for mathematical thinking, reasoning and discussion;
- provide opportunities for pupils to demonstrate and use their mathematics;
- provide a role model by using mathematics for practical purposes, organisational and administrative tasks;
- give pupils opportunities to use mathematics in everyday situations;
- help pupils to understand that mathematics is a powerful tool for communication;
- instill confidence at using mathematics and develop a positive attitude towards it;
- help pupils to be unafraid of and to use technology;
- help pupils recognise that mathematics is a search for pattern and relationship;
- instill a fascination for mathematics and the manipulation of numbers;
- encourage pupils to take responsibility for their own learning;

Planning

Planning will be informed by the new National Curriculum (Sept. 2013) and the White Rose Maths Hub Scheme of Learning in conjunction with our assessment and tracking grids.

In Foundation Stage, Key Stage 1 and Key Stage 2, teachers will follow the White Rose Maths Hub Scheme of Learning and will produce daily plans for numeracy lessons for their class or group.

Short term planning will show the objectives for the lesson, the content for all parts of the lesson including teaching points, mathematical vocabulary, equipment to be used, the general tasks, the differentiated work and the challenge activities.

Weekly planning for the Number Sense sessions will be recorded on a separate document.

Planning should indicate relevant excerpts/links to our CCA Tracker system, the use of ICT and which groups will be working with the teacher or TA.

Teaching and Learning

Teaching Time

Foundation Stage

Part Time

Different aspects of numeracy are covered throughout the whole nursery curriculum.

Many self-selected and directed activities have a mathematical element. Mathematics activities are amongst the continuous provision and teacher led mathematical activities will be at least twice a week.

Full Time

Reception children gain first-hand experience in a range of mathematical activities, within the Early Learning Goals. An increasing amount of time will be spent daily on teacher led numeracy activities (counting and number recognition etc – Number Sense activities) with longer sessions [building up to 30 minutes] at least twice a week for each child in smaller ability groups.

Key Stage 1

In Years 1 and 2 there are daily numeracy lessons of at least 45 minutes plus a half hour daily class Number Sense (mental maths) session. Number Sense time is used to practice counting, number bonds, appropriate times tables and number facts necessary to be confident with numbers at an age appropriate level.

Key Stage 2

In Years 3, 4, 5 and 6 there are daily maths lessons lasting 60 minutes and a half hour daily Number Sense (mental maths) session.

In Year 6, it may be necessary to increase the number of numeracy sessions per week and to offer after-school workshops – particularly in the Spring Term.

Class Organisation

Early Years (full time and part time) and Year 1 pupils will have their numeracy lessons within their own class. In Year 2, 3, 4 and 6 the children are split into two ability groups that are both taught by teachers. Pupils in Year 5 are taught as a whole class. The lessons will be taught using a variety of methods from the Mastery Approach to Mathematics. Within lessons there will be a balance between whole class work, group teaching, working with a partner and individual practice.

All children will be included in the lessons and support will be provided according to need.

Teaching Assistants

Teaching assistants will have a clear understanding of their role in each part of the lesson. They will share the learning objectives and know and use the key vocabulary for each lesson.

Pupils with a Special Educational Need

Numeracy planning is adapted to suit the individual requirement of each pupil with a special need. These pupils are supported for most numeracy lessons within their class or group and necessary resources and specialist equipment is provided. The specialist teaching staff within the school will support the teachers dealing with children with special needs.

Teaching Strategies

Numeracy lessons should include:

- interactive whole class teaching;
- a high level of questioning
- a solid understanding and commitment to teacher modelling with the pupils;
- scaffolding and fading;
- Use of extended mathematical vocabulary– a high standard of communication through the language of mathematics and co
- the use of correct equipment with a consistent approach;
- problem solving, including the application of mathematics to everyday situations;
- investigational work;
- rehearsal of mental strategies;

Links between mathematics and other subjects

Mathematics contributes to many subjects within the primary curriculum and opportunities will be sought to draw mathematical experience out of a wide range of activities. This will allow children to begin to use and apply mathematics in real contexts.

Information and Communication Technology

ICT will be used in various ways to support teaching and motivate children's learning. ICT will involve the SMART Boards, computers, laptops/notebooks, i-pads and audio- visual aids. They will, however, only be used in a daily mathematics lesson when it is the most efficient and effective way of meeting the lesson objectives.

Foundation Stage

The development of mathematical thought is an important area of experience for young children. Mathematical learning should primarily be first-hand, experiential and active, bearing in mind the Early Learning Goals. Play and talk are essential to the learning process. Of particular importance will be the development of skills in:

- appropriate mathematical language;
- making comparisons;
- sorting;
- one to one correspondence;
- conservation of number;
- recognition of numbers;
- writing numbers correctly;
- basic ordinal language;
- early use of estimation;
- naming simple 2D shapes and 3D shapes
- beginning to relate addition as the combining of 2 groups of objects and subtraction as 'taking away' objects from a group.
- copying and recognising patterns;
- early use of time and measures vocabulary;
- early use of non-standard measures;
- reading and recognising simple graphs;
- early use of appropriate ICT;

Resources

All classrooms should have SMART boards, individual whiteboards and pens and an age appropriate range of resources [see appendix]

The resources should be used/referred to regularly. They should form part of an interactive display. Each classroom should display appropriate mathematical vocabulary.

Other less frequently used resources are housed centrally in the mathematics and science storeroom on the top corridor.

Assessment

- In Years 1-6 teachers will use the White Rose end of term assessments and the CCA Tracker to assess children's progress on a regular basis.
- In the Foundation Stage observations, tracking sheets and the Foundation Stage Profile (using Tapestry) are completed and the information is then downloaded onto Little Star.
- Ongoing assessments from marking or oral questioning will be added to the CCA tracker whenever appropriate.
- Three times a year Y1 to 6 will complete the White Rose Maths Hub end of term assessments
- Children in upper Key Stage 2 will also use practice SATs papers where and when appropriate.
- Teacher assessments and the WRMH assessment results will inform the termly progress recorded on the CCA Tracker
- All assessments will be carefully analysed by teachers and the results will be used to inform planning. WRMH assessment results will also be collected and collated by the Numeracy Coordinator.
- The progress made by all children will be scrutinized closely during termly pupil progress meetings.
- Children new to our school will be given the previous WRMH assessment, as soon as appropriate, in order to place them on our tracking system.

Management of Mathematics

The Role of the Lead Teachers

- Ensure teachers are planning from the revised curriculum, as required.
- Monitor and review implementation of the policy in collaboration with the Head Teacher and report to governors;
- Lead by example;
- Prepare, organise and Lead INSET, with the support of the Head Teacher;
- Attend appropriate courses and feedback to staff;
- Teach demonstration lessons;
- Buy appropriate resources and equipment;
- Maintain resources and ensure accessibility;
- Ensure that mathematics remains a high profile in the school's development work;
- Monitor the teaching of numeracy throughout the school;
- Ensure all staff receive appropriate training including teaching assistants;
- To offer opportunities for parents to become actively involved in their children's learning;
- Maintain a range of relevant mathematical displays.

The Role of the Governors

- Support and monitor the teaching of mathematics at C.C.A;
- Monitor pupil's attainment using the end of Key Stage SATs results and Raise on Line.
- Monitor teaching through the school's self-review processes. This includes receiving reports from the Head Teacher and Lead Teachers.

The role of the Head teacher

To set high expectations and monitor teaching and progress

Encourage a whole school approach, keeping parents, governors and support staff well informed.

Support the Lead teachers and individual teachers.

Regularly review the mathematics action plan as part of the whole school development plan.

Parents will

- Be encouraged to develop positive attitude to mathematics and actively support their children's learning.
- Be invited in to join in lessons and to attend any special mathematical events during the year.
- Be well informed of their children's progress through termly reports and parent's evenings.

Monitoring

- Planning and pupils' books are monitored during scrutinies, staff CPD is undertaken, interventions are monitored, observations of teaching and learning are undertaken to ensure that agreed school procedures are taking place and that progress is being maintained;
- Termly review of whole school performance, including analysis of all internal assessment and KS1 and KS2 SATs results is undertaken.
- Pupil Progress meetings are carried out termly with class teachers.
- Feedback to staff when appropriate;
- Atmospheric walk
- Pupil interviews
- Lesson observations focusing on specific areas of mathematics. Any member of staff whose teaching of maths (or an aspect of maths) is not regarded as secure will receive additional support according to their needs.
- Parents will be informed of their child's progress [termly] and informed of the new targets se

Resources and Equipment for Teaching Mathematics

This is a list of classroom resources and equipment which would enhance teaching in Mathematics lessons. In addition, where there are resources which would be useful to specific year groups, these are suggested.

Equipment and manipulatives

Essential items for every class

1-100 number square/grid
1-100 number line/track – better still, 1-121 to illustrate number patterns above 100
Counting stick, marked off into 10 sections
Rulers – matched to measuring requirements of the Framework
2 sets of digit cards per child (0-9) or number fans
Place value cards – a large teachers set and individual sets
Dice – age appropriate
Transparent counters and solid counters
Coins
Individual wipeable number squares
Individual number lines (blank and numbered)
Dry wipe boards and pens
Squared paper
1 math's dictionary per class (more in KS2 if possible)
A good range of appropriate number games
SMART board

Communal items that could be shared between whole school

Mirrors
Measuring equipment – including long tape measure and digital scales
Sets of shapes (2-D and 3-D) [including irregular shapes]
Construction kits
Trundle wheels
Tape measures
Metre rules
Geoboards or pinboards
Beakers, cylinders, jugs for measuring capacity
Weighing scales suitable for framework requirements
Range of digital and analogue clocks and stop watches for measuring time
Range of sandtimers

Early Years

Washing line (0-20)
Large dice (spotty and number)
Counting and sorting equipment
Number tracks to 20
Large numerals
Flip flops
Puppets/teddies
Number carpet
Large coins
Real coins
Numicon equipment
Bead strings
Tens frames

Year 1-2

As for Early Years plus:

Number tracks to 10/20/50/100
Individual table top number lines to 30
Blank table top number lines
Large place value cards TU and HTU (individual if possible)
Sets of shapes [2D and 3D]
Numicon equipment
Base 10 equipment

Year 3-4

Place value cards for Th H T U
Negative/positive number lines
Number lines (0-1, 0-100, 0-1000, 0-10 000, 0-minus 10)
Table top number lines to 100
Blank table top number lines
Fraction wall
Base 10
Place value counters

Year 5-6

Decimal place value cards
FDP dominoes
Show me cards – angles, measurements, FDPRP
Protractors
Negative/positive number lines
Number lines (0-100, 0-1000, 0-10 000, 0-1, 0-minus 10, 0-100 000, -10 to 10)
0-10 square in units of 0.1
0-1 square in units of 0.01
Base 10
Place value counters

Review and Evaluation

This policy will be reviewed in the Spring Term 2019.

Reviewed : January 2018
R Bentley