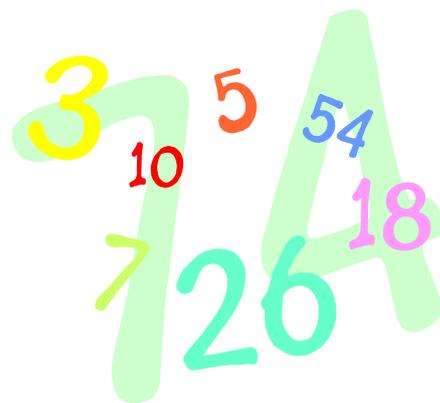


St Aidan's Catholic Primary

Mathematics Policy 2015



St Aidan's Catholic Primary School
Mathematics Policy

Principles and Rationale

At St Aidan's Catholic Primary School we aim to develop children who are confident with number and understand mathematical concepts. We believe that mathematics provides children with the essential life skills of:

- Understanding number and calculation,
- Problem solving,
- Enquiry,
- Reasoning Skills,

We aim to provide children with a fun but focused Maths curriculum, equipping the children with the skills they require for adult life. We adopt a fully inclusive, mind-friendly approach to teaching and learning in Mathematics where children are challenged sufficiently in a supportive environment. Assessment for learning allows children and teachers to review the strategies and methods used in the lessons thus always moving learning on.

Aims:

- To develop numerate children.
- Ensure every child is confident and enthusiastic when approaching Mathematical problems.
- Provide children with the skills to use and apply Mathematics in different contexts.
- Provide children with the vocabulary to talk about and explain Mathematical concepts.
- Provide children with an exciting Maths curriculum which is embedded in real life situations and practical problem solving.
- Use ICT to enhance learning and teaching of Mathematics.
- Use a variety of learning styles and resources to cater for the needs of all children's.
- Follow guidelines as set out in the National Curriculum Programmes of Study

The teaching of mathematics provides opportunities for:

- group work
- paired work
- whole class teaching
- individual work
- the use of ICT
- speaking and listening opportunities

Planning our Mathematics Curriculum

From the moment our children enter our school, Mathematical Development is one of our primary focus points. Children need to be able to recognise numbers, tell differences, add things together and recognise shapes, time, days of the week etc to be able to live and learn independently. We know that all aspects of learning in this area impact on our children's achievement across the curriculum.

At St Aidan's Catholic Primary School, we use Assessment for Learning (AfL) strategies to ensure that our curriculum is designed to meet our children's needs. This has to be our starting point.

We need to ensure that we use opportunities in all areas of our curriculum, when feasible, to develop and consolidate children's mathematical understanding.

Planning

At St Aidan's, our children in the Foundation Stage receive a personalised curriculum designed around the Foundation Stage Learning goals.

In KS1 and KS2 our staff use and adapt the Lancashire Mathematics Framework and the Statutory National Curriculum to meet the needs of our children and we recognise the importance of the structure of the Mathematics Framework in ensuring coverage and progression.

Teacher's planning in Mathematics should contain:

- clear learning intentions
- learning outcomes
- clear differentiation
- consolidating and mastering
- opportunities for real life problem solving
- N-rich activities where possible
- Progression through planning

Evaluation of lessons/plans is to be carried out using AfL to inform next steps. Staff should not move on to a new topic unless they are confident that the majority of the children are proficient in their understanding. This can be checked in the 'assess and review' aspect of our teaching. *The topics can then be re-visited during mental & oral starters.*

In the **FS** the planning is based around:

- The EYFS curriculum
- Child initiated ideas
- Daily opportunities for developing mathematics skills through continuous provision activities

- Using ICT to develop understanding

In **KS1** and **KS2** planning is based around:

- 5 daily mathematics lessons,
- Daily opportunities for developing mental mathematics skills,
- Regular opportunities for problem solving
- Maths Passports
- Using ICT to develop understanding

Mind Friendly and Active Learning

Children learn best when they are engaged and active participants in their learning. Mind-friendly learning gives teachers opportunities to challenge children's thinking in a non-threatening way, whilst embedding learning.

We recognise that Mathematics lessons should **not** be dominated by teacher talk. Children can be active using whiteboards, clocks, show me activities, talking partners, mind maps, flash cards, number fans etc.

Think Pair Share

Children should be given thinking time before answers are expected, opportunities to share ideas with a partner and then a group before feeding back to the class. This reinforces learning and develops speaking and listening skills. 'Talking maths' strategies are essential if we are going to develop numerate children.

VAK

Opportunities should be created in mathematics teaching for children to experience visual, audio and kinaesthetic learning. Allowing children to learn in different ways improves understanding, enjoyment and retention of what is being taught.

Time for Reflection

It is paramount that children are given time to reflect on their learning. Rather than being a time to show examples of good work, children should be given a range of ways to reflect on their learning journey. This will help consolidate learning and highlight misconceptions. Reflection time should involve the whole class through activities such as -hot seat; snowball; post its; networking.

Calculation Policy

The essential components of the Calculation Strategy are;

- Children's mathematical development should be progressive and structured
- In lessons children should be taught a core strategy.

At St Aidan's Catholic Primary School we recognise the importance for an emphasis on Mental Maths and recalling key number facts. Maths Passports are used to develop these skills and is organised in 'Steps' (not year groups) to follow in line with expected mathematical knowledge.

Written calculations are also arranged into Stages. Children will move to the next stage in written calculations, only when they are ready and this process should not be rushed.

Half termly assessments and teachers' professional judgements will inform when a child is proficient in one method and ready to be challenged by the next step.

It is important to stress that when using the Calculation Policy

- Children will be encouraged to approximate their answers before calculating.
- Children will be encouraged to check their answers after calculations are made.
- Children will be encouraged to consider if a mental calculation is appropriate before using written calculations.

Problem Solving

In KS1 and KS2 the children are provided with opportunities to apply their mathematical knowledge in contexts that are meaningful. We also incorporate Nrich maths as a way of challenging children to develop their problem solving skills.

Assessment

At St Aidan's Catholic Primary School we believe that formative assessment is fundamental to the success of our learning and teaching strategies. We want our children to be active participants in their assessment and to value the next steps in their learning.

Assessment for Learning

Assessment for Learning should be an integral part of all Mathematics teaching. Every lesson should have a clear and child friendly learning intention/objective as well as clear steps to success.

Staff are encouraged to have a working wall in their classroom. This is not a permanent display and should be added to as a topic progresses. It should also contain the relevant mathematical vocabulary for a particular topic.

Children should routinely refer to working walls, showing the steps to success, throughout the lesson to ensure success in the lesson. They should be used for both self and peer assessment. The children should be able to identify strengths and ways forward in order to become more independent learners.

Mathematics Targets

Children are set half termly targets in Mathematics. These should be displayed in a prominent place in the classroom and/or in children's books. Teachers should refer children to the children's targets and ensure frequent opportunities are planned in order to support children in reaching their targets.

Maths Assessments

Children's Mathematical **skills** and knowledge are assessed termly against National Curriculum expected outcomes and ways forward identified relating to this. Children's levels are recorded on the school tracker and children's progress is monitored. The assessment itself should take the format of a normal Mathematics lesson and recorded in Numeracy books.

Number, calculation, problem solving, statistics, measures and shape should all be assessed throughout the year.

Equal Opportunities

The teaching of Mathematics will be in accordance with the present policy for Equal Opportunities. We aim to provide equal access to those children with additional educational needs.

The daily mathematics lesson is appropriate for all pupils. Teachers will involve all pupils through differentiated questioning, activities etc through quality first teaching.

Differentiation should always be incorporated into all mathematics lessons and can be done in a variety of ways:

- Grouping - according to ability so that the groups can be given different tasks where appropriate. Activities should always be based on the lesson theme and can be differentiated according to ability normally not more than 3 levels.
- Common tasks - which are open ended where differentiation is by outcome.
- Resourcing - which provides a variety of resources depending on ability. E.g. counters, cubes, measuring cylinders etc.

- Stepped activities - which become progressively harder and more demanding, but cater for the less able in the early stages.

Additional Needs Provision

Children may benefit from having a Mathematics IEP if they are making little or no progress; they are off track to meet predicted levels or if they have a specific learning difficulty.

Children do not need IEPs if their needs are being met through a differentiated curriculum.

Maths SEN / Interventions

- Spring Board Mathematics
- Wave 3 Mathematics
- Basic Skills Interventions
- First Class Maths
- Focused group work in maths lessons

Interventions are run as appropriate and dependent upon pupil need. The impact on pupil progress is evaluated in order to plan further support.

Mathematics and ICT

ICT is an excellent way to inspire and interest children in Mathematics. Promethean boards should be used to model and stimulate learning. Interesting images can be used as an inspiring way to get children thinking about, talking about, reasoning, explaining and ultimately solving Mathematical problems.

All classes have access to ICT equipment and this is an ideal opportunity for the children to practice their mathematical skills as well as using lap-tops and i-pads in the classroom.

Home Learning

All Maths homework should be differentiated accordingly and must be relevant to what is being taught in class.

Resources

All practical resources are located within classrooms or Maths intervention room. Only adults are permitted to collect and return resources and are expected to return resources back to their boxes or shelves as appropriate.

Please ask if there is a particular resource that you need.

Role of the Coordinator

The mathematics coordinator is responsible for coordinating mathematics throughout the school. This includes:

- ensuring continuity and progression from year group to year group
- providing all members of staff with guidelines e.g. how aspects of mathematics should be taught such as problem solving
- advising on in-service training to staff where appropriate. This will be in line with the needs identified in the School Development Plan and within the confines of the school budget.
- advising and supporting colleagues on the implementation and assessment of mathematics throughout school
- assisting in the requisition and maintenance of resources required for the teaching of mathematics. Again this will be within the confines of the school budget.
- monitoring and evaluating the teaching and learning of mathematics through:
 - scrutiny of work
 - lesson observations
 - monitoring of planning
 - analysis of scores each term

Appendix 1

This website is useful for everyone. It has activities and games on all different topics including percentages, fractions and problem solving.

<http://www.bbc.co.uk/schools/revisewise/maths/number/>

This has an activity on **mental maths**.

<http://www.bbc.co.uk/schools/revisewise/maths/mental/>

A great **multiplication** game. This will help with EVERYONE'S tables!

<http://www.primarygames.co.uk/PG5/Eggs/Multi/eggsmult.html>

This one is **division**

<http://www.primarygames.co.uk/PG5/Eggs/Div/eggsdiv.html>

Fraction freeze:

<http://www.primarygames.co.uk/PG5/Fraction/freeze.html>

Times tables football follow instructions very carefully.

http://www.active-maths.co.uk/worldcup/tablefooty/wc_table_tables.html

Different topics - numeracy game:

<http://www.bbc.co.uk/schools/revisewise/maths/gamezone/>

Another football game - follow the instructions carefully:

<http://www.funbrain.com/fractop/index.html>

Percentages:

http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/percentages/index.htm

Different topics:

<http://www.rainforestmaths.com>

<http://www.mathszone.co.uk>

<http://www.games-co.uk>

<http://www.mentalstarters.co.uk>

This Policy will be reviewed in January 2016.