



Pendle Community High School & College

Mathematics Policy

Document Purpose

This policy reflects the school values and philosophy in relation to the teaching and learning of Mathematics. The policy draws together National Curriculum guidelines and statutory requirements for Key Stage 3, as well as promoting the Spiritual, Moral, Social and Cultural (SMSC) development which includes British Values.

The policy seeks to address the individual learning needs of our young people and sets out a framework within which teaching staff can operate and provides guidance on planning, teaching and assessment.

This policy should be read in conjunction with the Scheme(s) of Work for Mathematics which sets out in detail what our learners in different Key Stages of different ability ranges will be taught.

This policy has been approved by the Governing Body following consultation with the wider teaching staff and is subject to regular annual reviews by the staff team and Governors.

Audience

This document is intended for all staff and other stakeholders with classroom responsibilities, school governors, parents, the Local Authority and Ofsted. A copy of this policy is made available for all staff within the curriculum policy file on the T Drive. A copy of this policy is also available to parents via the website.

Aims

At Pendle Community High School & College, Mathematics promotes SMSC development, enabling learners to become more self-confident, responsible and independent, within their own parameters. It also helps to give learners the knowledge, skills and understanding they need to lead healthy lives and to become informed, active, responsible citizens. Learners are encouraged to take part in a wide range of activities and experiences across and beyond the curriculum, contributing to the best of their ability, to the life of the school and the community. This is achieved through a variety of aims including:

- To understand that as individuals, we depend on family, school and society.
- To use appropriate behaviour, according to the situation.
- To relate positively to others.
- To exercise personal responsibility and initiative.



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- To enable learners to value, respect and be proud of their own cultural background and understand the traditions of other cultures.
- To recognise and challenge stereotypes and discrimination.
- For learners to develop a sense of personal worth.
- To foster learner's appreciation of the significance, awe and wonder of life.
- To be able to understand the difference between right and wrong.
- To promote positive attitudes towards Mathematics and an enthusiasm for the subject in school.

In addition, Mathematics aims to ensure that all learners get opportunities

- to develop their understanding of Mathematics through experience, exploration and enquiry
- to work at a level matched to their ability using a variety of suitable materials within their Key Stage or from an earlier one if deemed appropriate
 - "learners at a very early stage of development will need people around them who can help them to explore and interpret the world. They have difficulty in making sense of that world and need many opportunities to handle and test out objects, look for patterns and sequences in experiences and generally extend their focus from the immediate to things further away. As they begin to develop the understanding that they can have an effect on their world, they can be offered a much wider range of activities and objects to explore. They are still likely to require plenty of repetition but may be able to cope with different examples of a similar activity. When cause and effect has been established, early problem solving can begin." *Vale of Evesham Curriculum*
- to show awareness of changes in shape, position or quantity and be aware of cause and effect or anticipation in familiar Mathematical activities.
- to experience the vocabulary of Mathematics leading to reading and spelling mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge.
- to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measures.



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- to develop Mathematical reasoning skills and the ability to solve problems logically and systematically

For some learners there will also be opportunities to be able to:

- Develop confidence and mental fluency with whole numbers, counting and number facts extending to the four operations and the concept of place value.
- Make connections between multiplication and division and with fractions, decimals, percentages and ratio.
- Develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers and attempt increasingly complex problems.
- Develop their ability to recognise, describe, draw, compare and sort different shapes extending to classifying shapes with increasingly complex geometric properties and to learn the vocabulary they need to describe them.
- Use measuring instruments with increasing accuracy and make connections between measure and number.
- Reason mathematically by following a line of enquiry, consider patterns and relationships and develop an argument or proof using mathematical language.
- Solve problems by applying their mathematics to a variety of problems, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

The National Curriculum for Mathematics reflects the importance of spoken language in learners' development across the whole curriculum – cognitively, socially and linguistically. The quality and variety of language that learners hear and speak are key factors in developing their mathematical vocabulary and presenting a mathematical justification, argument or proof. They must be assisted in making their thinking clear to themselves as well as others and teachers should ensure that learners build secure foundations by using discussion to probe and remedy any misconceptions.

Time Allocation / Cross-Curricular Links

The subject of Mathematics is allocated the appropriate amount of time, taking into account NC guidance, to provide all learners with a broad and balanced curriculum which is appropriate for their needs. For some learners the



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breadth and balance of the curriculum is addressed through personalised timetables.

Maths is a creative and highly interconnected subject, which is essential to everyday life and necessary for most forms of employment.

This subject affords opportunities to link to other curriculum areas such as:

- **Geography** (e.g. Daily weather charts, Surveys on origin of items, map reading and co-ordinates in town planning, use of thematic data when comparing and contrasting countries, sorting and matching symbols)
- **Food Technology** (e.g. Measuring ingredients, temperature, simple fractions, expiration dates and costing of ingredients, estimating shape and size, following a recipe, exploring data, cooking times, sorting plants from animals)
- **PSHE** (e.g. Surveys on healthy eating. sequencing the stages of development, charities and fund raising. Recognising British coins and notes, role play banks and shops exchanging coins for items. Exploring the cost of items and simple budgets, sequencing empty bottles of alcohol by alcohol strength, classifying drugs into Class A, B, C, exploring the price of cigarettes/ alcohol and illegal drugs and how addiction can lead to financial loss amongst other things. Dangers of gambling; look at betting odds /probability of winning etc.)
- **Art** (e.g. patterns and tessellations, sequencing and mixing colours and shapes)
- **Modern Foreign Languages** (e.g. Counting in the language of choice, learning the days of the week, months of the year in the language of choice)
- **History** (e.g. Placing items/ events in chronological order, Roman numerals, dates, age, duration of events, time between different periods, vocabulary linked to time)
- **Literacy** (e.g. Reading and spelling of mathematical vocabulary and numbers, sequencing a story, labelling items, sorting and matching symbols, following instructional text, comparisons)
- **RE** (e.g. geometrical patterns and recognising shapes within buildings, specific religious dates/ months)
- **Physical Development** (e.g. Timed activities, distances, positional vocabulary, measuring in non-standard units, dimensions, colours and shapes in apparatus)
- **Science** (e.g. Measuring liquids, calorific value of food, spacing of seeds when planting, measuring growth of plants, use of dibbers, comparing temperature, length of incubation, simple fractions and using measuring cylinders)



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- **Use of ICT** (e.g. Calculators, programming roamers and bee bots, use of equipment, interactive whiteboard puzzles, use of spreadsheet charts for data presentation, ordering within algorithms, using counters within a loop, using timers within a program, organising folders, flowcharts)
- **Vocational Education** (e.g. Planning a budget, understanding wages, identifying coins, practical and real-life money exercises, reading timetables, sorting exercises, matching and pairing, memory games)

Meeting the needs of all learners within Mathematics

Our learners at Pendle Community High School & College have Moderate, Severe and / or Profound and Multiple Learning Difficulties including other associated difficulties such as Autism, Multi-Sensory, Visual & Hearing Impairment(s).

The wide range of needs of our learners holds no barrier to accessing the learning opportunities within Mathematics.

For learners who have sensory impairments and/ or physical disabilities and for those who experience developmental delay, Mathematics is based upon a multi-sensory approach, which starts from direct experience and progresses to structured activities and experiences using concrete materials.

To enable the staff at Pendle Community High School & College to fully address the range of needs of the learners and to enable us to show progression within the activities for the appropriate Key Stage; the Programmes of Study as outlined in the Scheme of Work for Mathematics have been differentiated into 3 broad descriptions of learners:-

Independent learners are students who are able to communicate with fluency and who are able to make reasoned choices, work and act co-operatively in a small group and with varying support, work independently.

Supported learners are students whose learning is supported through structured patterns of communication and social activity to enable them to develop positive social behaviour.

Experiential learners are students whose learning needs are met primarily through experiences and activities which are multi – sensory and stimulate learning through kinaesthetic approaches and the senses of touch, hearing, taste, sight and smell. It is crucially and respectfully stated that



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these learners may be denied some senses due to their disability and may require a greater range of learning experiences. (Julie Hicklin and Jane Dowell, 2006)

Using this personal approach, teachers can devise activities in all areas of Mathematics, which are planned specifically at the appropriate level of need and ability for all learners, which also allows learning outcomes, recording and assessment to be directly linked to learning objectives. (Refer to **Appendix 1: Teaching & Learning Guidance**)

At Pendle Community High School & College the *non-statutory / statutory* guidance identified in the National Curriculum Programmes of Study for Mathematics have been adapted to ensure that coverage is appropriate for the needs of all learners. This can be found in the subject map and schemes of work for Mathematics as found in **Appendices 2 & 3**.

Assessment, Recording and Reporting of Learner Progress

Introduction - Monitoring Learner Progress and Achievement

At Pendle Community High School & College, we have a good knowledge of the strengths and areas for development of individual learners. From this, accurate judgements can be discerned to ensure targets are sufficiently challenging to meet staff's high expectations through:

- Continuous Teacher assessment based on P Scales and B Squared.
- External assessment leading to nationally recognised accreditation.
- The monitoring and evaluation of Individual Education Plans (IEPs) and individual objectives, target planning and recording.

In addition, summative information can be found through:

- End of Key Stage 4 & 5 Record of Achievements.
- The Annual Review of a learner Education, Health & Care Plan.
- Through the annual End of Year Report.

Additional supporting comments can be gathered through:

- Regular Parents' Evenings.



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- Comments and input from parents and other professionals.

These contribute to supporting the staff team to fully monitor, evaluate and record learner's progress.

Subject Development and Resources

The whole school development of Mathematics and purchase of resources for is planned through the annual Subject Development Planning cycle and expenditure evaluated as part of that process.

The subject leader is responsible for providing a regularly updated audit of resources available for their subject area which is made available to all teachers with a further copy available in the staff work room and relevant storage area.

At Pendle Community High School, Mathematics resources are stored in the GLP13 storeroom and classroom and some items are also stored in the GLT08 storeroom.

Each teaching base for Mathematics has a selection of resources to cover most topics within Geometry and Measurement, in addition to the whole school supply.

Health and Safety

The Subject Leader for Mathematics has a general responsibility for the application of the LA and Schools Safety Policies within their subject area and are directly responsible to the Headteacher for the application of all health, safety and welfare measures and procedures within their own department/ area or work.

All employees working within the subject area and/ or specialist room have a responsibility to take reasonable care of their own health, safety (including suitable dress and footwear) and welfare of other persons who may be affected by their acts or omissions while at work. They also have a responsibility to co-operate with the subject leader so that employers can comply with their statutory duties and specific responsibilities in terms of Health and Safety as identified below:-

- Ensuring that all resources are kept in good order and that damaged resources are reported to the Subject Leader, who can then arrange for them to be mended or replaced.



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- Any electrical resources are to be submitted annually for PAT testing.
- The larger and heavier boxes should be placed on the lower shelves and lighter resources on the top shelves.
- The majority of resources are kept in locked storerooms and the remaining resources are locked in the classrooms at the close of day by the site team.

Appendices:

1. Teaching & Learning Guidance
2. Subject Maps for Key Stages 3 & 4
3. Schemes of Work

Footnote:

This curriculum policy for Maths should be read in conjunction with the following policies:

- **Whole School Policy for Curriculum, School Organisation, Curriculum Planning and Assessment Reporting & Recording (2016)**
- **Autism Policy (2016)**
- **Intensive Interaction Policy (2016)**
- **AAC Policy (2016)**
- **Total Communication Policy (2016)**
- **Online Safety Policy (2016)**

This is not an exclusive list of policies and should not indicate to the reader that there are no other policies relevant to the understanding of best practice within our learning community.

Policy redrafted: October 2015

Policy approved by Staff: 11th November 2015

Policy approved by Governors: 2nd December 2015

Review date:

Signed: _____ Date: _____
(Chair of Curriculum Committee)



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Signed: _____ Date: _____
(Headteacher)