MATHEMATICS POLICY

October 2023

POLICY No.2
DATE APPROVED BY GOVERNING BODY: 16.10.23
DATE OF NEXT REVIEW: Autumn 2026
LEAD: Jemma Watkiss/Roger Dill-Russell
GOVERNOR RESPONSIBLE: Octavian Radulescu

Contents

1. Introduction

An enriching and exciting mathematics curriculum equips learners with strategies for everyday life and work. It develops abilities in calculating, reasoning and problem solving. By extending pupils' ability to communicate and apply mathematical concepts and ideas they develop their ablity to tackle a range of practical tasks associated with everyday life.

2. Purpose

2.1. The purpose of this policy is to describe our practice in maths and the principles upon which this is based.

3. Aim/Intent

3.1. Chadsgrove aims to

- promote a positive, confident, independent and enquiring attitude towards maths
- promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- develop confidence and competence with numbers and the number system through coherant images and models
- enable pupils to explore features of measurement and geometry developing skills in a range of contexts
- equip learners with the language and skills to communicate their mathematical ideas
- enable pupils to understand the importance of maths in everyday life and apply mathematical skills in a meaningful way
- improve learners' ability to solve problems through decision-making and reasoning in a range of contexts
- provide appropriate accreditation and opportunities for life beyond school.

4. Wider school aims/ethos

4.1. This policy supports the following school aims:

- To allow an individual to develop to their full potential
- To offer a broad, balanced and relevant curriculum that meets the needs of all pupils, statutory requirements and allows for flexible approaches to learning.
- To prepare pupils for the opportunities, responsibilities and experiences of adult life
- To provide a pleasant learning environment which promotes effective learning and enables pupils to experience a sense of enjoyment and achievement throughout their school career
- To guide young people towards a realistic assessment of career possibilities and post-school opportunities
- To ensure equality of opportunity regardless of gender, race, culture, religion, social disadvantage or disability

5. Consultation

5.1. This policy was revised by Roger Dill-Russell, maths leader and drawn up in consultation with

- Teaching Staff at Chadsgrove School through staff and maths specific meetings
- The Senior Leadership Team through consultation of the draft policy
- The Governing Body – through review of the policy

6. Sources and References

6.1. The following documents have been used to support the writing of this policy:

- National curriculum in England: mathematics programmes of study.
- Early Years Foundation Stage Statutory Framework
- Barrs Court Curriculum
- Hamilton maths scheme
- Equals Semi-formal curriculum
- External qualifications:
    - Edexcel Entry level 1,2 and 3
    - Edexcel Functional skills Entry level 1,2 3 and Level One
    - Edexcel GCSE
    - ASDAN Personal Progress and Short courses
    - OCR Life and Living skills

6.2 Aspects of Maths Mastery are taken into account when planning lessons for pupils with MLD.

6.3 Pupils use RM Easimaths. Education City, Numeracy Workout, Purple Mash and Helpkidzlearn, as appropriate

7. Roles and Responsibilities

7.1. The Governors are responsible for

- meeting once a year with the maths leader, for discussing subject strengths and areas for development, and for reporting these to the governing body

7.2. The Head Teacher is responsible for

- monitoring of long and medium term planning
- lesson observations
- monitoring the work of the maths leader, through the Performance Management Cycle

7.3. The Data Manager (Deputy Head Teacher) is responsible for

- collating teacher assessments from Solar termly and discussing any pupils of concern with the subject leader

7.4. The Maths subject leader is responsible for

- organising Maths meetings and liaising with new staff
- writing and reviewing the Maths policy
- long term planning
- the monitoring of medium term planning
- joint lesson observations during a focus year
- ordering new resources in consultation with other staff and the storage of those resources
- putting into place appropriate monitoring and support for pupils who are shown, on SOLAR, not to have made expected progress

7.5. Class teachers (lower school) and subject teachers and T4s (upper school) are responsible for

- delivering maths to classes (Lower School and some Upper School classes) and to maths sets (Upper School)
- completing formative and summative assessments. Summative assessments are placed on Solar

7.6 Teaching assistants are responsible for

- supporting pupils' learning under the direction of the teacher

8. Planning

8.1. Class teachers produce medium term plans using the long term plan. These are placed on the shared area of the school network. Medium term plans outline the learning activities in more detail and specify the curriculum Intent, implementation and projected learning outcomes/impact.

8.2. Teachers leading individual sessions determine how the medium term plans will be delivered on a daily basis considering, in more detail, elements such as differentiation and personalisation for individual pupils.

8.3. All planning considers Individual Education Plan targets and EHC Plan outcomes (where appropriate) as these are an integral part of the learning experiences offered to pupils.

9. Organisation and Implementation

The Pre-formal Curriculum for pupils with profound and Multiple Learning Difficulties

9.1. In classes for pupils with Profound and Multiple Learning Difficulties, pupils develop their thinking skills through a holistic approach to learning.

9.2. Pupils have up to 7 timetabled sessions of Thinking Skills each week. This is the area of learning that most specifically relates to the development of early learning and mathematical skills.

The Early Years Curriculum

9.3. Pupils have 2 timetabled sessions of mathematical development.

9.4. Maths is also developed in a cross–curricular way through the implementation of a Cycle of themes which are explained in more detail in the Early Years Policy (Policy Number 27)

9.5. Pupils learn through playing, exploring and actively learning in a stimulating, enabling environment.

The Semi-formal Curriculum for pupils with Severe learning Difficulties

9.6. The approach used throughout the semi-formal curriculum is to develop mathematical thinking through a themed approach with focused learning opportunities that introduces content appropriate to the individual's cognitive processing capabilities.

9.7. The semi formal Curriculum promotes Maths through explorative learning which provides opportunities for learners to encounter the world around them. Within their play younger pupils may reach, hold, explore and encounter sensory items and stimuli in order to gain independence and enable opportunities for communication and cognitive development.Their mathematical understanding is also developed through stories, songs and games. Older pupils are provided with similar but age appropriate opportunities.They will be given time to practise their skills in real life contexts both within and outside of school.

9.8. Pupils in Key Stages 1-3 have between 3 and 5 timetabled sessions of maths each week.

9.9. Pupils Key Stages 4 and P16 have between 2 and 3 timetabled sessions of maths each week.

9.10. Some pupils with SLD in Key Stages 4 and P16 also have between 2 timetabled sessions of Life and Learning skills each week. These sessions focus upon the use of mathematical skills and concepts in real-life and practical situations

The formal curriculum for pupils with moderate learning difficulties

9.11. Planning, learning and assessment for these pupils is guided by the National Curriculum. It is designed to ensure that all learners

- Become fluent in the fundamentals of Mathematics and develop conceptual understanding
- Are able to reason mathematically and explain their thinking using mathematical language
- Can solve problems by applying their mathematics to relevant real life situations and persevere in seeking solution
- Follow a sequential curriculum that builds on past learning, avoiding gaps and promoting continuity and progression.
- Pupils with MLD in Key Stages 1-3 have between 3 and 5 timetabled sessions of maths each week.
- Pupils with MLD in Key Stages 4 and P16 have between 2 and 3 timetabled sessions of maths each week.

9.12. In all classes for pupils with Moderate and Severe Learning Difficulties

- Teaching takes into account personal learning styles whilst also empowering pupils to draw on a wide range of calculation strategies, explaining methods and reasoning and establishing a secure foundation in mental calculation and the recall of number facts before standard written methods are introduced.
- Pupils are enabled to extend their reasoning, problem solving and investigational skills and assisted to make predictions, judge whether their answers are reasonable and have strategies to check.
- Pupils are encouraged to develop life skills for living, employment and recreation. This includes, but not exclusively, money, time and measure.

10. Communication

10.1 Communication is integral to all areas of our curriculum at Chadsgrove, and this should be a primary consideration in teachers planning of their maths topics. Maths lessons should adopt a total communication approach and pupils should have access to personalised communication strategies including Aided Language Displays, use of Signalong (including topic vocabulary) and individual high tech and paper-based communication aids.

11. <u>Training/ CPD</u>

11.1. Training needs are identified through the monitoring process and performanace management cycles. If there has been any significant statutory changes then subsequent training will be addressed as necessary. If teachers have requested any training then this will be considered by the Senior Leadership Team in line with the priorities of the school as a whole.

10.2 Staff training takes place during INSET days, staff meetings and informal meetings. External training also takes place, for example, through examining boards and providers such as EQUALS.

12. Equal Opportunities

12.1. An equal opportunities policy is in place at Chadsgrove School (Policy Number 38). There is no discrimination as a result of race, gender, disability or home circumstances.

12.2. All children within Chadsgrove School have equal access to the curriculum and are given the same opportunity to develop and reach their full potential.

12.3. Pupils have EHCP plans stating the provisions that need to be in place for them and this is adhered to be school staff.

12.4. Data is analysed according to groups such as gender or pupils in receipt of Pupil Premium and appropriate support is put in place for any group that is found to need it.

12.5. Assistive and augmented communication is used whenever appropriate, as are other forms of personalisation, in order to ensure that all pupils have equality of access to learning opportunities.

13. Health and Safety

13.1. A Health and Safety policy (Policy Number 44) is in place at Chadsgrove School. All staff must adhere to this school policy at all times.

14. Including Parent Carers

14.1. Staff at Chadsgrove believe that it is important to work in partnership with parent carers and value the knowledge that they have of their child. The partnership with parent carers is based on shared responsibility, understanding, mutual respect and dialogue.

14.2. Parent carers are encouraged to become actively involved in helping to develop their child's educational programme, for example by contributing to it or carrying on work at home.

14.3. Parent carers are invited to two parent carer evenings each year and to the annual review of the EHCP which always includes the setting and reviewing of at least one maths target.

14.4. Parent carers are sent a termly curriculum newsletter and also receive an annual report of their child's progress in Maths.

14.5. Homework is set for older pupils where appropriate and parents are requested to support their children in the completion of this.

15. Resources

15.1. Each classroom or room where maths is taught will have a basic stock of everyday equipment such as counting materials, number squares, Numicon, calculators etc. This will vary according to the age and developmental level of the pupils.

15.2. Pupils in Early Years and Key Stage One and Two have an enabling environment which includes role play and props, games and puzzles and equipment such as sand and water.

15.3. There is a large shared maths store which include resources and games to support every possible maths topic including real money, clocks, counting and sorting materials, role play activities and materials to support topics such as shape, fractions or times tables. There are large dice and Numicon, Dienes blocks, games including floor and outdoor games and numerous measuring and weighing resources.

15.4. The subject leader orders and labels the resources and a teaching assistant is responsible for day to day tidying of maths resources.

15 Assessment and Moderation

15.1 Formative assessment occurs when teachers assess all pupils' responses to the tasks set in planned activities through questioning and feedback and their responses in other lessons across the whole school day. In Early Years and in other classes, where appropriate children are observed as they interact in their play, everyday activities and planned tasks.

15.2 Teachers maintain a record of progress in pupils' maths using SOLAR for pupils not doing external accreditations. It is updated at least termly. Pupils following accredited courses are assessed by their progress in the relevant specifications.

15.3 Pupils with PMLD are assessed using individual targets that are set to link closely to their band on Routes for Learning. Progress is recorded using MAPP (Mapping and Assessment of Pupil Progress) and uploaded on to SOLAR.

15.4 All data from SOLAR is entered termly on to a school spreadsheet. From there it can be seen how much progress pupils are making and interventions can be put inti place if necessary.

16 Moderation and Evaluation / Impact

16.1 The progress of pupils within maths is moderated through:

- Staff observation and discussion
- The moderation of pupil's work – this may include the analysis of teacher observations, work folders and video evidence. Maths moderation meetings are held annually by subject leaders.
- The tracking of termly pupil targets
- Analysis of medium term plans by the subject lead and head teacher.

16.2 All teachers are observed at least once a year by the head teacher and some of these observations are in maths. In the maths focus year the subject lead will also observe lessons.

16.3 Learning Walks will take place in year to provide evidence to help develop an understanding of how maths is delivered.

17 Linked policies

17.1 The maths policy should be read in conjunction with our policies for:

- Careers (Policy Number 16)
- Governors Curriculum Policy Statement (Policy Number 22)
- Examinations (Policy Number 36)
- Equal opportunities (Policy Number 38)
- Assisted and Augmented Communication (Policy Number 39)
- Marking and Homework (Policy Number 34)
- Early Years (Policy Number 27)
- PMLD (Policy Number 26)

18 Monitoring and Review

18.1 The governor with responsibility for maths is primarily responsible for monitoring the implementation of this policy. This will be through annual discussion with the subject leader and consideration of the evidence included in the subject leader portfolio.

18. 2 The governor will report on this to the curriculum committee annually.

18.3 The work of the subject leader will also be subject to review by the line manager as part of performance management.

19 Appendices

- Long Term Plan
- Post 16 Long Term plan for maths
- PMLD maths statement

LONG TERM PLAN FOR MATHEMATICS

Curriculum Intent

Chadsgrove School accommodates children with a very broad range of needs and abilities. For this reason, the curriculum is considered in terms of a Formal Pathway, a Semi-Formal Pathway and a Pre-Formal Pathway. The individual needs of learners are met through personalised approaches however, the sequential development of skills is a core principle of the curriculum approach for each group, recognising the hierarchical development of concepts and skills necessary before learners can progress on to higher level skills.
The organisation of children into classes is through a mixture of Key Stage, ability and sometimes other factors such as previous educational history. As an all age school pupil progress through classes and detailed transitional arrangements can be discussed informally between teachers to support the progress of learners.

For pupils on the Formal Curriculum Pathway (pupils with MLD):

Planning, learning and assessment for these pupils is guided by the National Curriculum. It is designed to ensure that all learners become fluent in the fundamentals of Mathematics and develop conceptual understanding, are able to reason mathematically and explain their thinking using mathematical language.
They should also be able to solve problems by applying their mathematics to relevant real life situations and persevere in seeking solution as well as follow a sequential curriculum that builds on past learning, avoiding gaps and promoting continuity and progression.

For pupils on the Semi-Formal Curriculum Pathway (pupils with SLD):

The approach used throughout the semi-formal curriculum is to develop mathematical thinking through a themed approach with focused learning opportunities that introduces content appropriate to the individual's cognitive processing capabilities.

The semi formal Curriculum promotes Mathematics through explorative learning which provides opportunities for learners to encounter the world around them. Within their play younger pupils may reach, hold, explore and encounter sensory items and stimuli in order to gain independence and enable opportunities for communication and cognitive development.Their mathematical understanding is also developed through stories, songs and games. Older pupils are provided with similar but age appropriate opportunities.They will be given time to apply the concepts and skills they have developed previously in day to day situations such as telling the time, using money, following sequences, weighing and measuring and to practise their skills in real life contexts both within and outside of school.

For pupils on the Pre-Formal Curriculum Pathway (pupils with PMLD):

In classes for pupils with Profound and Multiple Learning Difficulties, pupils develop their thinking skills through a holistic approach to learning and consequently Mathematics is not taught as a discrete curriculum option but is asssociated with the development of wider thinking skills.

Curriculum Implementation

For pupils on the Formal Curriculum Pathway (pupils with MLD):

Pupils with MLD in Key Stages 1-3 have between 3 and 5 timetabled sessions of mathematics each week. Pupils with MLD in Key Stages 4 and P16 have between 2 and 3 timetabled sessions of mathematics each week.

For pupils on the Semi-Formal Curriculum Pathway (pupils with SLD):

Pupils in Key Stages 1-3 have between 3 and 5 timetabled sessions of mathematics each week. Pupils Key Stages 4 and P16 have between 2 and 3 timetabled sessions of mathematics each week.
Some pupils with SLD in Key Stages 4 and P16 also have between 2 timetabled sessions of Life and Learning skills each week. These sessions focus upon the use of mathematical skills and concepts in real-life and practical situations.

For pupils on the Pre-Formal Curriculum Pathway (pupils with PMLD):

Pupils have up to 7 timetabled sessions of Thinking Skills each week. This is the area of learning that most specifically relates to the development of early learning and mathematical skills

For pupils in Early Years:

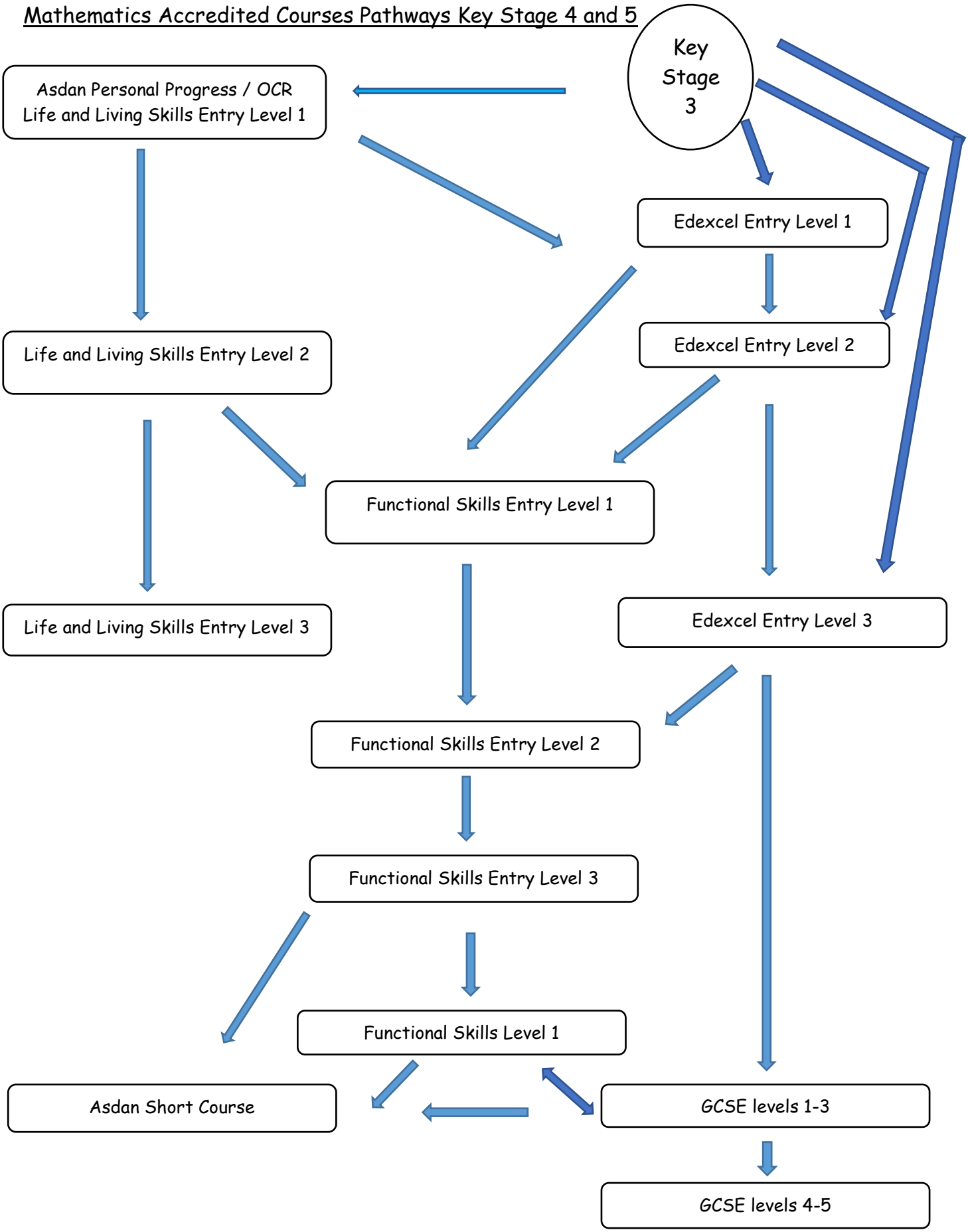
Pupils have 2 timetabled sessions of mathematical development. Mathematics is also developed in a cross–curricular way through the implementation of a Cycle of themes which are explained in more detail in the Early Years Policy (Policy Number 27) Pupils learn through playing, exploring and actively learning in a stimulating, enabling environment.

For pupils on the Formal Curriculum and the Semi-Formal Curriculum Pathway (pupils with MLD and SLD):

In all classes for pupils with Moderate and Severe Learning Difficulties teaching takes into account personal learning styles whilst also empowering pupils to draw on a wide range of calculation strategies, explaining methods and reasoning and establishing a secure foundation in mental calculation and the recall of number facts before standard written methods are introduced.
Pupils are enabled to extend their reasoning, problem solving and investigational skills and assisted to make predictions, judge whether their answers are reasonable and have strategies to check.
Pupils are encouraged to develop life skills for living, employment and recreation. This includes, but not exclusively, money, time and measure.

	Formal Curriculum (for pupils with MLD)	Semi Formal Curriculum (for pupils with SLD)	Pre Formal Curriculum (for pupils with PMLD)
Early Years	Development Matters in the Early Years Foundation Stage	Development Matters in the Early Years Foundation Stage	Development Matters in the Early Years Foundation Stage
KS1	Hamilton Mathematics YR	Development Matters in the Early Years Foundation Stage	Development Matters in the Early Years Foundation Stage or Barrs Court Curriculum
KS2	Hamilton Mathematics Y1 -- Y2	Hamilton Mathematics YR	Barrs Court Curriculum
KS3	Hamilton Mathematics Y2 - Y4	Hamilton Mathematics Y1 or Equals	Barrs Court Curriculum
KS4	Accredited courses –see pathways below (Materials from HamiltonY4-6 may be used)	Equals Accredited courses –see pathways below	Barrs Court Curriculum
P16	Accredited courses –see pathways below (Materials from Hamilton Y4-6 may be used)	Equals Accredited courses –see pathways below	Barrs Court Curriculum

Mathematics Accredited Courses Pathways Key Stage 4 and 5



Curriculum Impact

Teachers maintain a record of progress in pupils' mathematics using SOLAR . Summative assessment for pupils with MLD or SLD takes place using either Early Years Foundation Stage Development Matters, P levels or Accreditated Course Specifications which are downloaded onto SOLAR.
Pupils with PMLD are assessed using individual targets that are set to link closely to their band on Routes for Learning. Progress is recorded using MAPP (Mapping and Assessment of Pupil Progress) and uploaded on to SOLAR.This is updated at least termly.

All data from SOLAR is then entered termly on to a whole school spreadsheet. From there it can be seen how much progress pupils are making and interventions can be put into place if necessary.

The progress of pupils within mathematics is also monitored through:

- pupils' responses to the tasks set in planned activities through questioning and feedback
- pupil observation as they interact in their play, everyday activities and planned tasks
- staff discussion one to one, in groups or in larger meetings
- analysis of medium term plans by the subject leads and head teacher
- moderation of pupil's work during mathematics moderation meetings to compare for standardisation particularly between key stages
- lesson observations and learning walks by the subject leads and head teacher
- work scrutiny including work folders or video evidence

Post-16 Long Term Plan
Maths
2023-2024

Intent

The Post-16 Maths curriculum at Chadsgrove School enables pupils to develop their Maths skills to their fullest potential in preparation for adulthood. If Post-16 pupils do not already hold a GCSE in Mathematics, they must continue to work towards an appropriate Maths qualification. Maths qualifications will be carefully matched to meet pupils' individual needs, abilities and aspirations.

The Post-16 Maths curriculum at Chadsgrove School aims to prepare pupils for adulthood by:

- Enabling pupils to work towards a bespoke, accredited Maths curriculum Pathway dependent on their aspirations and individual needs
- Allowing pupils to follow personalised learning outcomes, in line with individual EHCP targets, to enable appropriate delivery of all Maths sessions based on pupils' individual needs
- Facilitating a cross curricular model where pupils are supported to practice Maths across the whole Post-16 curriculum
- Facilitating meaningful learning opportunities to develop Maths skills in school and within the community
- Enabling pupils to practice functional Maths skills to access the community with increasing confidence e.g. to navigate time, money, budgeting, data, number and measure skills with greater independence
- Providing pupils with functional Maths skills to increase independence and prepare them for their next destinations

Pupils in Post-16 are set for Maths lessons. Pupils in the Formal Pathway Maths Group will work towards the Edexcel Level 1 or 2 Award in Number and Measure. Pupils in this group will have 3 Maths lessons per week in order to progress through course content at an appropriate rate. Pupils will take an exam in the summer term. Please refer to individual Teacher's Medium Term Maths Plans for further detail.

Pupils following the Semi-Formal Pathway will focus on functional and life skills based Maths. The focus of these sessions will be learning key skills and applying these in varied and real life contexts. Semi-Formal Pathway pupils will work towards either a Functional Skills course at Entry Level 2 or 3 or OCR Life and Living Skills following Numeracy units at Entry Level 1 or 2. Please refer to individual teacher's Medium Term Maths Plans for further detail.

Implementation

Formal Pathway

Group 1 (Edexcel Level 1 or 2 Award in Number and Measure)

Autumn	Spring	Summer
Integers Decimals Approximation Fractions Percentages Ratio & Proportion Money Measures Area & Perimeter Volume	Table & Charts Exam Preparation • Common Misconceptions • Exam Revision • Exam Practice	Edexcel Level 1 or 2 Award in Number and Measure (National Exam) End of year Maths project (chosen by pupils)

Group 2 and 3 (OCR Life and Living Skills Numeracy units at Entry Level 2 or 3)

Autumn	Spring	Summer
OCR J6 Working with whole numbers up to 100 (E2) OCR J13 Working with whole numbers up to 1000 (E3)	OCR (E2) J9 Using coins and notes OCR J12 Working with money (E3)	OCR (E2) J8 Collecting & presenting numerical information OCR J14 Presenting information in a chart (E3)

Semi-Formal Pathway

Groups 4 (OCR Life and Living Skills Numeracy units at Entry Level 1 or 2)

Autumn	Spring	Summer
OCR (E1) J3 Developing number skills OCR J6 Working with whole numbers up to 100 (E2)	OCR (E1) J5 Understanding what money is used for OCR (E2) J9 Using coins and notes	OCR (E1) J4 Early Mathematics: sequencing & sorting OCR (E2) J8 Collecting & presenting numerical information

Impact

Post-16 pupils will engage in meaningful and personalised Maths lessons in line with their aspirations. They will work towards achieving an appropriate Mathematics qualification that allows them to leave Chadsgrove equipped with the Maths skills they need to progress in life. Pupils will gain evidence to support successful

completion of their Maths qualifications in individual Maths folders. All accredited work and exams will be submitted to appropriate Exam Boards.

PMLD MATHS STATEMENT

'Maths' - PMLD

Pupils who are following a pre-formal curriculum experience aspects of Numeracy work through their 'Thinking Skills' lessons. The Barrs Court Curriculum and the Equals Pre-Formal Curriculum are used to inform teachers' planning.

Learning Objectives are selected which are most relevant to pupils' personalized outcomes, in the areas of Visual, Auditory, Tactile and Cognitive Development.

A holistic approach to learning takes place within the PMLD department, so these objectives may be taught in a variety of sessions, including Sensory Stories, TACPAC, Messy Food Play/Sensory Cooking and Creative Arts. Learning will also take place in a variety of settings, such as the classroom, Multi Sensory Room, Art Room and in the sensory garden or forest school areas.

Pupils are assessed using Routes for Learning, which enables pupils to follow a range of pathways that focus on both early communication skills and cognitive development. Teachers also use MAPP (Mapping and Assessing Pupil Progress) to record pupils' progress in the areas of Prompting, Fluency, Maintenance and Generalization. Video and photographic evidence, alongside written recorded evidence, informs future planning and target setting.

As pupils progress through each Routes for Learning Band, they are set more challenging targets which encourage them to develop in their Thinking Skills work. These targets are also set in line with their individual EHCP outcomes in the area of Cognition and Learning.