

Mathematics and Numeracy Policy

We are proud to belong to the Carr Hill community where we pursue excellence through commitment, aspiration, resilience and respect.

1. Purpose

This policy is intended to outline our vision for the maths curriculum at Carr Hill and the ways in which all teaching staff can support students with the development of numeracy skills. We believe that maths is an incredibly important subject for students to master, as proficient numeracy skills will support them in their future education, employment and daily lives. We know that skills developed in maths will support students in their learning in other subjects, especially science. Learning in maths also supports students in developing mental discipline and logical reasoning that are important in all walks of life. We are therefore committed to ensuring that the maths learning our students receive is high quality and that students' numeracy skills are developed across the curriculum as much as is possible.

2. Application

2.1 Maths at Carr Hill

Our maths curriculum has been carefully designed to ensure that students receive and build upon the powerful knowledge necessary to be fluent mathematicians. We want our students to achieve GCSE grades which will enable them to access their next steps in education and to support them in developing maths skills necessary for daily life. The learning environment in maths should be one in which all students can learn and achieve. Students are expected to behave sensibly and listen carefully so that they, and those around them, can be successful learners. Students are given many opportunities to learn and practise the maths skills they learn so that these skills can be mastered and remembered. Students will practise skills together with their teachers and peers on mini whiteboards to build confidence before completing further practice in their books.

The curriculum in maths is structured around the powerful knowledge necessary to be fluent in the subject. The key topics which make up this powerful knowledge are built upon each year to secure crucial mathematical skills in the long term memory of our students. These key topics include:

- Algebra
- Number
- Handling data
- Geometry
- Probability
- Ratio and Proportion

Students' understanding of their learning is checked frequently in lessons so that teachers can be sure that learning is secure before moving on to new topics. Teachers model work with students in the first instance to aid student understanding. Students are then given time to practise and 'overlearn' skills through whiteboard work and work in their exercise books. Checking for understanding occurs in class through questioning, monitoring of whiteboard work and marking of work completed in exercise books. Students complete assessments at the end of each topic which allow teachers to clear up any misunderstandings. All students are given a target starter and homework to work through following an assessment. These will be bespoke to them as an individual learner, addressing any gaps in their knowledge and/or extending their learning in a particular topic.

Parallel to the classwork is a homework program on Sparx Maths. Each student will receive a book in which to complete the tasks with a timetable. In order to secure learning in their long-term memories, students complete tasks to recall learning from previous learning; some tasks focus on learning from two weeks ago and some on learning from four weeks ago.

There are four possible pathways during the 5 years at Carr Hill. Each pathway is designed to maximise the potential of all students, whilst fully supporting each student. The aim of each pathway is in line with following targets in Year 11 for GCSE Maths,

- Pathway 1: Higher GCSE with target grades of 7-9
- Pathway 2: Higher GCSE with target grades of 5-7
- Pathway 3; Foundation GCSE with target grades of 4-5
- Pathway 4: Foundation GCSE with target grades of 1-4

This is to make sure that every student receives the most appropriate support and challenge during their Maths lessons. The pathway for each class is initially chosen by looking at data and discussion with the classroom teacher. There are regular assessments which are used to re-set students as appropriate to make sure everyone can maximise their potential. Class pathways can also be switched if necessary. Intervention will be provided for students or whole classes who are struggling; this may take the form of in-class support, withdrawal from lesson for small group intervention or after school sessions/tutoring.

As a school, we are committed to ensuring that students understand the value of mathematics and why it is such an important subject for them to master. A focus on real life application of mathematical skills and discussion of employment opportunities in maths are an important part of the maths curriculum.

2.2 A whole-school approach to numeracy

As a school, we recognise that all staff have a role to play in promoting and developing numeracy skills for our students. When it is appropriate, teachers in all subject areas will support students in developing maths skills. This may involve faculties working together (especially with the maths faculty) to share ideas on how to support and promote numeracy. This may include, for example:

- Creating a pie chart showing the percentage of people belonging to different faith groups in Great Britain in religious studies
- Drawing on learning in maths to support graph drawing in science
- Recalling maths knowledge in geography to support students in interpreting tables
- Work on symmetry and measurement in art
- Increasing measurement of ingredients by a ratio in food technology

As school staff, we are aware of the influence we can have on students, both positive and negative. We are therefore committed to ensuring that we are positive about maths and our own mathematical capabilities when speaking to students so that we don't inadvertently pass on a lack of confidence or positivity about maths to our learners. We will encourage our students to have confidence about maths and emphasise to them the importance and value of the subject, especially through promoting events such as maths week. Pastoral mentors will also promote the importance of numeracy and maths through the weekly mentor activity 'maths bingo.' Maths bingo will also give students the opportunity to practise the basic numeracy skills necessary for success in maths, the wider curriculum and daily life.

2.3 The role of parents and carers in supporting maths and numeracy

Parents and carers have a very important role to play in supporting young people to improve their maths skills so that they can achieve well in maths and develop the levels of numeracy necessary for daily life. To support our learners with maths and numeracy, parents and carers can:

- Ensure Sparx Maths work is completed by students at home
- Be positive and encouraging about maths, stressing its importance and not downplaying their own ability in the subject. Try not to use negative language about maths and avoid saying things like, “Maths is a foreign language to me,” “It’s impossible,” or “when do you need maths?”
- Encourage KS4 students to use GCSEPod to consolidate and extend their learning in Maths. The ‘Achieve Maths’ pods are especially useful for students who are working towards achieving a grade 4.
- Take an interest in what students are learning in maths.
- Talk about real world applications of maths and the way we use numeracy skills every day.
- Make sure students are completing their homework for maths (and all other subjects) to a high standard. Synergy can be used to monitor when homework is set and when it is due.
- Encourage resilience in maths. If students are struggling with a particular topic, encourage them to use Sparx Maths and/or GCSEPod to recap the topic and then practise questions until they feel more confident.
- Practise basic maths skills, such as addition, times tables, division etc. together. These are the skills students sometimes lose as their learning in maths becomes more advanced. Drill them on their times tables, increase or reduce a cooking recipe together and use maths to work out the amount of ingredients needed, ask them to help measure a room for a new carpet and work out the area, how much carpet will be needed and what the cost would be, estimate the cost of a grocery shop by rounding up items and adding the costs together etc.

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Chair of Governors

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