

Maths Statement of Intent

Introduction

Intent refers to what we want our pupils to learn. We follow the International Edexcel iGCSE specification, 4MA1 at both Foundation and Higher tier. Maths lessons are generally broken up into 4/5 parts:

1. Starter activity – usually a review of the previous lesson/topic but can also involve a short assessment of prior knowledge for a new topic;
2. Introduction to today's lesson/topic;
3. Classwork – can be individual, pair or small group work with support as required;
4. Plenary – A short quiz or Exam Style Questions for practice;
5. Homework discussion as and when required.

Mistakes and misconceptions are an essential part of maths learning and pupils are encouraged to correct their own mistakes before support is offered in lesson. It is essential that this is overseen by a teacher. The intention is to instil a culture in our provision whereby pupils become confident learners who progressively become aware that patience and persistence is a crucial part of maths learning. This then has the effect of creating independent learners. Lessons are planned and sequenced so that new knowledge and skills build on what has been taught before.

Intent

For year 11, the 2 and 1/2 term scheme of learning has been chosen to ensure coverage of all key topics with clear differentiation between key topics for pupils aiming for a grade 1-2, pupils aiming for grade 3-4, pupils aiming for a grade 5-6 and students aiming for grades 7-9. Ensuring pupils have exposure to past GCSE questions throughout the year is also a key priority. Individualised Learning Programs are put in place for pupils whose previous school attendance has led to huge gaps in their maths learning as well as for pupils on the SEND register. Learning Support Assistants and volunteers are deployed appropriately and lessons are planned so that differentiation is managed effectively.

The maths curriculum at RFS now clearly identifies key knowledge and skills required for pupils to progress to a GCSE grade i.e., get on the GCSE ladder. Functional Skills qualifications are offered as an alternative. Furthermore, the curriculum for all pupils includes review steps at the beginning of lessons to check prior learning and provide an opportunity to close any gaps the pupils may have.

What is the maths curriculum aim?

- To equip students with number, algebra, geometry and statistics skills in order to solve problems and reason mathematically.
- Students will be able to use these skills in a wider context such as in their personal lives or careers.
- To create successful learners who are confident in maths and enjoy the subject.

We aim to do this by?

- Stimulating an interest in, and enjoyment of, maths.
- Providing the opportunities and challenge for all to achieve their full potential.
- Encouraging a culture of questioning and feeding the natural curiosity of pupils.
- Developing an awareness of the relevance of maths to real life that will enable pupils to contribute positively to society.
- Providing the best possible standard of teaching and opportunities for learning.

What do pupils gain from this?

- Enjoyment of the subject.
- Achieve or exceed their expected progress i.e., GCSE predicted grades.
- Use their numeracy skills to make a positive contribution to the workplace and society.
- Pupils become progressively better independent learners.

How have we planned this?

- Guided by the national curriculum we focus on key knowledge and real-life skills as much as possible.
- We plan to deliver the 2 and a half term programmes of study to fill the individual pupils' gaps as much as is possible.
- We aim to build on prior knowledge and skills and provide building blocks to access the iGCSE curriculum, allowing students to achieve their potential and move on successfully to post-16 provision.
- Key words that are subject specific are written in the back of exercise books – maths dictionary.
- We sequence our objectives so students can build on prior mathematical knowledge, firstly from basic numeracy and algebra and build on this to create clear progression.
- The sequence may need to be adapted on a student-by-student basis to take into account lack of attendance at school prior to referral or for more able students who are already prepared for the higher tier.
- In addition, consideration is given to the individual medical/mental health conditions and ability to attend lessons at RFS.
- Every attempt is made to provide a breadth of curriculum coverage whilst still providing opportunities for in-depth learning.

Integration and transition to post 16

- Before pupils arrive for their first lesson teachers access available school data to determine the ability of the pupil. Teachers will spend time reading pupil passports, seeking to learn about pupils' interests and struggles from their previous setting. Due consideration is also given to time away from education and the huge gaps this can leave in maths learning. This helps to slowly integrate the pupil into their maths lessons making them feel as welcome as possible. This may result in an extended settling in period where pupils will not be expected to engage in the classwork (or with the main group) until they feel ready.

- Once they have settled in they will be asked to complete their first maths assessments which will highlight strengths and areas for development which is fundamental for individual planning. Cognitive Assessment Tests usually follow later.
- We are developing the inclusion of real-life maths. This then also enhances the employability of the students and/or transition to post 16.

Implementation

- Pupils follow the iGCSE Edexcel national curriculum for Maths. This is a 2 paper examination rather than 3, and calculators can be used on both papers so we save time on subtraction, multiplication and long division; essential when the curriculum needs to be covered in such a short period of time.
- Pupils follow a 2 and a half term scheme of work.
- Pupils are given the scheme of work for each half term. These are stuck into class books at the beginning of each half-term with opportunities to self-evaluate performance on each topic.
- Pupils develop skills in Number, Algebra, Shape Space & Measure, Proportional Reasoning, Probability and Data Handling.
- Pupils develop conceptual fluency in order to problem solve and reason mathematically.
- Enrichment is embedded into lessons in order to enthuse students and help them to understand the practical applications of the subject in the world and work place.

What principles have guided our decision making in developing this curriculum? What is distinctive about the RFS maths curriculum?

- We follow the National Curriculum for Mathematics (from 2015) and use the following resources: Maths Genie, MyMaths, Hegarty Maths, Corbett Maths (also currently trialling MathsWatch) and Sparx.
- Small class sizes and 1:1 support (where available) in lessons aid the setting of personalised targets for pupils.
- We are developing the inclusion of real-life maths by embedding the use of financial contexts in our teaching - This is supported by a 6-week Life & Leisure programme for the new cohort who join the RFS at the end of year 10. Those who successfully complete this unit are awarded with an AQA Certificate.
- We enrich the mathematics curriculum further with problem solving activities, such as those provided on the MyMaths and Hegarty maths websites.
- We provide numeracy intervention & TA support in lessons and during other non-timetabled lessons for individual pupils with particular attention being given to those on the SEND register.
- We provide GCSE Revision classes in person and online throughout the academic year and also over the exam period.
- AQA Entry Level Maths/Functional Maths are offered as alternative qualifications where appropriate.

- The Google classroom stream is used for absentees to catch up on missed lessons or to join live lessons online. Homework and extension tasks are also accessible via the Google classroom stream.

Impact

What forms do assessments take?

Formative assessment:

- End of half term assessment/progress tasks
- Teacher questioning
- Scrutiny of student work by class teacher;
- Time given for students to reflect on feedback they've been given as per the school's marking policy
- Quizzes at the start of and during lessons create challenge with low threat opportunities for the pupils to gain knowledge and support each other
- Topic based multi-choice questions provide a reflection opportunity for teacher and learner to deal with misconceptions and to aid knowledge retention.

Summative assessment

- End of term assessments to assess progress made in each term
- Topic analysis conducted to inform necessary intervention, targeted revision and teacher planning
- Report progress to Parents/Carers via half-termly progress review reports and meetings
- End of Term Reports with SMART targets set for each pupil
- Tutors follow up on SMART targets weekly

How do we know if we have a successful maths curriculum?

- Pupil voice, staff voice, parental voice
- Monitoring predicted/target grades against current/working grades
- Work scrutiny, learning walks and feedback
- Self-evaluation via links with other schools in the authority via these Camden Hubs
- Mainstream Maths Subject Leaders, Hospital Schools maths teachers, STEAM
- The development of real-life maths (e.g. financial contexts) to enhance the employability of the pupils and transition beyond KS4
- Results. Despite large gaps in learning, our students perform relatively well and can access +16 courses as a result.