Handsworth Grange Community Sports College

MATHS CURRICULUM INTENT

HGCSC Mission	**Exceptional education for every child, every day**
Priority	Provide a broad and balanced curriculum that challenges everyone

MATHS DEPARTMENT INTENT

As a department we intend to create well rounded mathematicians, who are confident to leave school and go into the wider world with a good grasp of both technical skills and problem solving approaches that can be applied to solve both mathematical and non-mathematical challenges.

TECHNICAL SKILLS	MATHEMATICAL/ NON MATHEMATICAL CHALLENGES	PROBLEM SOLVING
Pure mathematical subject knowledge that can be used on its own to solve problems with no context and no analysis needed. These include skills in the areas of ratio, number, data, shape and algebra. When used with more complex questions, problem solving skills must be used in conjunction.	A mathematical challenge means one where maths skills can be directly applied to a problem e.g. finding the size of a television screen using Pythagoras. A non-mathematical challenge refers to a problem where skills may not need to be directly applied, but the ability to think logically is still needed-e.g. organising a timetable for an event.	The ability to study a problem, exploring different possible approaches to aid in the simplification of the journey towards a solution. Possible approaches include trial and improvement, working systematically and working backwards amongst others. These skills could be applied to both mathematical and non-mathematical scenarios.

CURRICULUM AIMS

- Provide pupils with the mathematical subject knowledge needed
- Encourage a love of mathematics and the areas that use it
- Develop pupils' skills to learn both independently and as part of a group
- Inspire a desire in pupils to ask broader questions about their surroundings and to be able to quantify the things around them when needed.
- Ensure pupils have a grasp of finance, so that they can have a mature approach towards money related issues.

5 YEAR PLAN

Give an overview of what your curriculum will achieve (in the classroom and through enrichment opportunities):

Pupils in year 7 will have their skill levels assessed to allow their class teachers to begin building upon these. Pupils in KS3 will follow the White Rose scheme of learning which follows a mastery approach. This helps pupils to develop in the 3 key areas of maths-fluency, reasoning and problem solving.

All KS3 and Y10 pupils will have the opportunity to discover the world of finance with dedicated lessons every half term, allowing pupils to see a wider application of mathematical skills.

Pupils in Y10 will start to work towards the mathematics GCSE with pupils split between the higher and foundation courses with flexibility to move between the two tiers. Pupils will start to be introduced to the style of the GCSE exam to prepare them.

In Y11 the more difficult concepts of the GCSE are tackled. Tiers will be finalised as pupils tackle the two sets of mock exams. Some pupils will also have the opportunity to work towards the statistics GCSE. Pupils with mathematical potential will be encouraged to look at STEM options when leaving school. All pupils will be entered for the maths GCSE with all their 5 years of education at Handsworth building towards this to allow them access the future route they wish to take.

SKILLS

List the main skills pupils will learn and develop over the curriculum:

- Analysis skills needed to understand the key points of a problem
- Problem solving skills needed to develop an approach towards an answer
- The technical skills needed to do the working out
- Reasoning skills to ensure that a solution answers the problem set out
- Presentation skills to ensure that work is set out in a way that is clear and easy to follow

KNOWLEDGE

List the main subject knowledge pupils will learn and develop over the curriculum:

- A wide and deep understanding of the five main topic areas of maths: number, ratio and proportion, algebra, shape and space, data.
- A broad mathematical vocabulary with a strong grasp of definitions
- An idea of some of the origins of mathematical and scientific concepts
- A knowledge of the real world applications of their mathematical skills
- An understanding of finance and the issues surrounding it