Handsworth Grange
Community Sports College

DESIGN & TECHNOLOGY CURRICULUM INTENT

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

DESIGN & TECHNOLOGY DEPARTMENT INTENT

To provide an inspiring and rigorous curriculum that encourages creativity and imagination as well as problem solving and analysis within a variety of contexts. As pupils progress they will acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils should learn how to take risks, and consider the needs of others, becoming resourceful, innovative and capable citizens.

DESIGNING/ PLANNING	MAKING	EVALUATING
Pupils will learn to design and plan innovative products using research including linking to the needs of a client independent research using a range of different media as well as personal experience and discussion. Pupils will use their researched material to allow them to generate their own design briefs and design specifications. Pupils will learn to be responsible designers as well considering climate change. Pupils will also experience using a range of CAD software to develop ideas as well as working both collaboratively and iteratively throughout.	Pupils will learn a broad range of manufacturing techniques across several disciplines including resistant materials, textiles and product design there will also be core knowledge experienced with graphic design as well as mechanisms. They will learn to use traditional as well as CAM techniques to manufacture quality outcomes at all stages. Pupils will learn to use these techniques in a safe, welcoming and supportive environment as well as observing links to industry and future occupations.	Pupils will learn to evaluate their own work as well as the work of others they will analyse these products in depth, considering flaws in the designs as well as parts that are successful. Pupils will reflect on their evaluations and suggest possible future developments to solve problems and to suggest solutions going forward. Ongoing analysis throughout the designing and making process is essential to show pupils critical thinking as well as helping to drive ongoing development and iteration. This will also include gathering opinions of a client or a 3rd party

CURRICULUM AIMS

Our Design and Technology curriculum aims to ensure that all pupils:

- Become proficient in making high quality products using a broad range of materials.
- Use a broad range of techniques to design and develop products for real world needs.
- Evaluate and analyse their own work as well as the work of others using subject specific language.
- Develop pupil's knowledge of relevant designers, design groups and design movements.
- Draw on the disciplines of science and maths, applying relevant knowledge to design and develop products in a responsible way as well as ensuring accuracy.

5 YEAR PLAN

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

By the time pupils complete their studying of design and technology they will be creative thinkers, problem solvers and independent learners they will be experienced in using a wide range of technical drawing and designing techniques as well as becoming skilled in the safe operation of broad range of machinery and equipment. They will have learnt how to critically evaluate their own and others work and be able to develop and improve their work appropriately. They should also understand how design and technology plays an important role in industry in this country as well as the understanding of globalisation, inclusive design and possible future occupations.

SKILLS

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

- To evaluate, analyse and assess their own and other designers work.
- To be able to work safely and accurately with a broad range of tools and equipment.
- To work independently and collaboratively to manufacture products.
- To develop their own ideas and reflect on them, as well as seeking constructive criticism.
- To develop hand/eye coordination to manipulate tools and materials to produce quality outcomes.
- To think critically to develop ideas through an iterative design process.
- To design and produce products using CAD/CAM

KNOWLEDGE

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

- Pupils will know a wide range of subject specific vocabulary and be able to use it accurately.
- Pupils will study a wide range of processes and techniques including production methods
- Pupils will learn about aspects of maths and science and apply the knowledge to real world situations.
- Pupils will learn about a range of designers and manufacturing companies.
- Pupils will learn to consider the needs of others including inclusive design, religion and cultural requirements.
- Pupils will learn about sustainability and finite and non-finite resources with an impact on climate change.
- Pupils will learn about the working properties of a broad range of materials
- Pupils will learn about a range of technical drawing and designing techniques.
- Pupils will learn about new and emerging technology.
- Pupils will learn about industry including globalisation, automation, CAD, CAM, CNC, CIM
- Pupils will learn about manufacturing companies and different designers from a range of cultures.