Curriculum Intent Statement
Design and Technology
John Whitgift Academy

We believe that students deserve a Design & technology curriculum which prepares them for the world they live in.

Design and technology gives young people the skills and abilities to engage positively with the designed and made world. They learn how products and systems are designed and manufactured, how to be innovative and to make creative use of a variety of resources including traditional and digital technologies, to improve the world around them.

We strive to provide opportunities, which allow students to develop a knowledge of a range of technology areas including; resistant materials, Food technology, Engineering and Construction. Students should grow in confidence through dedicated teaching environments, manufacturing equipment and specialist teaching.

At the centre of the subject is creativity and imagination. Design & Technology is an area which draws, develops and implements a range of different disciplines including mathematics, science, engineering, computing, geography, business studies and art. The subject embeds high quality literacy skills through analysis and evaluation techniques.

As students' progress they choose an area within Design & Technology to study. In the chosen area, the subject allows for deeper study of the world they live in, potential career opportunities and with the skills developed earlier in the curriculum the confidence to task risks, become resourceful, innovative, enterprising and capable citizens. The subjects encourages students to design and make products that solve real and relevant problems, within a variety of contexts, while considering their own and other's needs, wants and values.

Food Technology equips learners with the knowledge, understanding and skills required to cook and apply the principles of food science, nutrition and healthy eating.

Our Design & Technology curriculum will give the students an opportunity to:

Research and Design:

- Engage in an iterative process of design and making.
- Undergo primary and secondary research techniques into a range of user's needs, wants and values, analysis of existing products, ergonomics and anthropometrics and the work of others.
- Identify and solve their own problems and the problems of specific clients and target market groups.
- Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations.
- Use a variety of design strategies when developing ideas using the iterative design process. For example; a range of 2d and 3d sketching techniques, rendering in different forms, modelling in traditional and CAD methods and the testing of materials and manufacturing techniques.
- Develop and communicate their design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools
- Make informed decisions about food and nutrition and allows them to acquire knowledge in order to be able to feed themselves and others affordably and nutritiously, now and later in life.
- Develop knowledge and understanding of the functional properties and chemical characteristics of food as well as a sound knowledge of the nutritional content of food and drinks.
- Understand the relationship between diet, nutrition and health, including the physiological and psychological effects of poor diet and health.

Make:

- Select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture.
- Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties.
- Demonstrate knowledge and understanding of functional and nutritional properties, sensory qualities and microbiological food safety considerations when preparing, processing, storing, cooking and serving food.
- Explore a range of ingredients and processes from different culinary traditions (traditional British and international) to inspire new ideas or modify existing recipes

Evaluate:

- Analyse the work of past and present professionals and others to develop and broaden their understanding.
- Investigate new and emerging technologies.
- Personal project work, analysing how the product fulfils the requirements of the specification and the user's needs, wants and values.
- Recognise how their product can be modified for commercial manufacturing
- Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists

Pedagogy: We strive to educate through a range of teaching strategies which are accessible for all our learners through:	**Enrichment:** We aim to enrich our curriculum by:
• A range of visual, auditory and kinaesthetic resources are used throughout lessons • An environment of confidence where students feel they can experiment, make mistakes and tackle their own design problems • High levels of expertise in health and safety students can feel confident to use a range of tools equipment and machinery to develop their knowledge and understanding. • Regular use of teacher, technician and student led live modelling to demonstrate processes and applications both practically and theory based	• Establishing cross curricular links • Encouraging students to contribute to the life of the school and the community, by working with 'real' contexts to develop their skills and knowledge in designing • developing partnerships with external providers that extend children's opportunities for learning