WIXAMS ACADEMY DT 5 YEAR CURRICULUM PLAN 2021-2022

KEY: UNIT TITLE PRIOR LEARNING NEEDED/RE-CAPPED – BUILDING DEPTH HOW ASSESSED?
KS 3 NATIONAL CURRICULUM DESCRIPTOR/KS4 ASSESSMENT OBJECTIVE WIDER CURRICULUM LINKS

Academy curriculum intent: ***To provide EVERY student the opportunity to acquire academic excellence and those skills, qualities and experiences that develop well-rounded, successful and happy members of modern society.***

- A 5 Year curriculum design approach for most subjects providing a logically sequenced educational journey.
- We follow the full National Curriculum at Key Stage 3 (KS3) to give our students the broadest and best start to their secondary education.
- We believe in personalisation and choice, so we offer one of the broadest ranges of KS4 GCSE option subjects in the Borough.
- Students are encouraged, but not forced to take EBacc subjects, resulting in significantly more students choosing these subjects, compared to National average.
- Knowledge and skill acquisition are key.
- We have a 'Teach to the Top' mantra, where challenge is always present and differentiation ensures all students have the scaffolding and support to 'Access the Top'
- EVERY student has access to the full ambitious curriculum. We do not reduce, narrow or restrict the curriculum for any learners.
- We pride ourselves on an extremely rich 'wider curriculum' including extracurricular; electives; trips and visits; values; oracy to increase our students' 'Cultural Capital'
- We base our curriculum design and implementation on proven educational research methods.

Subject Curriculum Intent:

Subject curriculum intent: To ensure all students gain the skills, knowledge and understanding required from the Key Stage 3 and 4 curriculum, to develop and embed their learning of Design Technology, so they can fulfil their full potential to success.

Key Stage 3 aims:

*Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
* Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
* Critique, evaluate and test their ideas and products and the work of others.
* Understand and apply the principles of nutrition and learn how to cook.

Implementation: Students will continuously develop and refine their skills in the core areas for assessment at key stage 3 progressing to GCSE **AO1, AO2 & AO3** They will revisit their learning continuously and at specific key points throughout the five years to embed core skills, knowledge and understanding for improvement and progression.

Impact: The development of a well-informed, knowledgeable, critical learner with well-developed skills in the four core areas for assessment. Creating young designers and learners with an informed view of the world of Design Technology and its impact in/on society and the environment.

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	Year 7 INTRODUCE	Year 8 DEVELOP	Year 9 EMBED	Year 10 SECURE	Year 11 MASTER
Aim	**Year 7 will introduce students to key terminology, concepts and core skills needed to have success in this subject. In Design Technology, Pupils will be introduce to technical drawing and the iterative process.**	**Year 8 will develop the core skills introduced in year 7, placing greater emphasis on developing depth and understanding around key knowledge. Pupils will develop their technical drawing skills and use of equipment and tools.**	**Year 9 will embed key knowledge so that it is firmly fixed in the long term memory. Pupils will embed technical drawings skills. Embed the use of different tools and equipment in Design Technology.**	**Year 10 will secure knowledge so that it can be recalled, explored and built upon with ease. In Design Technology, will embed the NEA structure and expectation with core technical principles.**	**Year 11 will demonstrate mastery in the subject knowledge, making connections with other topics/subjects and applying it to different contexts. In Design Technology pupils will work independently to produce a portfolio and a prototype.**
Unit 1	Nature and the Environment Base Line Test to check knowledge. Pupils will learn about where raw materials come from and effects of logging and deforestation. *Develop the creative, technical and practical expertise. *Build and apply a repertoire of *knowledge, understanding and skills Critique, evaluate and test their ideas. Assessment: Pit-stop questions throughout the course and folder and product will be assessed. Links to Maths, Art, Geography and Science.	Organisation Recall knowledge from Year 7: One point perspective. Analysing, using workshop tools and Testing/Evaluating Where the raw material from plastic comes and how it is processed. The effects on the marine life and the environment. *Develop the creative, technical and practical expertise. *Build and apply a repertoire of *knowledge, understanding and skills Critique, evaluate and test their ideas. Assessment: Pit-stop questions throughout the course and folder and product will be assessed. Links to Maths, Geography, Art and Science.	Technical Drawing Pupils will develop skills they learnt in Lower KS3. Embed all the different drawing techniques from previous Years. *Develop the creative, technical and practical expertise. *Build and apply a repertoire of *knowledge, understanding and skills Assessment: Lagged learning and retrieval questioning. Technical drawing task throughout the project. Pupils to use their skills they have developed to produce a model street or business area, using technical drawings and nets. Links to Maths & Art	Consoles/Gaming Using Knowledge from previous Year 9 Pupils will secure understanding of NEA and technical skills. Pit-stop questions, retrieval and Lagged learning Core Skills material categories: Paper and Board Understand the NEA process. Knowledge of research, survey, Analysis. Developing design Ideas Knowledge of properties of wood. Assessment: Lagged learning and retrieval questioning. Pit-stop questioning and tests. Links to Maths, Geography, Art and Science.	Non Exam Assessment Using Knowledge learnt in previous years. Pupils to investigate, design and make a prototype of their solution. Pupils will be assessed using the AQA NEA Marking criteria. Iterative design process. Links to Maths, Geography, Art and Science.
Unit 1 knowledge end points	• I understand the effects of deforestation. • Analyse existing products. • Use one point perspective drawing. • Generate design ideas. • Develop design ideas.	• Origins of plastic. • Understand effects of plastic waste. • Use isometric drawing. • Generate design ideas. • Develop design ideas. • Can make a prototype of design. • Evaluate my work	• One point perspective • Two point perspective • Isometric • Oblique • Orthographic • Use of CAD and CAM using Tinker-CAD	• Origins of the different raw materials • How the materials are processed. • Environmental issues. • AO1 research section of the NEA.	• Identifying & investigating design possibilities

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Unit 2	Board Game Pupils will learn about raw materials. Skills of using technical drawing and the iterative process. *Develop the creative, technical and practical expertise. *Build and apply a repertoire of *knowledge, understanding and skills Critique, evaluate and test their ideas. Assessment: Pit-stop questions throughout the course and folder and product will be assessed. Links to Maths, Art, Geography and Science.	Fragrance bottle Use of knowledge from previous project. Lagged learning, re-visiting skills of analysis and designing Develop the creative, technical and practical expertise. *Build and apply a repertoire of *knowledge, understanding and skills Critique, evaluate and test their ideas Assessment: Lagged Learning questions, retrieval questions throughout the course. Folder and product will be assessed. Links to Maths, Art, Geography and Science.	Mobile/tablet stand Re-visit work produced in previous units. Lagged and retrieval questioning. Material properties. Material categories. Specialist techniques and processes. Ecological and social footprint. Assessment: Lagged Learning questions, retrieval questions throughout the course. Folder and product will be Links to Maths, Art, Geography and Science.	Console storage. Use of knowledge from previous project. Lagged learning, re-visiting skills of analysis and designing. Material properties. Material categories. Specialist techniques and processes. Ecological and social footprint. Assessment: Lagged Learning questions, retrieval questions throughout the course. Folder and product will be Links to Maths, Art, Geography and Science.	Non Exam Assessment Using Knowledge learnt in previous years. Pupils to investigate, design and make a prototype of their solution. Pupils will be assessed using the AQA NEA Marking criteria. Iterative design process. Links to Maths, Geography, Art and Science.
Unit 2 knowledge end points	• I understand how paper is formed. • Analyse existing products. • Use of technical drawing and CAD. • Generate design ideas. • Produce a prototype.	• Understand origins of polymers. • Analyse existing products. • Use of technical drawing and CAD. • Produce a prototype. • Use of tools and equipment.	• Origins of different materials • Understanding of the 6Rs • Material properties. • Use of tools and equipment. • Test and evaluate.	• Origins of different materials. • Fractional distillation. • Cracking • Material properties. • Use of tools and equipment. • Test and evaluate.	• Identifying & investigating design possibilities • Design and make a prototype fit for purpose. • Analyse and Evaluate •
Unit 3	Well Being Monster Toy Pupils will learn about raw materials. Iterative process and the use of textiles equipment and sewing machines. *Develop the creative, technical and practical expertise. *Build and apply a repertoire of *knowledge, understanding and skills Critique, evaluate and test their ideas. Assessment: Lagged learning, retrieval questions throughout the course. Folder and product will be assessed. Links to Maths, Art, Geography and Science.	**Recycled' Gadget Bag** Pupils will learn about raw materials. Iterative process and the use of textiles equipment and sewing machine. *Develop the creative, technical and practical expertise. *Build and apply a repertoire of *knowledge, understanding and skills Critique, evaluate and test their ideas. Assessment: Lagged learning, retrieval questions throughout the course. Folder and product will be assessed. Links to Maths, Art, Geography and Science.	Metal key ring Pupils will learn about raw materials. Iterative process and the use different tools and equipment. Material properties. Material categories. Specialist techniques and processes. Metal Stock forms. Ecological and social footprint. Assessment: Lagged learning, retrieval questions throughout the course. Folder and product will be assessed Links to Maths, Art, Geography and Science.	**New & emerging technologies** Pupils will learn about raw materials. Iterative process and the use different tools and equipment. **Smart Materials** **Composite Materials** **Material Properties** **Selection of materials and components.** **Forces and stresses.** **The modification of properties for specific purposes.** Assessment: Lagged learning, retrieval questions throughout the course. Folder and product will be assessed Links to Maths and Science.	**GCSE Revision** Pupils will learn Core Specialist skills and Specialist design principles. Go over all the over all the work covered in the five years. Assessment: Practice papers, retrieval questions. Links to Maths, Art, Geography and Science.

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Unit 3 knowledge end points	• Produce creative work, exploring their ideas and recording their experiences • Proficient in designing using different techniques. • Explore different designers, and understand the development of their designs. Experiments with different materials.	• Produce creative work, exploring their ideas and recording their experiences • Proficient in designing using different techniques. • Explore different designers, and understand the development of their designs. Experiments with different materials.	• Origins of metals • Material properties. • Stock forms. • Scale of production • Use of tools and equipment. Test and evaluate.	• Origins of metals • Material properties. • Stock forms. • Scale of production • Use of tools and equipment.	
Unit 4			**Nursery** Understand of the NEA. Investigate and explore design possibilities. Design and make prototype Analyse and Evaluate Material properties. Material categories. Specialist techniques and processes. Metal Stock forms. Ecological and social footprint. Assessment: Lagged learning, retrieval questions throughout the course. Folder and product will be assessed Links to Maths, Art, Geography and Science.	Non Exam Assessment Using Knowledge learnt in previous years. Pupils to investigate design and make a prototype of their solution. Pupils will be assessed using the AQA NEA Marking criteria. Iterative design process. Links to Maths, Geography, Art and Science.	
Unit 4 knowledge end points			• Identifying & investigating design possibilities • Design and make a prototype fit for purpose. • Analyse and Evaluate	• Identifying & investigating design possibilities	