Curriculum Map Year 10 DESIGN AND TECHNOLOGY

Following AQA GCSE Design and Technology Specification (a full copy of the specification can be found here)

Topic Name	**Term**	**Skills** developed with link to NC Subject content	Reflection on previous link in the curriculum	Progress to future link in the curriculum
Core technical principles *1.6 Material categories* **Specialist Technical Principles** *2.1 Selection of materials and components* *2.4 Source and origins* *2.5 Using and working with materials* *2.6 Stock forms, types and sizes* *2.8 Specialist techniques and processes* *2.9 Surface treatments and finishes* **Design and making principles** *3.1 Investigation, primary and secondary data* *3.2 Environmental, social and economic challenge* *3.3 The work of others* *3.5 Communication of design ideas* *3.10 Specialist tools and equipment* *3.11 Specialist techniques and processes*	*Autumn HT1*	*1.6* Timber categories and specific names/properties/uses *2.1-2.9* Timber topic – knowledge and understanding of content Practical activity – manufacture of peg for junior client. *2.8* Demonstration of key processes (laminating, steam bending routing) *3.1* Investigation techniques for primary data. Practical experience of creating questionnaire for client. *3.2* Deforestation and sustainable forest/FSC *3.3* Designers and company theory and activity/exam prep *3.5* Hand designing of a product based on research *3.10-11* Linked to 2.8	Year 7 Investigating Materials topic Year 7 Investigation Materials topic Year 7/8/9 uses of practical skills developed in topics Year 8/9 needs, wants and values or users. KS3 Geography curriculum Year 8 design topic past designers Year 7/8/9 design skills throughout all KS3 topic areas.	Link into 1.6 Material Categories in Spring HT1. Used in Y11 revision and KS5 in Autumn HT1 and HT2. Used throughout Year 11 in as
Core technical principles *1.2 Energy generation and storage* **Design and making principles** *3.3 The work of others* *3.4 Design strategies* *3.5 Communication of design ideas* *3.6 Prototype development*	*Autumn HT2*	*1.2* How energy is generated from range of source (fossil fuel, renewable sources, nuclear power and battery storage). *3.3* Focus on Philippe Stark and Harry Beck's work with Dyson/Alessi *3.5* 2D/3D sketching techniques (isometric/perspective/3rd angle orthographic *3.6* Produce model of Alessi 'style' product using card and/or Styrofoam – used to test, evaluate and develop ideas	KS3 Science Year 8 and 9 topics focussed on designer influence. Sketching techniques from Y8/9 topics Modelling skills from Y8/Y9 projects	Y11 revision Year 11 revision. KS5 study Throughout GCSE NEA (coursework) and other projects in Y10. Y11 revision Throughout GCSE NEA (coursework) and other projects in Y10. Y11 revision
Core technical principles *1.3 Development in new materials* **Specialist Technical Principles** *2.1 Selection of materials and components* *2.2 Forces and stresses* *2.4 Source and origins* *2.5 Using and working with materials* *2.6 Stock forms, types and sizes*	*Spring HT3*	*1.3* Modern, smart, composite materials and technical textiles *2.1* Social and cultural factors in selection of materials. Factors influencing decisions over materials. *2.2* Tension, compression, bending, torsion and shear definitions and examples *2.4* Source and origin, uses and stock form of paper and board	Y7 Investigating Materials topic Key Stage 3 Science Y7 Investigating Materials topic	Year 11 revision. KS5 study. Summer 2 mechanic devices Year 11 revision. KS5 study.
Specialist Technical Principles *2.1 Selection of materials and components* *2.3 Ecological and social footprint* *2.4 Source and origins* *2.5 Using and working with materials* *2.6 Stock forms, types and sizes* *2.8 Specialist techniques and processes* *2.9 Surface treatments and finishes* **Design and making principles** *3.2 Environmental, social and economic challenge*	*Spring HT4*	*2.1* -2.9 Project based learning through use of plastics *2.3* Where materials come from and the contextual effects of sourcing, transporting and manufacturing with range of materials *3.2* Deforestation, fair-trade and global warming	Y7 Investigating Materials topic Key Stage 3 Geography Key Stage 3 Geography	Year 11 revision. KS5 study. Year 11 revision. KS5 study. Year 11 revision. KS5 study.

Core technical principles *1.1 New and emerging technologies* **Specialist Technical Principles** *2.7 Scales of production* *2.8 Specialist techniques and processes* **Design and making principles** *3.7 Selection of materials and components* *3.8 Tolerances*	*Summer HT5*	*1.1* How industry, enterprise people and cultures influence the design and manufacture of products *2.7* Experience and understanding of volumes of production (prototype, batch, mass and continuous) *2.8* Use of jigs and templates in the accuracy and QC during manufacture *3.7* How functional needs, costs and availability of materials effect the choice of materials for manufacture *3.8* The use of tolerance measurements in production/QA	Y7 Investigating Materials topic	Year 11 revision. KS5 study. Year 11 revision. KS5 study. Year 11 revision. KS5 study.
Core technical principles *1.4 Systems approach to designing* *1.5 Mechanical devices* **Non Exam Assessment**	*Summer HT6*	*1.4* The use of electronics to control products. Inputs->Process->Outputs and control programmes for microprocessors *1.5* Use of levers, cams, gears, pulleys and linkages to create movement *NEA* 1. Identifying and investigating design possibilities 2. Producing a design brief and specification	Y8 Systems and control topic Y7 Investigating Materials topic Autumn 1 and 2 learning Key Stage 3 projects	Year 11 revision Year 11 revision