Curriculum Content Map — **Subject: Design Technology - Year 7**

Month			Rotation 1	Rotation 2
Cultural Transmission	Units of Work		**Technical Knowledge & Research** Safe working Recognising tools & machinery **Design** Introduction to design brief Introduction to design specification Introduction to manufacturing specification. **Analyse** Existing products Technical Knowledge & Research CAD, 3D Design **Planning** 3D Printing Sketching, annotating and researching Planning and Designing of Products Presenting final idea and ordering of materials **Making** Prototype Making A plant holder including journey from prototype through to finishing. **Evaluate** Evaluating final product User review Comparison and Critique.	**Technical Knowledge & Research** Safe working Recognising tools & machinery **Design** Introduction to design brief Introduction to design specification Introduction to manufacturing specification. **Analyse** Existing products Technical Knowledge & Research CAD, 3D Design **Planning** 3D Printing Sketching, annotating and researching Planning and Designing of Products Presenting final idea and ordering of materials **Making** Prototype Making A plant holder including journey from prototype through to finishing. **Evaluate** Evaluating final product User review Comparison and Critique.
	National Curriculum area – KS3		• 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 • use research and exploration, such as the study of different cultures, to identify and understand user needs • select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture • use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses • develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools • analyse the work of past and present professionals and others to develop and broaden their understanding • identify and solve their own design problems and understand how to reformulate problems given to them • test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups	• 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 • use research and exploration, such as the study of different cultures, to identify and understand user needs • select from and use specialist tools, techniques, processes, equipment and machinery precisely, including computer-aided manufacture • use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses • develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools • analyse the work of past and present professionals and others to develop and broaden their understanding • identify and solve their own design problems and understand how to reformulate problems given to them • test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups
	Substantive Knowledge	*The What!*	Students will start the year with an introduction to design and technology, which incorporates health and safety when using tools and machinery, through to designing and manufacturing a product. Students are then exposed to a range of media and ambitious techniques, including problem solving, product design, and the manipulation of plastics through 3-D printing. Students will learn how designers must consider cultural differences and needs whilst problem solving and in what ways these considerations can influence a final product design. The design and technology projects are designed to develop the students' skill base and subject knowledge and give them confidence in their ability to speak about their own work and the work of others.	
	Disciplinary knowledge	*The How!*	We ensure that every student has access to the necessary tools and materials to complete all of the design and make activities on this course. In term one, all students will learn how to use computer aided design (CAD) programmes to design a plant holder. This is built upon later in the year when the students learn how to 3-D print their design and further develop their research and analytical skills as they evaluate existing products before justifying their problem solving techniques.	
	Sequencing (Flow)	*Retrieval & Extension*	**Making** a. Tools b. Health and Safety c. Assembling Final Product **Designing** a. Introduction to b. Using pictures and words to communicate design needs. **Researching** a. Introduction to b. Ask questions to suggest ideas **Evaluation** a. Introduction to positives and negatives of product design. b. Like and Dislike about my final product c. Compare to similar products d. Recommend Changes to final Product **Builds From** - There is currently no DT content taught at KS2 in our feeder schools. **is further developed to.** - Using tools during the making of each product in each year group. - Designing a plant holder. - Designing of a Birdbox in Year 8 - Researching of Birdbox designs in Year 8	**Making** a. Tools b. Health and Safety c. Assembling Final Product **Designing** a. Introduction to b. Using pictures and words to communicate design needs. **Researching** a. Introduction to b. Ask questions to suggest ideas **Evaluation** a. Introduction to positives and negatives of product design. b. Like and Dislike about my final product c. Compare to similar products d. Recommend Changes to final Product **Builds From** - There is currently no DT content taught at KS2 in our feeder schools. **is further developed to.** - Using tools during the making of each product in each year group. - Designing a plant holder. - Designing of a Birdbox in Year 8 - Researching of Birdbox designs in Year 8
	Summative Assessment		Students will have a summative assessment on the deforming of plastics and associated skills. Students will complete a summative assessment on the creativity behind an idea, once all the research has been presented to them.	Students will have a summative assessment on the deforming of plastics and associated skills. Students will complete a summative assessment on the creativity behind an idea, once all the research has been presented to them. Their final design and evaluation will form their summative assessment.
Personal Empowerment	Virtue		1. Friendliness and Civility (September) 2. Justice and Truthfulness (October) 3. Courage (November) 4. Generosity (December) 5. Gratitude (January) 6. Good Speech (February)	1. Good Speech (February) 2. Good Temper (March) 3. Self-Mastery (April and May) 4. Compassion (June) 5. Good Sense (July)
	Link to Virtue	The opportunity to reflect, think deeply and critically about an issue.	Friendliness and Civility – Peer support in training in the workroom, understanding health and safety. Sharing of tools, peer-assessing tool skills Justice and Truthfulness – When reviewing own work, understanding how false advertisement might damage a products viability. Courage - in using unfamiliar tools and machinery. Generosity – allowing peers to use tools at busy periods Gratitude – Appreciation of products and how they have solved everyday problems Good Speech – Being honest about their skills and confidence levels with tools and machinery they are learning about.	Good Speech – Being honest about their skills and confidence levels with tools and machinery they are learning about. Good Temper & Good Humour – Looking at the product issue, and coming up with a design solution to meet the brief. Self –Mastery – Independent design and production of Plant Holder, keeping to a timetable. Compassion – Help with peer-feedback and evaluation in a caring and constructive way Good Sense – Use of tools and keeping safe in the work room environment.
Preparation for Work	Skill	*Transferable skills*	1. Listening (September) 2. Leadership (October) 3. Problem Solving (November) 4. Creativity (December) 5. Staying Positive (January) 6. Speaking (February)	1. Speaking (February) 2. Staying Positive (March) 3. Aiming High (April and May) 4. Speaking (June) 5. Teamwork (July)
	Link to Skill		Listening – I can listen to adults, follow instructions regarding the safe use and operation of machinery in the workroom and tell you what I heard. Leadership – I can describe how I am feeling to my team when discussing keeping everyone safe in the workroom. Problem solving – creating a design brief to solve a specific design problem. Creativity – A creative, yet appropriate design for a product that uses imagination. Staying Positive – Using feedback in a positive way relating to the design of products or tools. Speaking – Talking about processes they are undertaking when asking to explain processes	Speaking – Oracy in presentation of idea Staying Positive – Using feedback in a positive way relating to the design of products or tools. Aiming High – Looking for the best outcome for each product problem. Friendliness and Civility – Peer support in training in the workroom, understanding health and safety. Sharing of tools, peer-assessing tool skills Speaking – Oracy in presentation of idea Teamwork – working together, sharing tools and equipment
Preparation for Citizenship	SMSC & British Values	*Developing opinions on curent issues*	An appreciation that living under the rule of law protects individual citizens and is essential for their wellbeing and safety. Encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely	An appreciation that living under the rule of law protects individual citizens and is essential for their wellbeing and safety. Encourage students to accept responsibility for their behaviour, show initiative, and to understand how they can contribute positively to the lives of those living and working in the locality of the school and to society more widely
	Link to SMSC & British Values		Working safely and designing products that solve a problem.	Working safely and designing products that solve a problem.