

Year 7	2 Week Introduction Learn 3D Isometric Drawing skills, building on KS2 skills. Introduction to developments in D&T . The impact on the environment and responsibilities of designers.		
	Design Innovation 12 Week Rotation	Design Engineering 12 Week Rotation	Food & Nutrition 12 Week Rotation
	Building Independence, keeping keys safe: Lego Inspired 3D printed Key Fob 1. Research work of designers – Lego. 2. New & emerging technologies . 3. 3D CAD – sketch planes. 4. 3D CAD – Extruding & dimensioning 3D shapes. 5. 3D CAD – Surface sketching, extrude / cut. 6. 3D CAD – Fillets. 7. 3D CAD - Text 8. 3D CAD practice & apply skills. 9. Solve design problems inspired by the work of others . 10. Isometric drawing skills – final design 11/12. Apply 3D CAD skills to create own design. 13. Slicing 3D models to 3D print. Improving numeracy skills for young children: Laser Cut Ruler. 14. Introduction to 2D Design – Images & shapes. 15. New & emerging technologies . 16. 2D CAD - Bitmap & contouring shapes. 17. User centred design - target market . 18. User needs (theme page). 19. Generate ideas using user centred design . 20/21. Apply 2D CAD skills creating own design. 22. Systems and input, process, output . 23. Upgrade / Assessment lesson	Improving working from home – stylish phone holder 1. Sources & origins of materials. 2. Categories of woods, metals, and plastics. 3. What is product analysis ? User centred design. 4. Apply product analysis skills – phone holders. 5. Mechanisms – levers & linkages. 6. Introduction to design specifications . 7. Writing your own design specification. 8. Inspiration theme page for phone holder. 9. Design ideas for mechanical phone holder. 10. Purposes of modelling – make a card model. 11. Developing ideas – 3D idea development. 12. Use of production aids – making templates. 13. H&S / PPE in the workshop. 14. Practical skills – introduction to equipment & manufacturing recycled plastic. Introduction to: 15. Practical skills – marking out & cutting shapes. 16. Practical skills – cutting materials. 17. Practical skills – drilling materials. 18. Practical skills – finishing materials. 19. Practical skills – material finishes. 20 /21. practical skills – assembly skills. 22. Upgrade / Assessment lesson.	Building independence, key food skills, designing a healthy lunch. 1. What makes a healthy lunch? 2. What is personal hygiene ? 3. What is food safety ? 4. Equipment and their safe use . 5. Pasta Salad – knife skills (bridge & claw). 6. The Eatwell guide . 7. Pizza Toast – knife skills & using grill. 8. Analysing food . 9. Cheesy Chicken nuggets – food safety . 10. Nutrients – what & where are they? 11. Cheesy scones – rubbing in method . 12. Commodities – why is sugar dangerous? 13. Rocking rock cakes – rubbing in method 14. Cultures – religious influences 15. Veggie stir fry – knife & frying skills 16. Cultures – Chinese food. 17. Spring Rolls – Knife skills & oven safety 18. Fairtrade – introduction to fair trade 19. Apple & Sultana crumble – applying rubbing in method and oven safety 20. Food & the environment 21. Responding to a brief brief – designing your own menu “healthy school lunch” 22. As above 23. Responding to a brief – making your own healthy school lunch Evaluation – how well do you think you have done?

Year 8	<p>2 Week Introduction Build on design communication skills from Y7. Learn more advanced perspective and orthographic drawing. Revisit and build on developments in D&T, focusing on society and designer’s responsibilities.</p>		
	<p>Build children’s dexterity & fine motor skills: 3D Printed Spinning Top</p> <ol style="list-style-type: none"> 1. 3D CAD – sketch planes. 2. 3D CAD – Extruding & Dimensioning 3D shapes. 3. 3D CAD – Surface Sketching & Fillets. 4. 3D CAD – Revolves. 5. Designing a spinning top. 6. Applying 3D CAD skills to create own design. <p>Good night’s sleep? Help children get to sleep with mood lighting.</p> <ol style="list-style-type: none"> 7. Design brief analysis & specification writing. 8. Identify user needs. Theme page 9. Generating creative ideas using research. 10. 2-point perspective drawing - final design. 11/12. Applying 2D CAD creating own design. 13. Electrical components and soldering. 14/15. Apply skills / knowledge of electronics to make an LED circuit. 16/17/18. Apply CAD & Laser Cutting skills. 19. Learn specialist process line bending. 20. Evaluating designs against own specification 21. Explore Micro Controllers and Robotics. 22. Upgrade / Assessment lesson. 	<p>Helping the natural world – endangered species: Pipistrelle bat box</p> <ol style="list-style-type: none"> 1. Exploring a design brief. 2. Design approach bio mimicry – research page. 3. Creative design ideas for bat boxes. 4. Final design in isometric. 5. What are material properties & characteristics? 6. Properties & characteristics of woods, metals and plastics. 7. What are composite materials? 8. Making a composite material. <p>Developing:</p> <ol style="list-style-type: none"> 9. Practical skills – marking out materials. 10 / 11. Practical skills – cutting materials. 12. Practical skills – joining materials. 13 / 14. Practical skills – assembling materials. 15. Practical skills – material finishes. 16 / 17. Practical skills – apply design to product. 18 / 19. Apply orthographic drawing skills - bat box. 20. Evaluation against a specification (provided) 21. Mechanisms – CAMS 22. Upgrade / Assessment lesson. 	<p>What does a teenager need to eat? Why do they eat that?</p> <ol style="list-style-type: none"> 1. Exploring a design brief. 2. Importance of food safety. 3. Kitchen safety – risk assessments 4. Ragu pasta – Knife skills & all in one sauce 5. Nutrients – advanced knowledge 6. Burger – Food Hygiene – raw meat. 7. Sensory analysis of food. 8. Nutrients at different age groups. 9. Cheese straws – Rubbing in skills. 10. What is pastry? Use in the food industry. 11. Danish pastries – exploring puff pastry. 12. British cuisine – all about Cornish pasties. 13. Tomato soup – knife skills quality control. Introduction to using a blender. 14. Eatwell guide – Helping us be healthy. 15. Macaroni Cheese – cheese sauce 16. What is shortening? 17. Seasonality – How do seasons affect our food? How do we get food all year round? 18. Apple Pie – knife & pastry skills 19. Designing a recipe whilst following a brief (healthy teenagers’ meal) 20. As above 21. Making a meal that you have designed. 22. Evaluation of your meal what went well? How can you improve it? 23. Skills tracker and whole class feedback

Taking learning to the next level, the structure of our rotations changes in Y9 to ‘Product Design’ and ‘Engineering’, along with ‘Food & Nutrition’.

Students continue to apply and build on their knowledge from Y7 & 8, with a GCSE twist – giving students a flavour of what KS4 D&T involves.

Students complete two projects during the year for each rotation, followed by a STEM project at the end of the year.

	Rotate every 5 weeks	Project 1 Autumn 1- Spring 1	Project 2 Spring 1 – Summer 1	STEM Project Summer Term 2
Year 9	Product Design	Consolidating: Skills box project Practical skills Wood joints Materials Knowledge (woods) 2D and 3D design techniques	Footwear Design Develop research skills Design History Materials Knowledge 2D and 3D design techniques Developing creativity	Students will develop problem solving, teamwork and independent working skills through STEM projects, where they will apply what they have learnt throughout their time in KS3 Technology.
	Engineering	Structures - Bridge Project Research skills Working to a brief Materials, Properties and Characteristics of materials Engineering structures Model making	Coat hook Quality Control, manufacturing processes, technical drawing, CAD, accuracy in marking out, brazing hearth, Heat Treatment processes, use of gauges, bending metals, finishing processes, bending metals	
	Food & Nutrition	“Fakeaway” project Food culture - Why do people have takeaways? Why are takeaways bad for you? Importance of eating healthily and the consequences of a bad diet. Increasing their repertoire of predominately savoury dishes	Ready meal project Food Choice – why do people choose convenience? Increasing their repertoire of predominately savoury dishes	