Design and Technology

Year 7 remote learning curriculum map		
Term	What is being learnt	Resources and links
Autumn 1	**Graphics skills** • 2D elevations • Isometric • 1 point perspective • Rendering techniques These techniques should be practiced to work toward mastery of the skills. **Theory and understanding** • Contexts/users • Design opportunities • Investigating Needs and wants • Writing a brief and specification	https://www.youtube.com/watch?v=SYrtS24Q8Hg https://www.youtube.com/watch?v=4RRKkWzP0ug https://www.youtube.com/watch?v=qOojGBEsWQw https://www.youtube.com/watch?v=FLrCO4K2Wkw https://www.technologystudent.com/pdfs/custprf1.pdf https://www.technologystudent.com/designpro/problem1.htm
Autumn 2	**Designing (kitchen Bin project)** • Investigating a problem • Writing a brief and specification • Generating ideas • Developing and presenting ideas Theory and understanding • Sources and Origins of timbers • Working with timbers • Sources and origins of Paper and board • Working with paper and board	Class powerpoint https://www.technologystudent.com/pdf11/artrichy11.pdf https://technologystudent.com/pdf18/metals-and-woods-map1.pdf Answer the questions on woods on the knowledge map. https://technologystudent.com/pdf18/paper-boards-map1.pdf
Spring 1	• Textiles History and purpose of masks Research design and create a mask of your choice. Any material Any theme Must be wearable Knowledge and understanding • Sources and origins of fibres • Woven /felted • Technical textiles	https://www.bbc.co.uk/bitesize/guides/zjc3rwx/revision/1 https://www.youtube.com/watch?v=n6wshtbq9WA
Spring 2	• Chocolate Packaging Knowledge and understanding • Forces and stresses • • Sources and origins of pper	https://technologystudent.com/pdf18/paper-boards-map1.pdf
Summer 2	• Answer the questions on the woods and metals knowledge map by following the links to research the topics	https://technologystudent.com/pdf18/metals-and-woods-map1.pdf

Year 8 Design and Technology

Term	What is being learnt	Resources and activities
Autumn 1	Graphics skills • 1 point perspective • 2 point perspective • Line weights • Crating • Shading • Annotation **These techniques should be practiced to work toward mastery of the skills.** Theory and Understanding • Working with Contexts • Design Strategies • Environmental and social challenges	https://www.youtube.com/watch?v=_fnhWl2Z-Gw https://www.youtube.com/watch?v=SZ_bF7KnWQg https://www.youtube.com/watch?v=YEYQe_81M4U&t=358s https://www.youtube.com/watch?v=_uzSMAI5AuE&t=244s https://www.youtube.com/watch?v=FLrCO4K2Wkw&t=3s https://www.youtube.com/watch?v=JCyW4NI9znE&t=3s Design strategies class powerpoint https://technologystudent.com/PDF3/prod_dev1.pdf
Autumn 2	Designing • Systems approach to design • INPUT/PROCESS/OUTPUT • Identifying user needs • Iterative approach to development • Developing and testing prototypes Theory and Understanding • Mechanical systems • Motion • Levers • Linkages • Pulleys and gears • Cams	https://simplicable.com/new/iterative-design (examples of iterative design) https://www.youtube.com/watch?v=Rnsk5lA52ps (DATA iterative design video) https://www.youtube.com/watch?v=kkShIDVJuJo&list=PL70uI96Zm4WpJNuLhZxmIqwIbKUpEcm2R&index=11 https://www.youtube.com/watch?v=fkWFGmSqtHI&list=PL70uI96Zm4WqNabd3RzZDvXXGe1pwdv6m https://www.focuselearning.co.uk/programmes/?programme=focus-on-mechanisms-webgl&frompack=21 https://technologystudent.com/pdf18/mechanisms-map1.pdf Answer the questions on mechanisms
Spring 1	Mechanisms • Types of motion • Levers • Linkages • Pulleys and gears • Cams	https://www.focuselearning.co.uk/programmes/?programme=focus-on-mechanisms-webgl&page=&frompack=21& Complete the ALL TOPICS multiple-choice quiz and submit a screen shot of your score https://technologystudent.com/pdf18/mechanisms-map1.pdf https://technologystudent.com/pdf18/FORCES-map1.pdf
Spring 2	Ergonomics and access able design • Anthropometric data • History of games controllers • Modelling and testing	https://technologystudent.com/pdf19/ergonomics-knowledge-map1.pdf
Summer 1		
Summer 2	**Recap on mechanisms /ergonomics** Answer the questions on the knowledge maps by clicking the links to be taken to the appropriate reasources	https://technologystudent.com/pdf18/mechanisms-map1.pdf https://technologystudent.com/pdf18/FORCES-map1.pdf https://technologystudent.com/pdf19/ergonomics-knowledge-map1.pdf

Year 9 Design and Technology		
Autumn 1	Design thinking Covid 19 project Empathise Define Ideate Prototype Test Knowledge and understanding Metals • Sources and origins of metals • Environmental effects • Classifications • Typical applications • Cutting and forming • Joining • Finishing	Class powerpoint Develop and refine ideas using feedback from potential users. Use the allocated lesson time to develop the ideas as well as the skills required to communicate your ideas clearly and effectively https://www.technologystudent.com/pdf16/aluminiumcasting.pdf https://www.technologystudent.com/pdf16/welding.pdf https://technologystudent.com/pdf18/metals-and-woods-map1.pdf
Autumn 2	Design thinking Covid 19 project Empathise Define Ideate Prototype Test Knowledge and understanding Polymers • Sources and origins of polymers • Environmental effects • Classifications • Cutting and forming • Joining • Finishing	https://www.technologystudent.com/pdf6/plasty1.pdf https://www.technologystudent.com/pdf12/biop1.pdf https://www.technologystudent.com/pdf7/poly1.pdf https://technologystudent.com/pdf18/plastics-map1.pdf
Spring 1	Modernist Architecture • History of Bauhaus • Researching Architects work • Drawing Elevations (2D Views) • 2 point perspective architectural sketches • Sketch plans • Simple modelling These techniques should be practiced working toward mastery of the skills.	https://www.youtube.com/watch?v=ZQa0BajKB4Q https://www.youtube.com/watch?v=DBCa_jbxGfI
Spring 2	Folding Furniture – context project • Origami in space • Simple origami structures • Analysing a context • Designing and prototyping folding structures/products Knowledge and understanding • Forces /stress on sheet materials • What is paper made from	https://www.youtube.com/watch?v=Ly3hMBD4h5E https://www.youtube.com/watch?v=SKyApq49gYY https://www.technologystudent.com/designpro/richpic1.htm
Summer 1		
Summer 2	DT knowledge maps Use the supplied links to research and answer the questions on the linked knowledge map	https://technologystudent.com/pdf18/plastics-map1.pdf https://technologystudent.com/pdf18/mechanisms-map1.pdf https://technologystudent.com/pdf18/FORCES-map1.pdf https://technologystudent.com/pdf19/ergonomics-knowledge-map1.pdf

Year 10 Design and Technology		
Autumn 1	**Designing skills** Dieter rams project To use a range of graphical communications techniques to develop a bedside clock/lamp inspired by the work of dieter rams • 2D elevations • Isometric sketching • Perspective sketching • Line weight • Shading /shadows **Knowledge and understanding** Unit 6 designing principles • Investigation primary and secondary data • The work of others • Design strategies • Communication of design ideas	https://www.youtube.com/results?search_query=dieter+rams Seek you tube tutorials for each designing skills and practice . Design strategies HW Communication HW
Autumn 2	**Designing Skills** Contextual challenge project (MINI NEA) To analyse a context and identify design opportunities . To use iteration and user centred design to develop a bespoke solution. **Knowledge and understanding** Unit 3 – Materials Papers and boards Timber Metals and alloys Polymers Textiles	HW1 HW2 HW3 HW4 HW5
Spring 1	Frankfurt kitchen • Observing User experience • Room Planning • 1 point visualisations • 2 point visualisations • Room layout software	See teams
Spring 2	MINI NEA Contextual challenge project (MINI NEA) To analyse a context and identify design opportunities . To use iteration and user centred design to develop a bespoke solution.	See teams
Summer 1	GCSE NEA work	See teams for all resources
Summer 2		

Year 11 Design and Technology		
Autumn 1	**NEA** Section A & B Theory **Knowledge and understanding** Unit 3 – Materials Papers and boards Timber Metals and alloys Polymers Textiles	All resources on teams (and Moodle) HW1 HW2 HW3 HW4 HW5
Autumn 2	**NEA** Sections C&D Theory **Knowledge and understanding** Unit 4 – Common technical principles Forces and stresses Improving functionality Ecological and social footprint The Six R's Scales of production	All resources on teams (and Moodle) HW1 HW2 HW3 HW4 HW5