Design Technology Year 10

Learning Intentions Spring Term 2 2024-2025

	LESSON 1	LESSON 2	LESSON 3
WEEK 22 wc 24th Feb	Students should be able to understand and describe: • the role of mechanical devices to produce linear, rotary, reciprocating and oscillating movements.	Students should be able to understand and describe: • levers, linkages and rotary systems • the action of forces • how levers and gears transmit and transform the effects of forces.	
WEEK 23 wc 3rd March	Students should be able to understand and describe: • Functionality: application of use, ease of working. • Aesthetics: surface finish, texture and colour. • Environmental factors: recyclable or reused materials. • Availability: ease of sourcing and purchase.	Students should be able to understand and describe key concepts such as how materials can be reinforced by: • stiffening or making more flexible: e.g. lamination, bending, folding, webbing, fabric interfacing. • to resist tension, compression, bending, torsion and shear	**Practical learning** Resistant materials –Polymers Students will begin their initial sketches for a polymer ipad holder
WEEK 24 wc 10th March	Students should be able to demonstrate knowledge and understanding of the ecological and social footprint left by designers in relation to: • deforestation, mining, drilling and farming.	Students should be able to understand and describe key design issues related to the 6 Rs namely • reduce, refuse, re-use, repair, recycle and rethink.	

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WEEK 25 wc 17th March	Students should be able to understand and describe key concepts linked to social issues and plastics such as: • reducing oceanic/ atmospheric pollution • reducing the detrimental (negative) impact on others.	Students should be able to understand and describe key concepts linked to: • primary sources of materials and the main processes involved in converting into workable forms for at least one material area. • Paper and board (how cellulose fibres are derived from wood and grasses and converted into paper).	**Practical learning** Resistant materials - Polymers Students will utilise the CAD/CAM facilities to produce an accurate prototype of their ipad holder
WEEK 26 wc 24th March	Students should be able to understand and describe key concepts linked to: • primary sources of materials and the main processes involved in converting into workable forms for at least one material area. • timber based materials (seasoning, conversion and creation of manufactured timbers).	Students should be able to understand and describe key concepts linked to: • primary sources of materials and the main processes involved in converting into workable forms for at least one material area. • metal based materials (extraction and refining).	
WEEK 27 wc 31st March	Students should be able to understand and describe key concepts linked to: • primary sources of materials and the main processes involved in converting into workable forms for at least one material area. • Polymers (refining crude oil, fractional distillation and cracking).	Students should be able to understand and describe key concepts linked to: • primary sources of materials and the main processes involved in converting into workable forms for at least one material area. • textile based materials (obtaining raw material from animal, chemical and vegetable sources, processing and spinning).	**Practical learning** Resistant materials – Polymers Students will clean and polish their ipad holder design using appropriate techniques and demonstrating Health and safety awareness at all times in the workshop.