

Long term plan KS4. Y11 WJEC Engineering. 2021 to 2022

Term 1	Lesson	Topic	AC	Homework	Term 2	Lesson	Topic	AC	Homework	Term 3	Lesson	Topic	AC	Homework	
Week 1 + 2	1	Unit review and intro. Material properties review + material types. Look at examples of products and their uses of materials. LO 1	1.1 1.2	Primary function task. Primary features task.	Week 1 + 2	36	Interpreting engineering drawings & information review LO 1	1.1 1.2	Planning task	Week 1 + 2	1				
	2	Product analysis and reverse engineering. Disassemble the bike lights. AC 1.3	1.3			37	Planning engineering production review. ID resources and sequence activities. LO2	2.1 2.2			2				
	3	Investigate products lesson 2.	1.3			38	Hand tools review. Files and saws. Shaping wood and acrylic. LO3	3.1 4.1			3				
	4	Review of exam work from Y10.				39	Review use of the pillar drill. Review marking out and accurate drilling. Review the use of the disc sander LO3.	3.2 4.1			4				
	5	Identify primary functions and features of products, what does this mean? How to write these on an assessment. practice AC 1.1	1.1 1.2			40	Lathe processes review, facing off and drilling. LO3 LO4	3.2 4.1			5				
Week 3 + 4	6	Primary functions review and improve.	1.1 1.2	Sketching skills. Exploded drawings.	Week 3 + 4	41	Soldering and line bending review. LO3.	3.2 4.1	Planning task	Week 3 + 4	6				
	7	Identify features that fit with the brief. AC 1.2 Analysis of briefs	1.2			42	Assessment introduction. Interpreting the engineering drawing AC 1.1	1.1			7				
	8	AC 1.2 review and improve	1.2			43	Interpreting the information. AC 1.2	1.2			8				
	9	How to write a specification AC 3.3	3.3			44	Identify resources and planning AC 2.1 and AC 2.2	2.1 2.2			9				
	10	Specification reviews and improvements.	3.3			45	Identify resources and planning AC 2.1 and AC 2.2	2.1 2.2			10				
Week 5 + 6	11	Drawing skills. Sketching and annotation. 2D and 3D sketches. AC 2.1, 2.2	2.1 2.2	Orthographic task. Research task.	Week 5 + 6	46	Manufacturing processes. Making the lamp. LO3 and LO4. Initial marking out and cutting the base pieces.	3.1 3.2 4.1	Tools and processes identification task	Week 5 + 6	11				
	12	Bike light ideas, assessment practice. Annotations	3.1 3.2			47	Manufacturing processes. Making the lamp. LO3 and LO4. Shape and assemble base pieces. Drill centre holes. Turn and drill uprights.	3.1 3.2 4.1			12				
	13	Bike light ideas, assessment practice. Annotations	3.1 3.2			48	Manufacturing processes. Making the lamp. LO3 and LO4. Mark out and cut the acrylic shades. Turn and drill uprights.	3.1 3.2 4.1			13				
	14	Modelling lesson. Foam models of bike lights.	3.1 3.2			49	Manufacturing processes. Making the lamp. LO3 and LO4. Smooth and line bend the acrylic shades. Turn and drill uprights.	3.1 3.2 4.1			14				
	15	Orthographic drawing review. Views and positioning	3.3			50	Manufacturing processes. Making the lamp. LO3 and LO4. Threading uprights. Cutting blocks to size, face off and mark out.	3.1 3.2 4.1			15				
Week 7 + 8	16	Orthographic drawing review. Title boxes and dimensions	3.3	Camera drawing. 2D Design	1/2 Term					1/2 Term					
	17	Exploded and assembly drawings.	3.3		Week 7 + 8	51	Manufacturing processes. Making the lamp. LO3 and LO4. Threading uprights. Cutting blocks to size, face off and drill.	3.1 3.2 4.1	Soldering and circuit construction review task	Week 7 + 8	16				
	18	2D Design lesson. Creating CAD drawings on 2D Design.	3.3			52	Manufacturing processes. Making the lamp. LO3 and LO4. 2D Design. Draw and laser cut acrylic feet and light spacer.	3.1 3.2 4.1			17				
	19	2D Design lesson. Creating CAD drawings on 2D Design.	3.3			53	Manufacturing processes. Making the lamp. LO3 and LO4. Cut and thread the long bars. Circuit construction. Solder the battery and LEDs.	3.1 3.2 4.1			18				
	20	Tinker CAD	3.3			54	Manufacturing processes. Making the lamp. LO3 and LO4. Cut and thread the long bars. Circuit construction. Solder the switch.	3.1 3.2 4.1			19				
1/2 Term						55	Manufacturing processes. Making the lamp. LO3 and LO4 Final assembly.	3.1 3.2 4.1			20				
Week 9 + 10	21	Assessment introduction. Design brief analysis and specification Task 1	1.1 1.2 3.3	TinkerCAD drawing 1	Week 9 + 10	56	Manufacturing processes. Making the lamp. LO3 and LO4. Review and quality checks.	(4,2)	Lamp progress review	Week 9 + 10	21				
	22	Assessment: Design brief analysis and specification Task 1	1.1 1.2 3.3			57	Manufacturing processes. Making the lamp. LO3 and LO4. Review and quality checks.	(4,2)			22				
	23	Assessment: Design brief analysis and specification Task 1	1.1 1.2 3.3			58	Compile reports and unit 2 evidence				23				
	24	Assessment Ideas and sketches. Task 2	2.1 2.2 3.2			59	Compile reports and unit 2 evidence				24				
	25	Assessment Ideas and sketches. Task 2	2.1 2.2 3.2			60	Compile reports and unit 2 evidence				25				
Week 11 + 12	26	Evaluate and analyse ideas. Task 2	2.1 2.2 3.2	TinkerCAD drawing 2	Week 11 + 12	61	Catch-up and report completion. (Unit 1 and unit 2)			Week 11 + 12	26				
	27	Assessment. Final drawings. Hand drawn or CAD. Task 3	3.1			62	Catch-up and report completion. (Unit 1 and unit 2)				27				
	28	Assessment. Final drawings. Hand drawn or CAD. Task 3	3.1			63	Catch-up and report completion. (Unit 1 and unit 2)				28				
	29	Assessment. Final drawings. Hand drawn or CAD Task 3	3.1			64	Catch-up and report completion. (Unit 1 and unit 2)				29				
	30	Assessment. Final drawings. Hand drawn or CAD Task 3	3.1			65	Catch-up and report completion. (Unit 1 and unit 2)				30				
Week 13 + 14	31	Assessment. Final drawings. Hand drawn or CAD Task 3	3.1												
	32	Unit 2 introduction. Wood marking out and cutting wood joints review													
	33	Use of the lathe review. Facing off and drilling.													
	34	Xmas activities													
	35	Xmas activities													

Y11 MOCK EXAMS ALSO TAKING PLACE

Complete all assessment work by EASTER
 Easter holiday begins 11th April
 Last day for students Wed 6th April
 Inset 7th /8th April