The Polygon School

Design Technology Long Term plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	Industry Led Projects
Year 7	Base line assessment Health and safety unit **R.M/product design** wooden vehicle project **Textiles** Ugly Monster	**R.M/product design**. Wooden Christmas decorations reindeer, Xmas tree **Textiles** Fabric Christmas stocking	**R.M/product design**. Wooden box **Graphics** Introduction to one-point and two-point perspective drawing.	**R.M/product design.** Wall Clock **Electronics** E.on lighting project Street lighting electrical systems	**R.M/product design** Robot project **Robotics** Lego education Spike	**R.M/product design**. Motorised car	E.on Lighting project. This is an industry led project looking at purpose of product, why research skills are important. What insulators and conductors are. Basic circuits design. Designing a new street light system and building using copper tape
Year 8	**Graphics** Chocolate Packaging project **RM / Product design** Sweet machine	**Resistant materials / Product design** Sweet machine Xmas glass painting	**Engineering** Marble run. **Robotics** Lego education Spike	**Resistant Materials / Product design** Resin coaster Bird box	**Electronics/ product design** 3 weeks USB light project **Inspired by Industry** 10-14 weeks Celebrating success Design a new UEFA Europa Conference League trophy.	**Inspired by Industry** 10-14 weeks Celebrating success Design a new UEFA Europa Conference League trophy.	Inspired by Industry This is an industry lead project that focuses on Product design, materials technology, ergonomics. With students following the stages and methods that are used in industry to design and produce a scaled prototype for a new UEFA Europa Conference League trophy. The stage of the design process are: empathize, define, ideate, prototype, test
Year 9	**Industry Lead Project QinetiQ Power Boat challenge** 10 weeks Or **NCFE Entry level** 20 hrs make project with course work Course evidence log Either Resistant materials, graphics or textiles project	**Industry Lead Project QinetiQ Power Boat challenge** 10 weeks Or **NCFE Entry level** 20 hrs make project with course work Course evidence log Either Resistant materials, graphics or textiles project	When student starts depends on skill level. **NCFE Entry level 30 lessons** 20 hrs make project with course work. Either Resistant materials, graphics, or textiles project. **Electronics** Adjustable table lamp using USB light PCB	When student starts depends on skill level. **NCFE Entry level 30 lessons** 20 hrs make project with course work. Course evidence log Either Resistant materials, graphics or textiles project. Or **CAD/ CAM** Tinker Cad design	When student starts depends on skill level. **NCFE Entry level 30 lessons** 20 hrs make project with course work. Course evidence log Either Resistant Materials, Graphics or textiles project. **NCFE Level 1/2 Technical Award in Creative Design and Production** Student workbook 1 **Content area 1** **Design and production in context** Lesson 1-5	**NCFE Level 1/2 Technical Award in Creative Design and Production** Student workbook 1 **Content area 1:** Lesson 6- 10	Qinetiq Power Boat challenge Industry lead STEM competition for a group of Y8 /9 (5 students max). Design and build a r/c boat, race against other schools. Work with outside company, who come into support students with their design and build. Learn about marine industries different paths including designing, testing, and building different types of boats.

Y10	Year 10 When student starts depends on skill level. **NCFE Entry level** 20 hrs make project with course work. Course evidence log Or **NCFE Level 1/2 Technical Award in Creative Design** Student workbook 1 **Content area 1:** **Design and production in context** Lessons 11-15	Year 10 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 1 **Content area 1:** **Design and production in context** Lesson 16- 20 Design movements	Year 10 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 2 **Content area 2:** **Design materials and processes** Introduction to content area Lesson 1- 10 – Materials properties	Year 10 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 2 **Content area 2:** **Design materials and processes** Lesson 10: A case study Lesson 11- 17 Surface treatments and finishing techniques	Year 10 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 2 **Content area 2:** **Design materials and processes** Lesson 18 –30 Design process And Digital design and manufacture opportunities	Year 10 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 3 **Content area 3:** Introduction Lesson 1- 5 Design Brief and Production Processes	I construct careers trip This is an industry lead careers event at Cemast Fareham college, with various construction companies offering live demonstration of different types of jobs available with careers guidance and apprenticeship routes explained. This is for Y10 and Y11

Y 11	Year 11 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 3 **Content area 3:** Lesson 4- 16 Design Brief and Production Processes **NEA portfolio**	Year 11 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 3 and 4 **Content area 3:** Lesson 17 -28 Design Brief and Production Processes **Content area 4:** Lesson 1-10 Presentation of a design solution **NEA portfolio**	Year 11 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 5 & 6 **Content area 5:** **Review of processes and solution** **Content area 6:** **Working in the design production industries** **NEA portfolio**	Year 11 NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 5 & 6 **Content area 6:** **Working in the design production industries** **NEA portfolio** **Exam Revision**	Year 11 Exam Revision Mock exam papers	Year 11	**Industry Led Projects** I-construct careers trip This is an industry lead careers event at Cemast Fareham college, with various construction companies offering live demonstration of different types of jobs available with careers guidance and apprenticeship routes explained. This is for Y10 and Y11