The Polygon School

Design Technology Medium Term plan

YEAR 7 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links	Industry Led Projects
Autumn 1	What do you already know about DT? Base line assessment Health and safety unit	• I understand the Health and Safety rules for the workshop and have had training on how to use Disc Sander, Fret saw, Pillar Drill and various hand tools. • I can list 5 Health and safety rules for the workshop. • I can explain why Health and safety rules are important. • I can explain the 3 types of Timber classification.	Health and safety passport Workshop tools	PSHE – Responsibility Science –Plants and trees Art- sketching Numeracy, literacy and SMSC embedded through every project Introduction to new environment. Health and Safety passport Evaluating your and peers' ideas Working independently New practical skills Links to design and production jobs	
	R.M/product design wooden vehicle project **Materials:** Timber classification. Where does timber come from. **Design:** Introduction to sketching ideas and evaluation designs. **Make:** Use of hand tools and machines Project booklet.	• I know how to do basic sketching • I can design a vehicle and initial sketches with notes. • I can select materials needed with help. • I can work safely while making the project • I can work independently at times during my practical work. • I can identify good or bad points about my work	Traffic light project sheets Paper, pencils Project booklets Material, workshop tools		
	Textiles Ugly Monster **Materials:** Polymers Classification. What are natural polymer and Manufactured polymers. **Make:** Introduction to hand sewing and four basic stitches. Design and make Ugly Monster.	• I can produce a basic manufacturing specification. • I can use images to make a mood board of ideas. • I can with help cut material out using a template. • I can work independently at times during my practical work. • I can with help hand sew correctly and safety. • I have produced a product which is finished. • I can identify good or bad points about my work independently.	Traffic light project sheets Paper, pencils Project booklets Sewing materials Sewing equipment- needle thread	Art- sketching Numeracy, literacy and SMSC embedded through every project Introduction to hand sewing Different types of materials Production steps Independence Problem solving Creativity Links to Textile /Fashion jobs	
Autumn 2	**R.M/product design**. Wooden Christmas decorations reindeer, Xmas tree **Make:** Introduction to scroll saw. Use of hand tools and machines	• I can produce some basic planning and create a template. • I can with help use hand tools and scroll saw • I can produce a product which has a basic level of making and have used finishing techniques. • I can say one good and one bad point about my design.	Traffic light project sheets Paper, pencils Project booklets Hand tools Workshop machinery Paints, varnish	Art –sketching Maths- measuring in mm and cm Numeracy, literacy and SMSC embedded through every project Class debate on safe use of tools Independence Creative thinking Research methods	
	Textiles Fabric Christmas stocking **Design**: Introduction to pattern template and developing sketching. **Make:**	• I can produce some basic planning and create a template. • I can with help use sewing machine and equipment. • I can produce a product which has a basic level of making and have used finishing techniques. • I can say one good and one bad point about my design.	Traffic light project sheets Paper, pencils Project booklet Sewing materials Sewing machines	Art –sketching Maths- measuring in mm and cm Numeracy, literacy and SMSC embedded through every project Class debate on safe use of sewing equipment	

	Hand sewing and introduction to using sewing machine.		Sewing equipment- needle thread	Independence Creative thinking Research methods Use of templates Links to product design careers and fashion	
Spring 1	**R.M/product design**. Wooden box **Make:** Introduction to butt joint. Use of hand tools and machines Project booklet. **Evaluate:** What makes a good wooden box? How can you improve your skills? **Graphics** Introduction to one-point and two-point perspective drawing. **Design:** Designing for users Rendering CAD design development	• I can use simple images to create a design. • I can use simple information found to add detail to my idea e.g. sample sizes, materials etc. • I can develop a basic manufacturing specification. • I can follow health and safety rules for different tools and equipment. • I can explain the look of my design, and with some help explain why this is the case. • I understand horizon line and vanishing point. • I can draw simple shapes (boxes) using one-point perspective. • I can use a ruler for accurate lines to the vanishing point. • I understand the difference between one point and two-point perspective.	Traffic light project sheets Paper, pencils Project booklet Exemplar practical examples Hand tools Traffic light project sheets Plain paper, pencils, Drawing boards Work sheets PowerPoint	ICT – Using internet for research Maths – measuring and nets Numeracy, literacy and SMSC embedded through every project Class debate why initial ideas are important The role of a designer and customer Numeracy, literacy and SMSC embedded through every project Maths – measuring, 2D and 3D nets Art- proportions Accuracy Designing in 2D and 3D The role of a CAD / CAM in industry Technical drawing	
Spring 2	**R.M/product design.** Wall Clock **Design:** Designing for users **Materials:** Working with acrylics and / or wood, cutting and finishing techniques. **Make:** Select and use tools Project booklet. **Evaluate:** What went well, what would you change **Electronics** E.on lighting project Street lighting electrical systems Introduction to basic electronic circuits using copper tape. Introduce Ohms law and how to use soldering iron safely. **Design and make:** A new street light system using copper tape.	• I can find images which are relevant to my task. • I can use colour/texture to make my ideas look realistic. • I can select and use a range of tools and equipment safely and independently. To produce a product with limited accurately. • I can identify at least two quality checks for my practical work • I can identify ways of making my work look and work better. • I can find images of existing products and other simple information beyond the classroom. • I can explain my idea and listen to peer feedback. • I can identify some basic electronic terms such as resistor, switch, battery. • I can with help produce a working circuit or use basic fault-finding techniques. • I can identify ways of making my work look and work better.	Traffic light project sheets Paper, pencils Project booklet Exemplar practical examples Hand tools Materials Laptops Traffic light project sheets Paper, pencils Project worksheets Exemplar practical examples Soldering iron, electronic tools and components Conductive play dough	Numeracy, literacy and SMSC embedded through every project Maths- Measurement mm and cm, circles and angles Maths and Asdan – telling the time Literacy- Evaluation product Art- colour/ texture and shapes Reading an analogue clock accurately Sketching neatly Resilience Creativity Role of a designer Numeracy, literacy and SMSC embedded through every project Maths- Bar charts, Literacy- research generation information Science- Conductor and Insulators PSHE – Across All years (Local community) Demonstrate good road safety Accuracy when drawing maps Resilience Peer feedback giving and receiving What is an electrician? Differences between electrical and electronic engineering	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
Summer 1	**Robotics** Lego education Spike **Coding:** Electrified Select one group project Build and then program using Lego Spike equipment	• I can with help write a basic program to move an object or make it complete a task. • I can with help produce a working circuit or use basic debug techniques. • I can identify ways of making my work look and work better.	Traffic light project sheets Lego education Spike kits Laptop with Lego program on it.	ICT- Programming and de-bugging Asdan – teamwork Literacy- following writing instruction Resilience Creativity Problem solving Role of a team work in a group project, allocation of jobs.	

	R.M/product design Robot project Make: Use of hand tools and machines. Finishes types to use. Project booklet	• I can use simple images to create a design. • I can use simple information found to add detail to my idea e.g. sample sizes, materials etc. • I can develop a basic manufacturing specification. • I can follow health and safety rules for different tools and equipment.	Traffic light project sheets Project work sheets Workshop tools and equipment Pencils, paint, varnish	Programming and robotics ICT- Robotics Asdan – teamwork Literacy- following writing instruction English- group discussion Resilience Creativity Problem solving Role of a designer. What can robots do in the future	
Summer 2	**R.M/product design**. Motorised car **Make:** Use of hand tools and machines. Finishes types to use **Evaluation and testing:** Test the car and modify the build if needed.	• I can with help identify the different types of wood. • I can follow health and safety rules for different tools and equipment. • I can identify at least two quality checks for my practical work • I can identify ways of making my work look and work better.	Traffic light project sheets Project work sheets Workshop tools Pencils, paint, varnish Soldering iron plus equipment	Art- colour mixing and design Asdan – Independence Literacy- following writing instruction Maths- Measuring in mm and cm Resilience Creativity Problem solving Role of a team work in a group project, allocation of jobs. Programming and robotics	

YEAR 8 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links	Industry Lead Projects
Autumn 1	**Graphics** Packaging project Design: Promotional packaging for a new product. Design: Designing for a user and client. What is an isometric projection? Develop design ideas using CAD Make: Produce promotional packing for a new product Introduction to two-point perspective. Health and safety passport for any new Students	• I can explain why packaging is important. • I can use simple information found to add detail to my idea e.g. sample sizes, materials etc. • I can develop one or two ideas using colour to make them look realistic. • I can produce a packaging design which has a product name and a neat graphic design. • I can explain the look of my design, and with some help explain why this is the case.	Health and safety passport Pencil, felt tips Traffic light project sheets Paper, pencils Project booklets Samples for blind testing	PSHE – Responsibility Science –Plants and trees Art- sketching Numeracy, literacy and SMSC embedded through every project Introduction to new environment. Health and Safety passport Introduction to hand sewing Evaluating your and peer's ideas New practical skills Links to design and production careers	
Autumn 2	**RM / Product design** Sweet machine **Make:** Develop independence in using tools, start to use production plans. Follow technical drawings.	• I can produce some basic planning. • I can select materials needed with help. • I can with help use hand tools and scroll saw • I can work independently at times during my practical work. • I have produced a product which is finished. • I can evaluate my work.	Traffic light project sheets Paper, pencils Project booklets Hand tools Workshop machinery Paints, varnish	Art –sketching Maths- measuring in mm and cm Numeracy, literacy and SMSC embedded through every project Independence Creativity Craft hand skills Accuracy Links to carpentry and craft careers	
	RM / Product design Resin coaster **Materials:** What is resin? **Design:** Develop specification and final ideas **Make:** Introduction to mixing resin and manipulation resin for different products.	• I can produce some basic planning. • I can select materials needed with help. • I can with help cut material out. • I can work independently at times during my practical work. • I have produced a product which is finished. • I can identify 3 good or bad points about my work	Traffic light project sheets Paper, pencils Project booklets Resin equipment Materials 3D printer Tinker CAD software Laptops	Maths- measuring in mm and ml Numeracy, literacy and SMSC embedded through every project Art – mosaic designs Independence Creativity Craft hand skills Accuracy	
Spring 1	**Engineering** Marble run	• I can use simple information found to add detail to my idea e.g. sample sizes, materials etc. • My development work uses a mixture of sketches and labels to tell the teacher about the materials and sizes. • I can produce some basic planning. • I can produce a product which is mainly finished and uses two or more skills. • I can identify if my work needs modification, and rework with help. can explain what is meant by reusable and recyclable.	Traffic light project sheets Paper, pencils Project booklets Cardboard various thicknesses Scalpels, scissors, cutting mat Marbles	Numeracy, literacy and SMSC embedded through every project Science – Velocity, speed, trajectory Independence Creativity Problem solving Accuracy Links to engineering and STEM careers	
Spring 2	**Textiles** Juggling balls **Make:** Learn how to use sewing machine and to develop hand sewing skills	• I can follow a production plan. • I can with help cut material out using a template and sew using tacking technique. • I can work independently at times during my practical work.	Traffic light project sheets Paper, pencils Project booklets Sewing equipment	Numeracy, literacy and SMSC embedded through every project Maths- measuring in mm and cm Independence Creativity	

	Bird box **Design and make:** Design and build a bird box	• I can with help use a sewing machine. • I can identify 3 good or bad points about my work • I can find images which are relevant to my task. • I can produce a mind map of my research. • I can produce a specification with help for my project. • I can use colour/texture to make my ideas look realistic. • I can follow health and safety rules for different tools and equipment. • I can identify good and bad points about my product and suggest ways to resign or develop my product.	Fabric / felt Traffic light project sheets Paper, pencils Project booklets Workshop tools and equipment Pine Exemplar bird boxes Laptop for research	Problem solving Accuracy Numeracy, literacy and SMSC embedded through every project Maths- measuring in mm and cm Art –Texture and colour Independence Creativity Problem solving Accuracy Research skills Links to carpentry and design careers	
Summer 1	**Electronics/ product design** USB light project **Materials:** What is a circuit? Introduction to resistors and PCBs. **Make:** Learn how to use soldering iron and populate PCB. **Evaluate:** Does your product work? How can you fix problems? **Inspired by Industry** Celebrating success **Design:** Design a new UEFA Europa Conference League trophy. **Make:** Produce a prototype of final idea Product design, materials technology, ergonomics.	• I can with help produce a working PCB or use basic fault-finding techniques. • I can with help identify different plastics. • I can with help design a case for circuit board. • I can say /document where my product does /does not fit a specification and why. • I can identify opportunities for celebrating success with an award or trophy • I can produce a design brief based on my research • I can develop a clear manufacturing specification which is suitable for the intended project. • I can show a variety of different ideas that cater for different people's likes and tastes, with reference to my research. • I can use materials and techniques to make experimental test pieces in 2D and or 3D. • I can say /document where my product does /does not fit a specification and why.	Traffic light project sheets Paper, pencils Project booklets Electronic tools and equipment Kitronik USB light kit Traffic light project sheets Paper, pencils Laptops iPad Tinker Cad 3D Printer Cardboard Paint Scalpels, cutting boards Inspired by Industry Celebrating success PowerPoint	Numeracy, literacy and SMSC embedded through every project Science- Electronic circuits Independence Creativity Fault finding on circuit Soldering techniques Links to Electonic and electrical systems and control careers Numeracy, literacy and SMSC embedded through every project Science Maths- mm and cm, 2D and 3D shapes Art – Shapes and texture Independence Creativity Problem solving Accuracy Research skills	**Inspired by Industry project 10-14 weeks** Pentagram are a global design agency working across graphic design, digital design, product design and experiences. They were involved in the design of the UEFA Europa Conference League Trophy. This context asks you to consider 'Celebrating Success'. Area(s) of focus Product design, prototyping, user-centred design. Links to the National Curriculum The resource covers a full design, make and evaluate process, but also suggests investigative and evaluate task, and relevant focused tasks. Technical knowledge: CAD, rapid prototyping, maths and science, visual and technical communication.
Summer 2	**Inspired by Industry** Celebrating success **Design:** Design a new UEFA Europa Conference League trophy. **Make:**	• I can identify opportunities for celebrating success with an award or trophy • I can produce a design brief based on my research • I can develop a clear manufacturing specification which is suitable for the intended project. • I can show a variety of different ideas that cater for different people's likes	Traffic light project sheets Paper, pencils Laptops iPad Tinker Cad 3D Printer Cardboard	Numeracy, literacy and SMSC embedded through every project Science Maths- mm and cm, 2D and 3D shapes Art – Shapes and texture Independence Creativity	**Inspired by Industry project 10-14 weeks** Pentagram are a global design agency working across graphic design, digital design, product design and experiences. They were involved in the design of the UEFA Europa Conference League Trophy.

	Produce a prototype of final idea Product design, materials technology, ergonomics	and tastes, with reference to my research. • I can use materials and techniques to make experimental test pieces in 2D and or 3D. • I can say /document where my product does /does not fit a specification and why	Paint Scalpels, cutting boards Inspired by Industry Celebrating success PowerPoint	Problem solving Accuracy Research skills	This context asks you to consider 'Celebrating Success'. Area(s) of focus Product design, prototyping, user-centred design. Links to the National Curriculum The resource covers a full design, make and evaluate process, but also suggests investigative and evaluate task, and relevant focused tasks. Technical knowledge: CAD, rapid prototyping, maths and science, visual and technical communication.

YEAR 9 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links	Industry Lead Projects
Autumn 1	**Industry Lead Project** **QinetiQ Power Boat challenge** Industry lead STEM competition for a group of KS3. Design and build a r/c boat.	• Design a radio –controlled boat as a team, research and investigated materials that could be used. • Each team must build their own radio-controlled model powerboat using the supplied propulsion pack and ensure that it is ready for competition. • Each team must also produce a design board on A3 card, showing how they designed and built their model, as well as any problems they had, and how they were overcome. Be as creative as you like with the board, as a prize will be awarded for the best one! • Up to 5 students to go to the race and compete against other schools. • I can fault find and make modifications. • I can be part of a team that presents ideas to judges.	Health and safety passport Pencil, felt tips Traffic light project sheets Paper, pencils Laptop Modelling materials CAD/CAM	PSHE – teamwork Science –buoyance Art- sketching Asdan- research Introduction to new environment. Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving New practical skills Links to Marine industry Outside company coming into support	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.
Autumn 2	**Industry Lead Project** **QinetiQ Power Boat challenge** Industry lead STEM competition for a group of KS3 students Design and build a r/c boat.	• Design a radio –controlled boat as a team, research and investigated materials that could be used. • Each team must build their own radio-controlled model powerboat using the supplied propulsion pack and ensure that it is ready for competition. • Each team must also produce a design board on A3 card, showing how they designed and built their model, as well as any problems they had, and how they were overcome. Be as creative as you like with the board, as a prize will be awarded for the best one! • Up to 5 students to go to the race and compete against other schools. • I can fault find and make modifications. • I can be part of a team that presents ideas to judges.	Health and safety passport Pencil, felt tips Traffic light project sheets Paper, pencils Laptop Modelling materials CAD/CAM	PSHE – teamwork Science –buoyance Art- sketching Asdan- research Numeracy and literacy SMSC Introduction to new environment. Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving New practical skills Links to Marine industry Outside company coming into support	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.
	NCFE Entry level 20 hrs make project with course work Course evidence log Either Resistant materials, graphics or textiles project.	• I can understand the design context and select a suitable design task. • I can show a variety of different ideas that cater for different people's likes and tastes, with some reference to my research. • I can organise resources needed to make the product • I can prepare work area • I can demonstrate the ability to select and use tools and materials correctly and safely. • I can make the art or craft product using the required materials. • I can wear the appropriate personal protective equipment (PPE) and understand why it is needed. • I can evidence and keep records of my project in an organised way.	NCFE entry level course student evidence booklet. Workshop equipment. Modelling materials CAD/CAM Laptops paper	ICT- using PowerPoint and word documents Art- sketching Asdan- research Numeracy and literacy SMSC Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records New practical skills Links next steps for GCSE's	
Spring 1	**NCFE Entry level** 20 hrs make project with course work	• I can understand the design context and select a suitable design	NCFE entry level course student	ICT- using PowerPoint and word documents	

	Course evidence log Either Resistant materials, graphics or textiles project.	task. • I can show a variety of different ideas that cater for different people's likes and tastes, with some reference to my research. • I can organise resources needed to make the product • I can prepare work area • I can demonstrate the ability to select and use tools and materials correctly and safely. • I can make the art or craft product using the required materials. • I can wear the appropriate personal protective equipment (PPE) and understand why it is needed. • I can evidence and keep records of my project in an organised way.	evidence booklet. Workshop equipment. Modelling materials CAD/CAM Laptops paper	Art- sketching Asdan- research Numeracy and literacy SMSC Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records New practical skills Links next steps for GCSE's	
Spring 2	**NCFE Entry level** 20 hrs make project with course work Course evidence log Either Resistant materials, graphics or textiles project.	• I can understand the design context and select a suitable design task. • I can show a variety of different ideas that cater for different people's likes and tastes, with some reference to my research. • I can organise resources needed to make the product • I can prepare work area • I can demonstrate the ability to select and use tools and materials correctly and safely. • I can make the art or craft product using the required materials. • I can wear the appropriate personal protective equipment (PPE) and understand why it is needed. • I can evidence and keep records of my project in an organised way.	NCFE entry level course student evidence booklet. Workshop equipment. Modelling materials CAD/CAM Laptops paper	ICT- using PowerPoint and word documents Art- sketching Asdan- research Numeracy and literacy SMSC Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records New practical skills Links next steps for GCSE's	
Summer 1	**NCFE Level 1/2 Technical Award in Creative Design and Production** Student workbook 1 Content area 1 Design and production in context	Student workbook 1 **Content area 1:** **Design and production in context** Lesson 1: Introduction to the course and preparation for starting your 'design journey' Lesson 2: Introduction to design movements Lesson 3: Design movement: Arts and Craft (1860 – 1915) Lesson 4: Analysing the work of William Morris or Charles Voysey Lesson 5: William Morris printing experiments	NCFE level 1/ 2 Technical award student booklet 1 NCFE level 1/ 2 Technical award teaching schemes of work PowerPoint lessons	ICT- using PowerPoint and word documents Art- sketching, design movements, mood boards Asdan- research techniques Numeracy and literacy SMSC Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records	
Summer 2	**NCFE Level 1/2 Technical Award in Creative Design and Production** Student workbook 1 Content area 1 Design and production in context	Student workbook 1 **Content area 1:** **Design and production in context** Lesson 6: Design movement: Art Nouveau (1880 – 1914) Lesson 7: Design movement: Art Deco (1920 – 1940) Lesson 8: Design movement: Bauhaus (1919–1933) Lesson 9: Bauhaus: What is 'good design'? Lesson 10: Modernism (1914–1939)	NCFE level 1/ 2 Technical award student booklet 1 NCFE level 1/ 2 Technical award teaching schemes of work PowerPoint lessons	ICT- using PowerPoint and word documents Art- sketching, design movements, mood boards Asdan- research techniques Numeracy and literacy SMSC Resilience Independence Group discussions	

				Evaluating your and peer's ideas Problem solving Keeping records	

YEAR 10 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links	Industry Lead Projects
Autumn 1	Year 10 When student starts depends on skill level. **NCFE Entry level** 20 hrs make project with course work. Course evidence log For students ready to start GCSE qualification. Introduction to course and requirements NCFE Level 1/2 Technical Award in Creative Design and Production	Student workbook 1 **Content area 1:** **Design and production in context** Lesson 11: Modernism: Mood board and furniture design Lesson 12: Design movement: Memphis (1981–1988) Lesson 13: Design movement: Post-modernism (1945 – late 20th Century) Lesson 14: Post-modernism: 'have you met the challenge?' Lesson 15: Environmental impact	NCFE level 1/ 2 Technical wards Student booklet 1 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM NCFE entry level student booklet	PSHE – Responsibilities Science –Enviromental Art- Design movements Numeracy and literacy Introduction to new design movements Group discussions Evaluating your and peer's ideas Problem solving Independence Critical thinking New practical skills Links to creative design and production careers Outside company coming into support	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
Autumn 2	Year 10 When student starts depends on skill level either **NCFE Entry level** 20 hrs make project with course work. Course evidence log For students ready to start GCSE qualification. NCFE Level 1/2 Technical Award in Creative Design and Production Book 1	Student workbook 1 **Content area 1:** **Design and production in context** Lesson 16: Sustainable versus unsustainable properties of Nylon: Good practice in the design process Lesson 17: Rethink: Design brief Introduction to the design task Research and plan: Design and present: Lesson 18: Rethink design Lesson 19: Design conclusion Lesson 20: Showcase of designs and conclusion of learning	NCFE level 1/ 2 Technical wards Student booklet 1 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM	PSHE – Responsibilities Science –Enviromental Art- Design movements Numeracy and literacy Introduction to new design movements Group discussions Evaluating your and peer's ideas Problem solving New practical skills Links to creative design and production careers Construction Graphic design	
Spring 1	Year 10 When student starts depends on skill level either NCFE Entry level 20 hrs make project with course work or NCFE Level 1/2 Technical Award in Creative Design and Production Book 2 Design materials and processes	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 2 Lesson 1: types of Materials Lesson 2: Properties and characteristics: Strength Lesson 3: Properties and characteristics: Elasticity Lesson 4: Properties and characteristics: Plasticity Lesson 5: Properties and characteristics: Malleability Lesson 6: Properties and characteristics: Density Lesson 7: Properties and characteristics: Ductility Lesson 8: Properties and characteristics: Durability Lesson 9: Aesthetics	NCFE level 1/ 2 Technical wards Student booklet 2 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM	Science – Materials strengths Art- sketching Numeracy and literacy Resilience Health and Safety Group discussions Evaluating your and peer's ideas Problem solving Keeping records Critical thinking Retrieval of information New practical skills Links next steps for colleges	
Spring 2	**NCFE Entry level** 20 hrs make project with course work Course evidence log	NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 2 Lesson 10: A case study	NCFE level 1/ 2 Technical wards Student booklet 2	ICT- using PowerPoint and word documents Art- sketching	

	Either Resistant materials, graphics or textiles project. Or NCFE Level 1/2 Technical Award in Creative Design and Production Book 2 Design materials and processes	Lesson 11: Surface treatments and finishing techniques – Textiles Lesson 12: Surface treatments and finishing techniques – Papers and boards Lesson 13: Surface treatments and finishing techniques – Wood Lesson 14: Surface treatments and finishing techniques – Polymers Lesson 15: Surface treatments and finishing techniques – Metals Lesson 16: Surface treatments and finishing techniques – Smart materials Lesson 17: Surface treatments and finishing techniques – Costings Lesson 18: The design process: Stages one and two Lesson 19: The design process: Stage three - research Lesson 20: Development of ideas	NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM	Asdan- research Numeracy and literacy Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records Critical thinking Independence New practical skills Links next steps for careers in Creative design industries	
Summer 1	**NCFE Level 1/2 Technical Award in Creative Design and Production** Student workbook 2 Content area 2 Design materials and processes	NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 2 **Content area 2:** **Design materials and processes** Lesson 21: Specifications and applying principles of good design Lesson 22: Idea development: Review, visual communication, Feedback and evaluation Lesson 23: Modifying and refining ideas Lesson 24: Prototyping Lesson 25: The design process: Testing Lesson 26: Test, modify and finalise designs Lesson 27: Computer Aided Design (part 1) Lesson 28: Computer Aided Design (part Lesson 29: Computer Aided Manufacture Lesson 30: A case study Knowledge check: Content area 2	NCFE level 1/ 2 Technical wards Student booklet 2 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM	ICT- using PowerPoint and word documents Art- sketching Asdan- research Work skills – Commumication skills Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records Critical thinking Independence Ability to cretic ideas New practical skills Links next steps for careers in Creative design industries	
Summer 2	**NCFE Level 1/2 Technical Award in Creative Design and Production** Student workbook 2 Content area 3 Design and production in context	NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 3 **Content area 3: Design Brief and Production Processes** Introduction Lesson 1: Interpreting a design brief The design brief: What is it? Lesson 2: Interpreting a design brief Lesson 3: Interpreting the Design Brief Lesson 4: Communication Skills Client Communication Effective Communication Lesson 5: Communication Skills Conducting Surveys Positives and Negatives of using surveys Interviews, Focus Groups	NCFE level 1/ 2 Technical award student booklet 3 NCFE level 1/ 2 Technical award teaching schemes of work PowerPoint lessons	Work skills – Communicating with potential customers / clients Art- Interpretation brief, concept sketches Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records Critical thinking Independence New practical skills Links next steps for careers in Creative design industries	

YEAR 11 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links	Industry Lead Projects
Autumn 1	**NCFE Level 1/2 Technical Award in Creative Design and Production** Content area 3 NEA	NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 3 **Content area 3: Content area 3: Design Brief and Production Processes** Lesson 6: Communication Skills Lesson 7: Graphical Communication Visual Communication- Sketching Lesson 8: Graphical Communication 3D Drawing Methods Lesson 9: Graphical Communication Lesson 10: Digital Communication Skills Prototypes and 3D modelling Lesson 11: Digital presentations Lesson 12: The Design Solution Process and the design specification Lesson 13: Mood boards, research questions Lesson 14: Initial ideas, annotating ideas Lesson 15 and 16: Design Solution presentation These lessons work in conjunction with the released NEA for that year. **NEA –** 60% of grade total of 16 hours to complete this NEA (plus 2 hours to develop a resource pack). With 25% extra for students with access arrangements. Task 1a: Research methods and techniques Task 1b: Presentation of initial design ideas Task 2: Developing the selected design Task 3: Plan of production stages for scale model and risk assessment of tools and equipment used. Task 4: Developing and reviewing a final scale model Task 5: Reviewing the design project	NCFE level 1/ 2 Technical wards Student booklet 3 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM NEA for the year NCFE entry level student booklet	Art – Sketching ICT- PowerPoint Numeracy and Literacy throughout coursework Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records New practical skills Links next steps for careers in Creative design industries	
Autumn 2	**NCFE Level 1/2 Technical Award in Creative Design and Production** Content area 3 and 4 NEA	Student workbook 3 **Content area 3: Design Brief and Production Processes** Lessons-17-18: Client feedback. Design Solution Modification in response to feedback Lessons 19-21: Safe work practices Lesson 22-28: Production plans and methods Student workbook 4 **Content Area 4: Presentation of a design solution** Lessons 1-10 Purposes of presentation Methods of presentation Presentation skills for a design solution These lessons work in conjunction with the released NEA for that year. **NEA –** 60% of grade total of 16 hours to complete this NEA (plus 2 hours to develop a resource pack). With 25% extra for students with access	NCFE level 1/ 2 Technical wards Student booklets 3 &4 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM NEA for the year	Art – Sketching ICT- PowerPoint Numeracy and Literacy throughout coursework Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records New practical skills	

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Spring 1	**NCFE Level 1/2 Technical Award in Creative Design and Production** Content area 5 NEA	NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 5 **Content area 5:** **Design materials and processes** **Lessons 1-10:** These lessons work in conjunction with the released NEA for that year. **NEA –** 60% of grade total of 16 hours to complete this NEA (plus 2 hours to develop a resource pack). With 25% extra for students with access arrangements Task 1a: Research methods and techniques Task 1b: Presentation of initial design ideas Task 2: Developing the selected design Task 3: Plan of production stages for scale model and risk assessment of tools and equipment used. Task 4: Developing and reviewing a final scale model Task 5: Reviewing the design project	NCFE level 1/ 2 Technical wards Student booklet 5 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM NEA for the year	Art – Sketching ICT- PowerPoint Numeracy and Literacy throughout coursework Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records New practical skills Links next steps for careers in Creative design industries	
Spring 2	**NCFE Level 1/2 Technical Award in Creative Design and Production** Book 6 NEA	NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 6 **Content area 6:** **Design materials and processes** **Lessons 1-10:** These lessons work in conjunction with the released NEA for that year. **NEA –** 60% of grade total of 16 hours to complete this NEA (plus 2 hours to develop a resource pack). With 25% extra for students with access arrangements Task 1a: Research methods and techniques Task 1b: Presentation of initial design ideas Task 2: Developing the selected design Task 3: Plan of production stages for scale model and risk assessment of tools and equipment used. Task 4: Developing and reviewing a final scale model Task 5: Reviewing the design project	NCFE level 1/ 2 Technical wards Student booklet 2 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM	Art – Sketching ICT- PowerPoint Numeracy and Literacy throughout coursework Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records New practical skills Links next steps for careers in Creative design industries	
Summer 1	**NCFE Level 1/2 Technical Award in Creative Design and Production** Content area 6 Exam preparation	NCFE Level 1/2 Technical Award in Creative Design and Production Student workbook 6 **Content area 6: Working in the Design Industries** **Lessons 1-10** These lessons work in conjunction with the released NEA for that year. **NEA –** 60% of grade total of 16 hours to complete this NEA (plus 2 hours to develop a resource pack). With 25% extra for students with access arrangements	NCFE level 1/ 2 Technical wards Student booklet 6 NCFE Scheme of work, and PowerPoints Pencil, felt tips Sketch books Paper, pencils Laptop Modelling materials CAD/CAM	Art – Sketching ICT- PowerPoint Numeracy and Literacy throughout coursework Resilience Health and Safety passport Group discussions Evaluating your and peer's ideas Problem solving Keeping records	

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Summer 2	NCF Level 1 /2 Creative Design and Production	Exam Preparation Revision and mock exam papers	Revision booklets Mock exam papers		