

## Food route



**Food Science and Nutrition:**  
Revise and practice exam papers in preparation for your final exam in FOOD.

**FINAL GCSE EXAM**

Sources, types and nutritional value. Primary and secondary processing.  
**Knife skills:** portioning, filleting & deskinning

**PROTEIN: MEAT/FISH**

**Macronutrients:** Introduction to basic nutrition, understand why we need energy and where we get it from. Focus on Carbohydrates & Fats – their source, function and the effects of deficiency and excess

**CARBOHYDRATES /FATS & OILS**

**Making:**  
Term 2: Vegetable soup, Shepherd's pie, Pasta bake & Quiche

**YEAR 10**

**Mood Lighting project**

**Make:** Using stripboard/wiring to assemble a USB powered circuit with different type of LEDs. Use a range of papers and boards to assemble a card using both CAD CAM and a craft knife.

**Core Theory:** Papers and boards, composite materials, smart materials.

**Design:** Using nets and translucent paper to create detailed and clear silhouettes.

**Make:** Using timbers to produce a mechanical toy.

**Mechanisms Project**

**Theory:** Mechanisms theory including cams, levers, linkages and gears.

**Design:** Designing a creative and fun mechanical toy using cams, linkages and/or gears.

**Make:** Sublimation printed work that has been scanned in, embroidered / machine stitching over the top. Piece has a combination of mixed media to portray their identity, which can be attached to a bag / placed within a photo frame.

**TEXTILES: "I AM" (Portrait project)**

**Materials:** Mixed media, polyester fabric, sublimation printing.  
**Artists:** Maurizio Anseri, Deborah Klein, Nathaniel Mary Quinn, Picasso, Susie Vickery.

**Design:** Creating a self identity piece reflecting the student's personality, interests and features.

**KS4**

After choosing GCSE options in year 9, we focus your studies in years 10 & 11, through exciting, real life projects. Deepen your understanding of DT in the world around us whilst developing products that help various needs and users.

**Design:** Isometric projection, CAD development CAM – use of laser cutter to customize casing.

**Testing / Modelling:** Will my product work? What can I do to improve it?

**PHONE CASE**

**Design:** Analyse existing products to identify strengths & weaknesses. Design the structure, fastening and embellishment for your case

**Make:** Sublimate your design panel. Produce a high-quality case focusing on accuracy and detail.

**FUSION FOOD**

**Origin of food:** field to plate. Function of ingredients. Review and apply Eatwell guide, designing food which fuses culture.

**Making:** Fajitas, Tabbouleh, Curried rice & Pasta primavera

**WHY AND HOW DO WE COOK FOOD?**

**Making:** Vegetable Soup, Shepherd's Pie, Kebabs with flatbread, Apple turnovers

Have you ever considered why we cook food? And the science behind how the heat is transferred into our food which cooks it? We will look at Conduction, Convection & Radiant heat and the effects it has on how our food looks and what it tastes like.

**SPEAKER PROJECT**

**Evaluate:** At each stage of making, how can you improve your product? Would you change anything?

**Design:** Designing for a user and client. What is an isometric projection? Develop design ideas using CAD.

**Make:** Focus on high quality finish. Using mitre & tenon saws, sander and chisel for joints. Engraving with laser cutter

**Design:** Designing for a user and client. What is an isometric projection? Develop design ideas using CAD.

**Materials:** Wood classification. Where does timber come from? What is plywood? What are its properties?

**PHONE STAND**

**Design:** Designing for a specific user. Detailed circuits, input process and out puts. Switches, microchips, capacitors LED's

**SPEAKER PROJECT**

**Make:** Basic soldering, copper tape circuit line-bending, use of card, paper and fabric to customize the product.

**Design:** Designing for a specific user Simple circuits, input process and out puts.

**Materials:** Working with recycled fabrics. Impact of textiles on the environment.

**Make:** Joining techniques. Sewing by hand and by sewing machine.

**Nutrition:** Eatwell guide, 5-a-day campaign and the nutritional panels on food packaging.

**Making:** Pasta salad, carrot cake, quesadilla, pizza and cheese & courgette scones.

**FOOD FOR A HEALTHY LUNCHBOX**

**YEAR 8**

**NIGHTLIGHT PROJECT**

**Materials:** Polymers Classification. What is a polymer? What is a circuit?

**Evaluate:** What makes a good keyring? How can you improve your skills?

**Evaluate:** Does your product work? How can you fix problems?

**PATCHWORK POPART CUSHION**

**Design:** Basic 2D drawing techniques. Working with geometric shapes Lay planning.

**Materials:** Acrylic – origin, types and material properties.

**Design:** Designing for users Shading & Rendering.

**ACRYLIC KEYRING**

**Baseline Assessment:** What do you already know about DT?

**Introduction to the workshop:** Health and Safety.

**YEAR 7**

**KS3**

Experience a wide range of fun and exciting projects that teach you valuable skills in the workshop, understanding different materials and how they work.

## Electronics route

**Core content and specialist knowledge:**  
Revise and practice exam papers in preparation for your final exam in DT.

**FINAL GCSE EXAM**

**EXAM REVISION**

**AO3: Evaluate & Test:**  
Gain feedback throughout your project, and test your final product – have you met your brief?

**AO2: Realise Design ideas:** Manufacture your product using skills and processes used throughout your DT journey.

**AO2: Generate & Develop Design Ideas:** Develop your sketches and communicate ideas. Developing them using modelling techniques.

**AO1: Specification & Brief:** Clarify the needs and wants of the project writing your own brief & specification.

**AO1: Research & investigation**  
Follow on from your summer task to further understand the context. Client interviews, product, site analysis and designer research.

**Initial Concept Sketches:**  
What ideas do you have already? Can you visualize them?



**Investigate the design possibilities:**  
What is the design context? What research can you carry out to

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**YEAR 11**

**NEA COURSEWORK**

**Make:** through hole soldering & drilling on individualized PCBs. Assembling & finishing cases to a high quality.

**Systems Theory:** Materials processing, treatments & finishing techniques

**GCSE NEA CONTEXTS**

**KS4**

**Systems Theory:** Materials and stock forms  
**Research & Specification:** Conducting research into the problem. Identifying a user, specification

**Design:** using CAD to design templates for photoetching. Using CAD to design & adapt advanced circuits. Sketching designs for product ideas by hand. Using 2D design for accurately laser cutting casings in layers.

**Security Project**



**Systems Theory:** Design contexts, Sources, origins & sustainability.

**Make:** Using flying leads with inputs & outputs. Neat & accurate cable management. Programming in products. Making cases using slot joints/ tabs.

**Display Stand project**

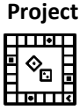


**Design:** looking at fashions and trends to produce 3D isometric designs advertising an interest area. Conducting market research. Exploded drawings. Using CAD to program microcontrollers.

**Make:** Using MDF layers. Finishing techniques. PCB soldering skills & using 555 timers. Using recycled materials.

**Core Theory:** Informing design decisions

**Board Game Project**



**Make:** Using stripboard/wiring to assemble a USB powered circuit with different type of LEDs. Use a range of papers and boards to assemble a card using both CAD CAM and a craft knife.

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**Design:** Using nets and translucent paper to create detailed and clear silhouettes.

**Mood Lighting project**



**Theory:** Mechanisms theory including cams, levers, linkages and gears.

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**Artists:** Maurizio Anseri, Deborah Klein, Nathaniel Mary Quinn, Picasso, Susie Vickery

**TEXTILES: "I AM" (Portrait project)**



**Design:** Creating a self identity piece reflecting the student's personality, interests and features

**YEAR 10**

**Core Theory:** New and emerging technologies

**Design:** Designing a board game for a specific target market. 2D design for customizing designs. Simple circuits on CAD modelling software (Yenka)

**Core Theory:** Informing design decisions



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**Making:** Vegetable Soup, Shepherd's Pie, Kebabs with flatbread, Apple turnovers

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**YEAR 9**

**FUSION FOOD**



**Origin of food:** field to plate. Function of ingredients. Review and apply Eatwell guide, designing food which fuses culture

**Make:** Sublimate your design panel. Produce a high-quality case focusing on accuracy and detail



**PHONE CASE**



**Design:** Analyse existing products to identify strengths & weaknesses. Design the structure, fastening and embellishment for your case

**Testing / Modelling:** Will my product work? What can I do to improve it?

**Design:** Isometric projection, CAD development, CAM – use of laser cutter to customize casing

**Advanced soldering:** Use of PCB to develop soldering work



**PHONE STAND**



**Materials:** Wood classification. Where does timber come from? What is plywood? What are its properties?



**Design:** Designing for a user and client. What is an isometric projection? Develop design ideas using CAD



**Make:** Focus on high quality finish. Using mitre & tenon saws, sander and chisel for joints. Engraving with laser cutter

**Evaluate:** At each stage of making, how can you improve your product? Would you change anything?



**SPEAKER PROJECT**



**Design:** Designing for a specific user. Detailed circuits, input process and out puts. Switches, microchips, capacitors LED's

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**Make:** Joining techniques. Sewing by hand and by sewing machine



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**Making:** Pasta salad, Carrot cake, Quesadilla, Pizza and Cheese & courgette scones.



**YEAR 8**

**PATCHWORK POPART CUSHION**



**Evaluate:** Does your product work? How can you fix problems?

**Design:** Basic 2D drawing techniques. Working with geometric shapes. Lay planning

**NIGHTLIGHT PROJECT**



**Materials:** Polymers Classification. What is a polymer? What is a circuit?



**Evaluate:** What makes a good keyring? How can you improve your skills?



**Make:** Shaping wire. Heat setting. Cutting to shape. Embossing acrylic. Abrading to a high-quality finish. Drilling.



**Design:** Designing for users. Shading & Rendering.



**Materials:** Acrylic – origin, types and material properties



**ACRYLIC KEYRING**



**Baseline Assessment:** What do you already know about DT?



**Introduction to the workshop:** Health and Safety



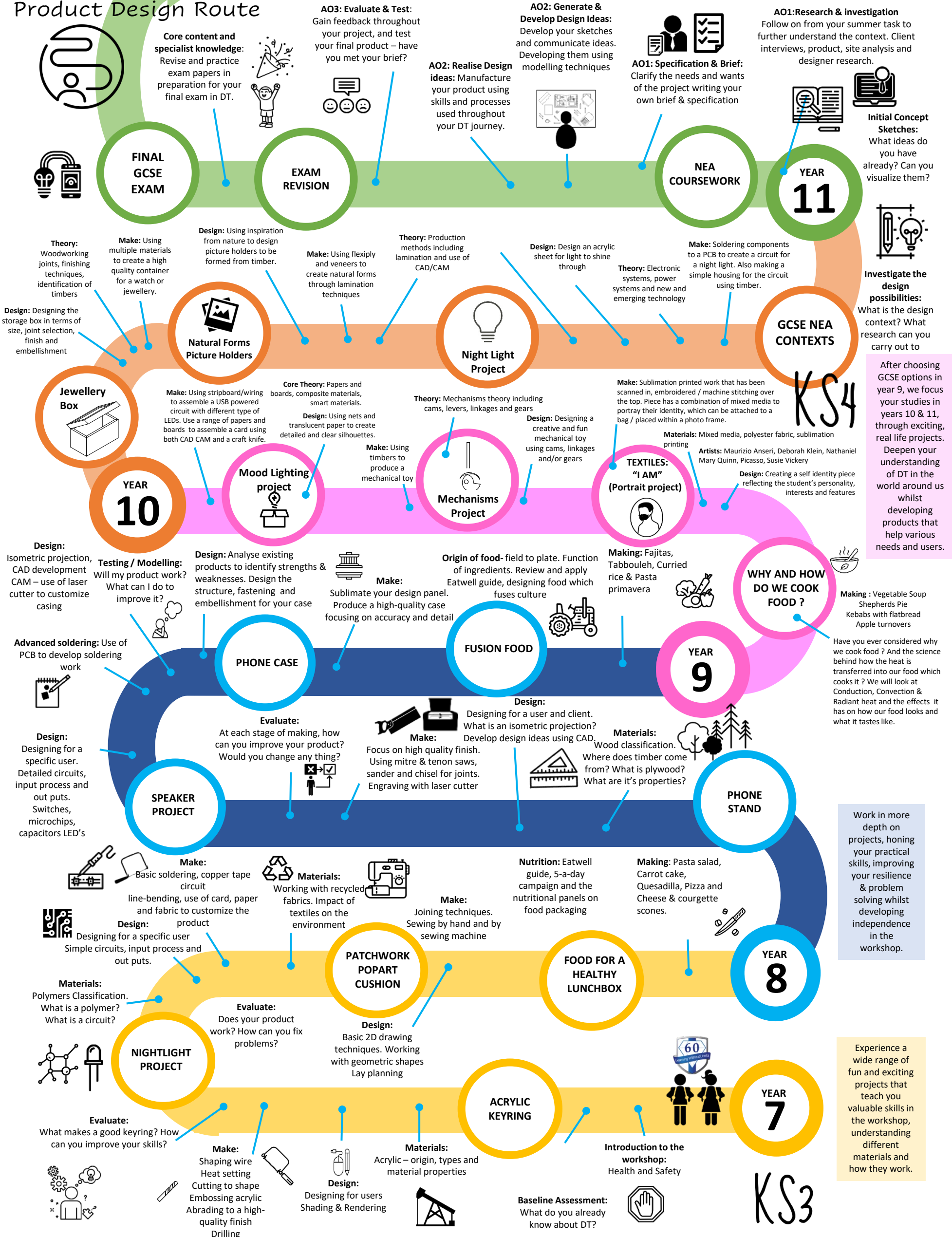
**YEAR 7**

**KS3**

Work in more depth on projects, honing your practical skills, improving your resilience & problem solving whilst developing independence in the workshop.

Experience a wide range of fun and exciting projects that teach you valuable skills in the workshop, understanding different materials and how they work.

## Product Design Route



**Core content and specialist knowledge:** Revise and practice exam papers in preparation for your final exam in DT.

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**AO1: Research & investigation** Follow on from your summer task to further understand the context. Client interviews, product, site analysis and designer research.

**FINAL GCSE EXAM**

**EXAM REVISION**

**NEA COURSEWORK**

**YEAR 11**

**Natural Forms Picture Holders**

**Night Light Project**

**GCSE NEA CONTEXTS**

**YEAR 10**

**Mood Lighting project**

**Mechanisms Project**

**TEXTILES: "I AM" (Portrait project)**

**WHY AND HOW DO WE COOK FOOD?**

**PHONE CASE**

**FUSION FOOD**

**YEAR 9**

**SPEAKER PROJECT**

**PHONE STAND**

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**KS4**

**KS3**

**Design:** Designing the storage box in terms of size, joint selection, finish and embellishment

**Make:** Using multiple materials to create a high quality container for a watch or jewellery.

**Design:** Using inspiration from nature to design picture holders to be formed from timber.

**Make:** Using flexibly and veneers to create natural forms through lamination techniques

**Theory:** Production methods including lamination and use of CAD/CAM

**Design:** Design an acrylic sheet for light to shine through

**Make:** Soldering components to a PCB to create a circuit for a night light. Also making a simple housing for the circuit using timber.

**Theory:** Electronic systems, power systems and new and emerging technology

**Design:** Isometric projection, CAD development CAM – use of laser cutter to customize casing

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**Design:** Designing for users Shading & Rendering

**Materials:** Acrylic – origin, types and material properties

**Introduction to the workshop:** Health and Safety

**Baseline Assessment:** What do you already know about DT?

## Textile Design Route

