



Design Technology is how it works



Year 13

NEA Make NEA Evaluate

NEA Make, Unit 7: Public interaction, Maths focus: Use of statistics & probability as a measure of likelihood, NEA Make, Revision, NEA Evaluate, Revision



Product Design

NEA Research/ Design, Review material & mechanics

NEA Design/ Make, Review electronics & smart materials

Food & Nutrition

NEA Make/ Evaluate, Review design & technology & our world, NEA 1: food trials, Food processing & production revision, NEA 2: Food trials, food choice & nutrition revision, NEA 2: Practical exam, Food science & scientific investigation revision, NEA 2: written exam revision, revision



Product Design 1

Trebuchet & Projectile (Angry Birds)

Mechanical systems & movement, modeling & testing, Beanbag Manufacture – Templates, buttons, hand sewing, sewing machines (Subtractive & assembly manufacture, Catapult – Class competition

3D CAD Modeling

Work planes, Referencing & dimensioning, 2D to 3D commands, Rendering, 3D printing (Additive manufacture)

Designer Focus Lesson

Product Design 2

MP3 Speaker Project

Design process – Research, Design, Shaping & forming MDF, Acrylic, Electronics theory & sustainability, Electronics (Assembly, subtractive & forming manufacture, Graphic skills, Lamination

Designer Focus Homework Project – Presentation lesson

Food & Nutrition

Heat transfer

Process & the effect of heat on food, Coagulation & Gelatinisation, Practical experimentation

Costing & nutritional analysis

Calculation of portion cost, Break down of calories & macro & micro nutritional values, Practical – Fish pie

Energy

Define explain energy, Sources of energy in the diet, Energy needs of Different users groups, Consequences of imbalance, Practical – Baking

Product Design 1

Block Head

Timber theory & sustainability, Shaping & forming timber (Subtractive assembly manufacture), Isometric drawing, Production plans

Eco Keyring

Polymers theory, Sustainability Designer & consumer responsibility, Shaping & forming polymers

Product Design 2

Graphics Night Light

Design process – research, Design, Typograph/ Tessellating shapes, Nets, Orthographic drawings, Graphic materials & Sustainability, Soldering (Assembly manufacture)

Year 7

Food & Nutrition

Hygiene & Safety

Hygiene, Bacteria growth, Pathogens, Practical – Washing up

Safe use of kitchen equipment

Kitchen Equipment, Sensory analysis of products, Practical – Couscous Salad, Practical – Potato & Leak Soup, Practical evaluation

Eat Well Guide

Food groups, Nutrition, Practical – Cheese scones, Practical – Bread rolls, Practical – Soda bread & butter, Pasta bake



Year 10

Food & Nutrition

Beanbag Practical, Material theory: Textiles, Smart, modern & composite materials theory, Food processing & production, practical work: Bread Enriched Dough, pasta, lemon cheesecake, salmon En Croute, fish cakes, jam, Lemon Card, cottage pie, Food safety & the hygiene certificate, Food choice, Practical: Toad in the hole, profiteroles, pesto/ carbonara, Chicken chow mein, babotie/ lamb madras, Jewish cookery (own choice) Gluten free chocolate brownies, Nutrition, Practical: Meal high in protein (own choice), quiche, Dish high in Vitamin A preschool children's meal, Food Science, Functional properties of ingredients, practical: Key lime pie, cheese soufflé, caramelised onion tarte, Meringues, Egg custard, mayonnaise, Scientific investigation planning for practical exam

Product Design 1

Book Stand Deck Chair

Manufacturing to a specification, Orthographic drawing, Assembly & components (Subtractive & Assembly manufacture), textiles theory & sustainability, Tie dye/ Batik, Using a sewing machine

Laser cutting

2D design program, Laser cutter/ Vinyl Cutter, Laser cut outcomes

Product Design 2

Programmable Money Box

Soldering (Assembly manufacture), Programming a tune, Subtractive manufacture money box – Finger joints, Design – One-point perspective, Themed money box – Timbers-wood joints

Smart & Modern Materials

What are smart materials? Polymorph pen with anthropometrics practical Designer Focus

Food & Nutrition

The digestive system

4 Phases of digestion, Food as fuel, Practical – Macaroni Cheese

Food Miles, Sustainability & Farming

Renewable & non-renewable resources, Seasonality, Organic Farming, Food miles, Intensive farming, Practical – Sausage bake, Practical – Chili Con Carne

Food Packaging & Labeling

Aims of packaging, Importance of packaging, Examples of packaging, Practical – Chicken Parmigiana, Practical – Meatballs in tomato sauce, Practical – Jambalaya

Year 12

KS5 Design & Technology

Skill practice, Unit 3: Processes, Maths focus: Confident use of number & percentages, Design & make Challenge (Mini NEA), Unit 1: Designing & Innovation, Maths focus: Use of ratios, NEA Research, Unit 6: Human responsibility, Maths focus: Calculation of surface areas &/ or volumes, NEA Research, Unit 4: Industrial & commercial practice, Maths focus Use of trigonometry, NEA Design, Unit 2: Materials, Maths focus: Construction, use &/or analysis of graphs & charts, NEA Design, Unit 5: Product analysis & Systems, Maths Focus: Use of coordinates & geometry

Product Design

Design communication skills

Materials theory: Woods, Metals

Futuristic Furniture Project

Biomimicry mood board, Futuristic mood board, Product analysis

Materials theory

Plastics, Woods, Card, Metal assessment

Mock NEA assignment

Year 11

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Designer Focus Lesson

Product Design 2

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Design process – Research, Design, Shaping & forming MDF, Acrylic, Electronics theory & sustainability, Electronics (Assembly, subtractive & forming manufacture, Graphic skills, Lamination

Designer Focus Homework Project – Presentation lesson

Food & Nutrition

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Costing & nutritional analysis

Calculation of portion cost, Break down of calories & macro & micro nutritional values, Practical – Fish pie

Energy

Define explain energy, Sources of energy in the diet, Energy needs of Different users groups, Consequences of imbalance, Practical – Baking

Year 8

Product Design 1

Book Stand Deck Chair

Manufacturing to a specification, Orthographic drawing, Assembly & components (Subtractive & Assembly manufacture), textiles theory & sustainability, Tie dye/ Batik, Using a sewing machine

Laser cutting

2D design program, Laser cutter/ Vinyl Cutter, Laser cut outcomes

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