

Curriculum overview: Food and Nutrition

Why do we study Food and Nutrition at The Earls High School?

- To encourage students to make healthy food choices by applying the knowledge of nutrition and the link between diet and national health concerns e.g. obesity, type 2 diabetes.
- Provide students with the culinary skills required to safely and hygienically make a range of healthy dishes.
- Make pupils aware of the environmental, social, economic and moral impact of food production and food choice in the UK and globally.
- Encourage creativity and individuality when interpreting recipes and making dishes.

What skills and knowledge do we anticipate students will have in this subject before they begin at The Earls High School?

We would expect students to have learned the following at KS2.

- Have a basic understanding of the need for healthy eating and the basic principles of nutrition.
- To have an appreciation of the necessity for a safe and hygienic work practices when preparing and cooking food.
- An ability to weigh and measure a variety of solid and liquid ingredients accurately.
- To have a basic awareness of the social and environmental factors affecting food choices.

What skills and knowledge would we like students to have in this subject at the end of their time at The Earls High School?

By the end of KS4 we recognise that pupils will have the following skills and knowledge...

- **Food commodities** (study a wide range of food and ingredients)
The value of the commodity within the diet; features and characteristics of each commodity with reference to their correct storage to avoid food contamination; the working characteristics of each commodity; the origins of each commodity.
- **Principles of nutrition**
Macronutrients and Micronutrients; proteins, fats, oils and lipids, carbohydrates, fat and water soluble vitamins, minerals, trace elements, water, dietary fibre (non-starch polysaccharides – NSP).
- **Diet and good Health**
Energy requirements of individuals; plan balanced diets; calculate energy and nutritional values of recipes, meals and diets.
- **The science of food**
The effect of cooking on food; food spoilage and preservation.
- **Where food comes from**
Food provenance (including cultural and international influences); food manufacturing; social, moral and ethnic influences on food choice and production.
- **Cooking and food preparation**
Factors affecting food choice; preparation and cooking techniques; developing recipes and meals.

Year 7, 8 & 9 Curriculum Map: Food and Nutrition

YEAR 7	YEAR 8	YEAR 9
<p>To learn about:</p> <p>Hygiene, safety, equipment, scientific principles, basic nutrition and healthy eating, practical skills and knowledge required to make Fruit Salad, Cous Cous Salad, Scones and Pizza.</p> <p>Main home learning tasks: <i>Literacy task</i> - Researching social issues. <i>Writing task</i> - Explanation of hygiene and safety rules for hotel kitchen with reasons for each. <i>Learning task</i> - Researching equipment and uses.</p> <p>Key assessment:</p> <ul style="list-style-type: none"> Project Focus – developing criteria (two specifications), generating ideas, and practical outcomes (4). <p>Assessment conditions: Knowledge and skills, designing, practical work and home learning.</p>	<p>To learn about:</p> <p>Healthy eating and nutrition, functions of ingredients, evaluation and research skills, scientific principles, practical skills and knowledge required to make Fruit Crumble, Quiche, Bread and Ragu sauce and pasta.</p> <p>Main home learning tasks: <i>Literacy task</i> - Healthy eating worksheet. <i>Writing task</i> - Evaluation of practical work (Fruit Crumble, Quiche).</p> <p>Key assessment:</p> <ul style="list-style-type: none"> Project Focus – modifying and evaluating, generating ideas, practical outcomes (4). <p>Assessment conditions: Knowledge and skills, designing, practical work and home learning.</p>	<p>To learn about:</p> <p>The Eatwell Guide and nutrition, special diets, staple foods, environmental and social issues, scientific principles, functions of ingredients, practical skills and knowledge required to make Swiss Roll, Stir Fry, Pasta Bake and Chicken or Fish Goujons with Potato Wedges.</p> <p>Main home learning tasks: <i>Literacy task</i> - Researching food products suitable for special diets. <i>Writing task</i> - Evaluation of practical work (Breakfast Muffins, Stir Fry, Pasta Bake).</p> <p>Key assessment:</p> <ul style="list-style-type: none"> Project Focus – planning (2), generating ideas, and practical outcomes (4). <p>Assessment conditions: Knowledge and skills, designing, practical work and home learning.</p>

Curriculum overview: Graphics, Product Design, Resistant Materials & Textiles

Why do we study Design and Technology at The Earls High School?

The purpose of studying DT is to give students the opportunity to experience creative problem solving through a range of media including fabrics, wood, metal, plastics and graphic materials.

Also to develop the ability to communicate ideas and intentions visually and verbally.

What skills and knowledge do we anticipate students will have in this subject before they begin at The Earls High School?

We would expect students to have learned the following at KS2.

- To be able to use a pair of scissors
- To be able to identify basic equipment e.g. needle, pin etc...
- Have the ability to use basic graphic equipment e.g. pencil, pencil crayons, ruler etc...
- To be able to measure accurately in *cm* and *mm*
- To be able to cut materials accurately using basic equipment
- To be able to make basic evaluations of their work and the work of others
- To have the ability to design using a computer

What skills and knowledge would we like students to have in this subject at the end of their time at The Earls High School?

Core knowledge and skills based on wood, metal, plastic, fabrics and graphic media, these will include

- Properties of a range of materials
- SMART materials
- Mechanisms, forces and motion
- Environmental impact
- Scales of production
- The role of people in DT

Specialist technical principles including, tools, equipment and processes.

The ability to select an appropriate context and work independently on a chosen project.

Design and make a product that meets the needs of a user (client)

Year 7, 8 & 9 Curriculum Map: Graphics

YEAR 7	YEAR 8	YEAR 9
<p>To learn about:</p> <ul style="list-style-type: none"> • Typography, lettering styles and fonts, developing their own type style design • Colour theory, including what complimentary and harmonious colours are, colour selection, mixing and association • Tonal shading in 2D and on 3D forms • One and two point perspective drawing of simple forms • Rendering and representing different types of materials • Representing data using pictographs • Measurement and dimensions including radii, diameters and British Standards • Extended graphic design task exploring, research, initial ideas, development and design solution, nets and advertising • Evaluation and reflection on work <p>Main home learning tasks: <i>Logos – Familiarisation question sheet</i> <i>Logos – Analysing existing examples</i> <i>Stock Forms- What are these and application in all material areas</i></p> <p>Key assessment: Ongoing, each task is marked to ensure knowledge and understanding is secure for each piece of learning</p> <p>Assessment conditions: Work folder, ‘Do Now’ interleaving questions from this and other areas of the subject, home learning tasks</p>	<p>To learn about:</p> <ul style="list-style-type: none"> • Analysing a design brief, including key terms • Developing a design specification • Product branding design development • Developing surface graphic design • Simple electronic circuit assembly • Smart materials • Developing a design to a solution and evaluating its suitability • Testing and evaluating a product • Health & safety issues • Simple system diagrams • Simple circuit diagrams and component symbols • Sustainability <p>Main home learning tasks: Smart materials – types and applications Circuit diagrams and component symbols Promoting product sustainability</p> <p>Key assessment: Design communication, understanding of and following a design process, quality of outcome, knowledge and understanding of basic electronic principles and smart materials</p> <p>Assessment conditions: Work folder, practical outcome, ‘Do Now’ interleaving questions from this and other areas of the subject, home learning tasks</p>	<p>To learn about:</p> <ul style="list-style-type: none"> • Graphic User Interfaces and developing their own • Using visual research to inform and influence designing • The importance of brainstorming ideas in the early part of the design process • Developing an ‘iterative’ design strategy • Analysing the application of branding • Evaluating existing products • Why designers and manufacturers model products before making and experience modelling their design • Computer Design and Computer Aided Manufacture • How products are packaged and promoted and applying this to their designs <p>Main home learning tasks: CAD/CAM advantages and disadvantages Visual research task Project vocabulary test</p> <p>Key assessment: Design communication, understanding of and following a design process, quality of outcome, knowledge and understanding of CAD/CAM and the purpose of modelling</p> <p>Assessment conditions: Work folder, practical outcome, ‘Do Now’ interleaving questions from this and other areas of the subject, home learning tasks</p>

Year 7, 8 & 9 Curriculum Map: Product Design

YEAR 7	YEAR 8	YEAR 9
<p>To learn about:</p> <ul style="list-style-type: none"> • 2 D drawing skills and presentation. • Annotating to aid design communication. • Using 2D design software. • The process of laser cutting. • The process of vacuum forming. • Health and safety in the workshop. • Packaging and marketing. • Existing product research to aid designing. <p>Main home learning tasks: <i>Reading task-</i> Researching plastic manufacturing processes. <i>Writing Task-</i> Creating an information poster for anthropometrics, ergonomics, inclusive and exclusive design. <i>Learning task-</i> Creating a mood board that can be used to aid designing.</p> <p>Key assessment: Skills and knowledge, generating ideas and practical outcome.</p> <p>Assessment conditions: Designing, practical piece and home learning.</p>	<p>To learn about:</p> <ul style="list-style-type: none"> • Developing a design brief. • A range of charities. • Developing a specification. • 2D/3D drawing skills and presentation. • Using 2D design software • Using a drilling jig. • Using templates to produce shapes • Health and safety in the workshop. <p>Main home learning tasks: <i>Reading task-</i> Researching the mechanical properties of materials. <i>Writing Task-</i> Creating an information poster for The 6Rs <i>Learning task-</i> Producing an information table on modern materials.</p> <p>Key assessment: Skills and knowledge, generating ideas and practical outcome.</p> <p>Assessment conditions: Designing, practical piece and home learning.</p>	<p>To learn about:</p> <ul style="list-style-type: none"> • 2D/3D drawing techniques to generate ideas. • Developing a design idea. • Evaluating and modifying a design idea. • Health and safety in the workshop. • Soldering electronic components. • The process of laser cutting. • Project planning for time utilisation. • Testing and evaluating a product. <p>Main home learning tasks: <i>Reading task-</i> Researching desk lights and producing a product analysis. <i>Writing Task-</i> Producing a written evaluation of practical progress to improve time management skills. <i>Learning task-</i> Producing an information table on scales of production.</p> <p>Key assessment: Skills and knowledge, generating ideas and practical outcome.</p> <p>Assessment conditions: Designing, practical piece and home learning.</p>

Year 7, 8 & 9 Curriculum Map: Resistant Materials

YEAR 7	YEAR 8	YEAR 9
<p>TASK A company has asked you to design and make a storage box using a mixture of materials using a range of techniques and processes, including CAD/CAM.</p> <p>To learn about:</p> <ul style="list-style-type: none"> • Classifications of materials (timbers, metals and polymers) • Environmental impacts • Health and safety • Tools, equipment and machinery • Practical skills and knowledge required to make a small storage box • The use of CAD/CAM • Various design-based activities: (3D shading, rendering materials, final design, production diary & evaluations) <p>Main home learning tasks: <i>Three online tests with a mixture of multiple choice and short answer responses.</i> <i>Task 1 -Health & safety</i> <i>Task 2 -Materials</i> <i>Task 3 -Tools, equipment, materials & machinery</i></p> <p>Key assessment:</p> <ul style="list-style-type: none"> • knowledge & understanding • Home learning • Skills • Designing • practical outcome <p>Assessment conditions: Design folder, practical piece and home learning.</p>	<p>TASK A company called 'Camtastic' has asked you to develop to humorous mechanical toy to their range and based on the theme of 'Wonderful creatures'.</p> <p>To learn about:</p> <ul style="list-style-type: none"> • Mechanisms and motions theory and examples • Design development and Evaluation • Using templates in manufacture • Tools, equipment and machinery • Practical skills and knowledge required to make a mechanical toy • Various design-based activities: (Design ideas, annotation, final design, production storyboard & evaluations) <p>Main home learning tasks: <i>Three online tests with a mixture of multiple choice and short answer responses.</i> <i>Task 1 -Types of motion</i> <i>Task 2 -Mechanisms</i> <i>Task 3 - Tools, equipment, materials & machinery</i></p> <p>Key assessment:</p> <ul style="list-style-type: none"> • knowledge & understanding • Home learning • Skills • Designing • practical outcome <p>Assessment conditions: Design folder, practical piece and home learning.</p>	<p>TASK You will explore possibilities before creating a design brief for a smartphone docking station with a passive speaker.</p> <p>To learn about:</p> <ul style="list-style-type: none"> • Drawing techniques (isometric, rendering and annotation) • Key aspects of the design and make process • Using jigs in manufacture • Tools, equipment and machinery • Practical skills and knowledge required to make a smart phone docking station • The use of CAD/CAM • Various design-based activities: (Design ideas, annotation, final design, production plan, product testing & evaluations) <p>Main home learning tasks: <i>Three online tests with a mixture of multiple choice and short answer responses.</i> <i>Task 1 -Modern materials</i> <i>Task 2 -Smart materials</i> <i>Task 3 - Tools, equipment, materials & machinery</i></p> <p>Key assessment:</p> <ul style="list-style-type: none"> • knowledge & understanding • Home learning • Skills • Designing • practical outcome <p>Assessment conditions: Design folder, practical piece and home learning.</p>

Year 7, 8 & 9 Curriculum Map: Textiles

YEAR 7	YEAR 8	YEAR 9
<p>To learn about:</p> <ul style="list-style-type: none"> • Meaning of ‘textiles’ and use in everyday life. • How to modify and manipulate designs. • Tools, equipment and machinery. • Developing design ideas. • Practical skills and knowledge required to make a sock creature. • Safe working practices in a practical lesson. • Analysis and evaluations – use of language. <p>Main home learning tasks: <i>Reading task-</i> Researching one natural fibre, extracting important and relevant information. <i>Writing Task-</i> Creating a futuristic sock creature and write up how it will work and all its special features. <i>Learning task-</i> Evaluating the contents of their home and assessing which items are textile ones. Reinforcing their knowledge and understanding of textiles.</p> <p>Key assessment: Project Focus –communicating, generating ideas and practical outcome.</p> <p>Assessment conditions: Designing, practical piece, knowledge and skills and home learning. Short questions on textiles and other previously studied material areas.</p>	<p>To learn about:</p> <ul style="list-style-type: none"> • The Mexican ‘Day of the Dead’, its meanings and origins • How to compose creative and original design ideas. • How to effectively develop design ideas • How to needle felt and create 3Dimensional areas • Safe working practices in a practical lesson • Peer and self-evaluations of existing work. <p>Main home learning tasks: <i>Reading task-</i> Research into ‘The Day of the Dead’, its uses and their features. <i>Writing Task-</i> Creating a poster to advertise an exhibition on ‘The Day of the Dead’ including all relevant information. <i>Learning task-</i> How to compose a detailed design idea from a given starting point.</p> <p>Key assessment: Project Focus –researching, generating ideas, and practical outcome.</p> <p>Assessment conditions: Designing, practical piece, knowledge and skills and home learning. Short questions on textiles and other previously studied material areas.</p>	<p>To learn about:</p> <ul style="list-style-type: none"> • The use of repeat pattern in everyday life. • How to put different forms of repeat patterns together. • How to do screen printing and a variety of other printing methods. • Safe working practices in a practical lesson. • How to modify a basic repeat pattern. <p>Main home learning tasks: <i>Reading task-</i> Research in to different forms of repeat pattern, self-matching, block repeat, half drop repeat and mirror repeat. <i>Writing Task-</i> Producing a fact sheet on one British textile designer – fashion or interiors. <i>Learning task-</i> Global issues behind textile production and waste.</p> <p>Key assessment: Project Focus – Understanding pattern, colour, generating ideas and practical outcome.</p> <p>Assessment conditions: Designing, practical piece, knowledge and skills and home learning. Short questions on textiles and other previously studied material areas.</p>