HWS Curriculum Map — Subject: Design Technology — KS3

Food & Nutrition Overall Curriculum Goal & Intent	**Key prior knowledge and skills**
Design and Technology is an inspiring, rigorous and practical subject. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At Warneford, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.	Year 7 Pupils arrive to Warneford with a variety of different skills & knowledge, depending on the experiences in their previous schools. Where possible we try to build on this by asking pupils what they have done previously. Year 8 is designed to build upon the foundations taught in Year 7. Pupils will be expected to develop strategies such as the design process to become more creative and innovative. They will continue to work with a variety of materials expanding their understanding of them. Year 9 is designed to build upon the foundations taught in Year 7 & 8. Pupils will be expected to develop strategies such as the design process to become more creative and innovative. They will continue to work with a variety of materials expanding their understanding of them.

	Year 7	**Year 8**	**Year 9**
Topic Focus	**To design and make a healthy pizza**	**To develop a basic scone recipe made from a typical staple food**	**To produce a batch of decorated cupcakes that could be sold in a local shop**
Intent	*Intent- to build upon KS2 learning & knowledge. To give a basic grounding of working in the Food rooms. To understand where our food comes from, and to have an understanding of their properties and uses. To draw links with science. To through making a variety of healthy dishes. develop independence*	*Intent- to develop knowledge gained in Year 7 to explore nutrients in more depth. To introduce an understanding of why we choose foods for different social, moral and ethical reasons. To link with science and introduce a science investigation to prepare pupils for GCSE. to continue to develop practical skills.*	*Intent- To provide pupils with a greater appreciation and understanding of the different types of foods and how they should be stored and handled, this builds upon previous years' work. To develop their science investigative skills from year 8. To prepare pupils for the GCSE syllabus. To build on previous practical knowledge and build skills required for GCSE*
Summary of <u>key</u> knowledge & skills	To understand the importance of healthy eating. To understand where our food comes from To become independent in the food room Practical skills: Variety hand skills, chopping, slicing, grating Rubbing in Making bread Shaping & forming dough	To gain a deeper understanding of nutrients To understand what factors affect food choice, including moral. Social and environmental factors To look at primary-secondary processing of foods such as wheat To develop their understanding of science investigations, what a control is, how to complete and write up To develop practical skills, such as chopping, slicing, rubbing in, bread making	To understand the importance of correct temperature control in industry To learn the names of common food poisoning bacteria and to know how to reduce the risk of food poisoning To understand chemical, mechanical and biological raising agents To be able to complete a science investigation To know where our food comes from

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What do you want students to *know* and *learn*?	Why we need food, Introduction to nutrients Eat well guide Using cooker- methods heat transfer, conduction, convection & radiation Food commodities, milk, fish, meat, fruit, vegetables Understand simple food investigation Range recipes to link with eat well guide	To know that Nutrients can be divided into - Macro and micro To understand the different nutritional needs of different groups of people and that this depends on many factors To appreciate some of the factors affecting food choice. Understanding the moral, ethical and environmental factors To learn how cereals, bread, pasta is made To be able to apply a simple formula to cost recipes To explore the different allergens that can affect people such as coeliac disease To be able to plan and complete a science experiments looking at the viscosity of sauces Continue to develop practical skills by cooking a range recipes	To know the main temperatures required to keep food safe To know the main sources of bacterial contamination To be able to name at least 3 different food poisoning bacteria To have an understanding of organic, free range, line caught foods To be able to explain the difference between chemical, mechanical and biological raising agents To conduct a Food science investigation looking at biological raising agents To develop practical skills cooking a Range recipes
What are the opportunities for *repetition* and *over-learning*?	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning Working safely	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning To develop practical skills learnt in Year 7	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning
Main common assessments	Specifications Making of pizza Extended writing task	Developing an idea Planning Making	Research Design ideas Making
Extended writing tasks (at least two per long term)	Produce an informative magazine article on healthy eating	Research a country, find out typical staple foods eaten, methods of cooking, spices, herbs used etc.	Researching different types of decorating methods that could be used on cakes
Examples of opportunities for challenge	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity.	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity.	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity.

	During food practical's if pupils finish early there is a practical challenge to complete.	During food practical's if pupils finish early there is a practical challenge to complete.	During food practical's if pupils finish early there is a practical challenge to complete.
Links to numeracy, literacy and other subjects	Spellings to learn Weighing & measuring SPG in extended writing task Science- how to plan, write and complete an investigation	Spellings Costing a recipe Science- investigating viscosity of sauce, nutrients Geography- growing of crops	Spellings Geography- where our food comes from looking at intensive farming v's free range etc. Science
Enrichment, clubs, trips and other extra-curricular activities	When rotation allows pupils will be given the opportunity to develop their independent skills to design and cook their recipes.	When rotation allows pupils will be given the opportunity to develop their independent skills to design and cook their recipes.	When rotation allows pupils will be given the opportunity to develop their independent skills to design and cook their recipes.

Opportunities for links to careers

Emphasis made about careers such as chefs, food technologists.

Opportunities for links to SMSC, PSHE, ethos and values

Year 7 Links with PSHE to do with healthy eating and problems associated with it

Year 8 PSHE, SMSC- looking at social, moral, ethical & economic reasons people choose food & ethical clothing

Year 9 PSHE, SMSC- to have an understanding of the issues involved with how our food is reared, caught and slaughtered, and what we as individuals could do.

How can parents support learning?

All homework is on class charts so parents can view what the pupils have been set and support where necessary

Parents can encourage pupils to weigh and measure their own ingredients

Other comments

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Resistant Materials Overall Curriculum Goal & Intent	**Key prior knowledge and skills**
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	Year 7	**Year 8**	**Year 9**
Topic Focus	To design and make a pen holder out of acrylic using 2D To design and make a chalk board	To design and make a mechanical sweet dispenser To design and make a clock	To make a bird feeder- skills based
Intent	*Intent- to build upon knowledge of sustainability and environmental factors relating to the manufacture and use of different materials. To introduce pupils to shaping and forming different materials and the need for a quality end product.*	*Intent- to develop knowledge of simple mechanisms learnt in KS2 and science and introduce more complex mechanisms. To have an understanding of how they work and where they might find them in everyday life*. T*o build upon practical skills working with wood and card*	*Intent- to prepare pupils for KS4 by building upon previous knowledge. To understand why we design for a client, how we identify a problem exists, how products are manufactured in industry. To develop joint skills required for GCSE*
Summary of <u>key</u> knowledge & skills	To understand how to work safely in the Resistant Materials room To learn where wood and plastic comes from To understand what is meant by sustainability and why it is important To know what a smart material is Practical skills To design and make a pen holder out of acrylic To design and make a chalk board Designing Using 2D design as a tool Shaping/cutting using the correct tools Sanding Applying a finish Using the strip heater to line bend	To understand what different mechanisms are and how they can affect motion To understand what forces are and how they affect the design of different objects. To gain a concept of drawing in isometric	To understand the design process To understand the importance of designing for a client To learn how demographics can influence designing To use biomimicry to design ideas To follow a set of instructions clearly To understand and apply knowledge of electrical systems To learn how products can be manufactured in industry To create a manufacturing flow chart

What do you want students to *know* and *learn*?	Using jigs How to work safely in RM room Types woods, softwood, hardwood, manufactured board To know how plastics are made- the natural finite resources used Sustainability, what it means, how we have a responsibility to produce sustainable products, the impact on the environment of using natural resources, deforestation, plastic pollution etc. Smart materials to understand what they are and to be able to name at least 2 smart materials CAD to be able to confidently use 2D design. To appreciate how CAD and CAM can be used to make multiple products easily, cheaply etc. To be able to use and name the tools used for different materials	To understand the effect different mechanisms have on movements To learn the 4 types of motion and the 4 types of forces To learn the 3 classes of levers To learn 3 types of linkages To be able to label the different parts of a cam To know how gears work to speed up or slow down movement To learn what is meant by an Orthographic drawing & isometric drawing	To be able to identify a client and produce a client profile To be able to explain and give examples of job, batch, mass and continuous production methods To carry out investigations into the properties of materials by experimentation To use the correct symbols to draw a flow chart for making To be able to identify different electrical components and their relevant symbols To know the difference between an input, process and output To draw on knowledge from science to identify series and parallel circuits To know the difference between an AC and DC current To understand the importance of jigs and templates when making in quantity
What are the opportunities for *repetition* and *over-learning*?	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning
Main common assessments	Design Ideas Specifications Making of pen holder and chalk board Extended writing task	Research Developing ideas Making	Developing ideas Evaluation Making

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Extended writing tasks	Write a letter to the government about the problem of plastic pollution and what we should do about it.	To research 2 design movements and present an informative piece of writing	Writing a well structured evaluation
Examples of opportunities for challenge	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity. Pupils are also challenged through outcome- encouraged to do more complex designs and making	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity. During food practical's if pupils finish early there is a practical challenge to complete.	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity. During food practical's if pupils finish early there is a practical challenge to complete.
Links to numeracy, literacy and other subjects	Spellings to learn Tessellating patterns SPG in extended writing task Geography and science looking at greenhouse gases and the effects of pollution English- constructing formal letter	Spellings Maths – ratios and calculating area of shapes Science- looking at mechanisms and forces Art- presenting ideas as sketches and more formal	Spellings Maths- ration & proportion, tessellation of patterns for patchwork ICT- learning how ICT can be used in textiles. Science- understanding what modern materials are
Enrichment, clubs, trips and other extra-curricular activities			

Opportunities for links to careers Designers using CAD, CAM, engineers, woodworking industry	**Opportunities for links to SMSC, PSHE, ethos and values** SMSC looking at the issues of pollution and cliamate change To be able to express their views through formal letter writing and extended writing tasks
How can parents support learning? All homework is on class charts so parents can view what the pupils have been set and support where necessary Parents can encourage pupils to weigh and measure their own ingredients	**Other comments**

HWS Curriculum Map **Subject: Design Technology** **KS3**

Textiles Overall Curriculum Goal & Intent	**Key prior knowledge and skills**
Design and Technology is an inspiring, rigorous and practical subject. Design and Technology encourages children to learn to think and intervene creatively to solve problems both as individuals and as members of a team. At Warneford, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other disciplines such as mathematics, science, engineering, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness and are encouraged to become innovators and risk-takers.	Year 7 Pupils arrive to Warneford with a variety of different skills & knowledge, depending on the experiences in their previous schools. Where possible we try to build on this by asking pupils what they have done previously. Year 8 builds upon the skills taught in Year 7. Pupils will be expected to use the sewing machines independently and to become more creative in their design ideas. Year 9 This is the foundation to build skills required for GCSE, so pupils will be challenged to extend their prior learning.

	Year 7	**Year 8**	**Year 9**
Topic Focus	To design and make a stationary wrap	To design and make a decorative bag	To design and make a cushion
Intent	*Intent- pupils have often made in textiles before. The intent of year 7 to build upon this, introduce where fibres come from, how there made. To develop machine skills so pupils become independent for future years*	*Intent- to build upon practical skills from year 7 and introduce new ways to embellish fabrics, to gain an appreciation of how textile items are made in industry. To develop social, moral and ethical views to the ways everyday clothes are made.*	*Intent- to understand why the need for modern materials exists and their uses in the wider world. To continue to develop and enhance practical skills required for GCSE and AS textiles.*
Summary of <u>key</u> knowledge & skills	To understand how to work safely in the Textiles room To learn where different fibres come from To know how fibres are made into fabrics To understand what is meant by sustainability To create a flow chart for making Practical skills Pinning Tacking Sewing with the machine Applique Measuring	To learn different ways materials can be embellished To develop and enhance sewing machine skills To explore ethical clothing and what it means Practical skills Screen printing Embellishing with embroidery etc Tacking Straight stitch	To understand what a modern textiles is To learn the techniques of applique & patchwork To appreciate how ICT can be used in textiles Practical skills Measuring Paper pattern making Patchwork Applique using bond a web Putting in a zip Embellishment Using the sewing machine

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	Year 7	**Year 8**	**Year 9**
What do you want students to *know* and *learn*?	To know where man made and natural fibres originate To know that fibres can be made into fabric by knitting, weaving and bonding To be able to draw a plain and a twill weave To learn the main parts of the sewing machine To be capable of threading and using the sewing machine with no help To learn the 6R's and be able to give a textile example To know the Fairtrade logo	To be able to do and name 4 embroidery stitches To know how to screen print a design To be able to embellish their own bag To be able to use the sewing machine with no help To know what is meant by ethical clothing and to be able to give some examples To know how to care for clothing by being able to draw different care label symbols To know what a material property is and be able to apply to different products	To know the difference between a modern, smart and E textile To be able to name at least 2 modern, smart and E textiles To be able to organise the stages of how to applique To be able to organise the stages of how to patchwork To understand how ICT, particularly CAD and CAM can be used in the textile industry To develop practical skills by becoming independent and learning the new skills of patchwork, applique and how to put in a zip
What are the opportunities for *repetition* and *over-learning*?	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning Will recap how to use 2D design if they do the RM module first Working safely	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning	Throughout the module pupils will do mini tests to revisit and test knowledge End of module test Key words are glued into exercise books Spellings are tested Starters and plenaries recap learning

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	Year 7	**Year 8**	**Year 9**
Main common assessments	Research Planning Making a storage wrap Extended writing task	Design Ideas Specification Making	Developing ideas Evaluation Making
Extended writing tasks	Imagine you are a young girl or boy working in a sweat shop. Describe your feelings, your day etc.	To research a fashion designer	Writing a well structured evaluation
Examples of opportunities for challenge	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity. If pupils finish early there is a practical challenge to complete.	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity. If pupils finish early there is a practical challenge to complete.	All lessons have three tasks, Green ALL must do, Amber SOME, Red the challenge activity. Pupils are also challenged through outcome- encouraged to do more complex designs and making
Links to numeracy, literacy and other subjects	Spellings to learn Maths- converting measurements SPG in extended writing task PSHE ethics of clothes produced in sweat shops Geography- the effect of pollution	Spellings Maths – ratios and calculating area of shapes Art- presenting ideas as sketches and more formal Geography?PSHE looking at ethics of where our clothes are produced	Spellings Maths- ration & proportion, tessellation of patterns for patchwork ICT- learning how ICT can be used in textiles. Science- understanding what modern materials are

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	Year 7	Year 8	Year 9
Enrichment, clubs, trips and other extra-curricular activities	Club to make Christmas cards for senior citizens party.		

Opportunities for links to careers Sewing industry jobs	**Opportunities for links to SMSC, PSHE, ethos and values** SMSC looking at, the effects of cheap manufactured clothing made in sweat shops, sustainability of materials, the effects of pollution Being made aware of advances in textile technology and how that is helping to create new and innovative products
How can parents support learning? All homework is on class charts so parents can view what the pupils have been set and support where necessary Parents can encourage pupils to weigh and measure their own ingredients	**Other comments**