

Progression of Skills Overview

Design and Technology

End of Year Expectations (Early Years Foundation Stage + National Curriculum)

Holly
Class –
EYFS/Y1

Early Learning Goals

Moving and Handling: *Children show good control and co-ordination* in large and *small movements*. They move confidently in a range of ways, safely negotiating space. *They handle equipment and tools effectively*, including pencils for writing.

Health and Self-Care: *Children know the importance for good health of* physical exercise, and *a healthy diet, and talk about ways to keep healthy* and safe. *They manage their own basic hygiene* and personal needs successfully, including dressing and going to the toilet independently.

Technology: Children recognise that a range of technology is used in places such as homes and schools. *They select and use technology for particular purposes.*

Exploring and Using Media and Materials: Children sing songs, make music and dance, and experiment with ways of changing them. *They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.*

Being Imaginative: *Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology*, art, music, dance, role play and stories.

The World:

Children know about similarities and differences in relation to places, *objects, materials* and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.

Characteristics of Effective Learning

Playing and Exploring:

- Taking a risk, engaging in new experiences, and learning by trial and error

Active Learning:

- Maintaining focus on their activity for a period of time

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	<ul style="list-style-type: none">• Paying attention to details• Persisting with activity when challenges occur• Showing a belief that more effort or a different approach will pay off• Bouncing back after difficulties <p><u>Creating and Thinking Critically:</u></p> <ul style="list-style-type: none">• Thinking of ideas• Finding ways to solve problems• Making predictions• Testing their ideas• Planning, making decisions about how to approach a task, solve a problem and reach a goal• Checking how well their activities are going• Changing strategy as needed• Reviewing how well the approach worked
<p>Holly Class – EYFS/Y1</p> <p>Oak Class – Y1/2</p>	<p style="text-align: center;"><u>Key Stage 1 (Years 1 & 2)</u></p> <p><u>Design:</u></p> <ul style="list-style-type: none">• Design purposeful, functional, appealing products for themselves and other users based on design criteria• Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology <p><u>Make:</u></p> <ul style="list-style-type: none">• Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]• Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p><u>Evaluate:</u></p> <p>Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria</p> <p><u>Technical knowledge:</u></p> <ul style="list-style-type: none">• Build structures, exploring how they can be made stronger, stiffer and more stable• Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products

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	<p><u>Cooking and nutrition:</u></p> <ul style="list-style-type: none">• Use the basic principles of a healthy and varied diet to prepare dishes <p>Understand where food comes from</p>
<p>Chestnut Class – Y3/4</p> <p>Sycamore Class – Y5/6</p>	<p style="text-align: center;"><u>Key Stage 2 (Years 3, 4, 5 & 6)</u></p> <p><u>Design:</u></p> <ul style="list-style-type: none">• Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups• Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design <p><u>Make:</u></p> <ul style="list-style-type: none">• Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately• Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <p><u>Evaluate:</u></p> <ul style="list-style-type: none">• Investigate and analyse a range of existing products• Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work• Understand how key events and individuals in design and technology have helped shape the world <p><u>Technical knowledge:</u></p> <ul style="list-style-type: none">• Apply their understanding of how to strengthen, stiffen and reinforce more complex structures• Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]• Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]• Apply their understanding of computing to program, monitor and control their products <p><u>Cooking and nutrition:</u></p> <ul style="list-style-type: none">• Understand and apply the principles of a healthy and varied diet• Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques <p>Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed</p>

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	<u>Design</u>	<u>Make</u>	<u>Evaluate</u>	<u>Technical Knowledge</u>	<u>Cooking and Nutrition</u>
<u>EYFS</u>	<ul style="list-style-type: none"> *Select appropriate resources *Use gestures, talking and arrangements of materials and components to show design *Use contexts set by the teacher and myself *Use language of designing and making (join, build, shape, longer, shorter, heavier etc.) * Represent their own ideas, thoughts and feelings *Thinking of ideas *Shows a preference for a dominant hand (+ <u>Make</u>) *Begins to use anticlockwise movement and retrace vertical lines *They select and use technology for particular purposes 	<ul style="list-style-type: none"> *Construct with a purpose, using a variety of resources/objects *Paying attention to details *Uses simple tools and techniques competently and appropriately to effect changes to materials (shape, assemble and join) *Replicate structures with materials / components *Create simple representations of events, people and objects *Understand different media can be combined for a purpose *Manipulates materials to achieve a planned effect *Uses one-handed tools and equipment *Handles tools and malleable materials safely and with increasing control *Shows understanding of the need for safety when tackling new challenges, and considers and manages some risks *Experiments to create different textures 	<ul style="list-style-type: none"> *Dismantle, examine, talk about existing objects/structures * Bounce back after mistakes *Consider and manage some risks *Practise some appropriate safety measures independently *Talk about how things work *Look at similarities and differences in relation to objects and materials *Show an interest in technological toys *Describe textures *Make comparisons between their work and others *Record experiences by drawing, writing, voice recording *Showing a belief that more effort or a different approach will pay off *Making predictions *Testing their ideas *Planning, making decisions about how to approach a task, 	<p><u>Textiles:</u></p> <ul style="list-style-type: none"> *Measure, cut and join textiles to make a product, with some support *Choose suitable textiles <p><u>Mechanisms:</u></p> <ul style="list-style-type: none"> *Begin to use levers or slides <p><u>Materials and Structures:</u></p> <ul style="list-style-type: none"> *Begin to measure and join materials, with some support *Describe differences in materials *Suggest ways to make material/product stronger stronger 	<ul style="list-style-type: none"> *Shows understanding of how to transport and store equipment safely and practices some appropriate safety measures without direct supervision *Begin to understand some food preparation tools, techniques and processes *Practise stirring, mixing, pouring, blending *Discuss use of senses *Know the importance for good health and a healthy diet and talk about ways to keep healthy and safe *Manage their own basic hygiene and personal needs successfully *Eats a healthy range of foodstuffs and understands need for variety in food

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	*Maintaining focus on their activity for a period of time (+ Make)	*Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function *Taking a risk, engaging in new experiences, and learning by trial and error *Persisting with activity when challenges occur	solve a problem and reach a goal *Checking how well their activities are going *Changing strategy as needed *Reviewing how well the approach worked		
<u>Year 1</u>	*Have own ideas *Explain what I want to do *Explain what my product is for and how it will work *Use pictures and words to plan, begin to use models *Design a product for myself following design criteria *Research similar existing products	*Explain what I'm making and why *Consider what I need to do next *Select tools/equipment to cut, shape, join, finish and explain choices *Measure, mark out, cut and shape, with support *Choose suitable materials and explain choices *Try to use finishing techniques to make product look good *Work in a safe and hygienic manner	*Talk about my work, linking it to what I was asked to do *Talk about existing products considering: use, materials, how they work, audience, where they might be used *Talk about existing products, and say what is and isn't good *Talk about things that other people have made *Begin to talk about what could make product better	<u>Textiles:</u> *Measure, cut and join textiles to make a product, with some support *Choose suitable textiles <u>Materials and Structures:</u> *Begin to measure and join materials, with some support *Describe differences in materials *Suggest ways to make material/product stronger <u>Mechanisms:</u> *Begin to use levers or slides	*Describe textures *Wash hands & clean surfaces *Think of interesting ways to decorate food *Say where some foods come from, (i.e. plant or animal) *Describe differences between some food groups (i.e. sweet, vegetable etc.) *Discuss how fruit and vegetables are healthy *Cut, peel and grate safely, with support
<u>Year 2</u>	*Have own ideas and plan what to do next	*Explain what I am making and why it fits the purpose *Make	*Describe what went well, thinking about design criteria	<u>Mechanisms:</u> *Use levers or slides	*Explain hygiene and keep a hygienic kitchen *Describe properties of

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	<ul style="list-style-type: none"> *Explain what I want to do and describe how I may do it *Explain purpose of product, how it will work and how it will be suitable for the user *Describe design using pictures, words, models, diagrams, begin to use ICT *Design products for myself and others following design criteria *Choose best tools and materials, and explain choices *Use knowledge of existing products to produce ideas 	<ul style="list-style-type: none"> suggestions as to what I need to do next *Join materials/components together in different ways *Measure, mark out, cut and shape materials and components, with support. *Describe which tools I'm using and why *Choose suitable materials and explain choices depending on characteristics *Use finishing techniques to make product look good *Work safely and hygienically 	<ul style="list-style-type: none"> *Talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion *Evaluate how good existing products are *Talk about what I would do differently if I were to do it again and why 	<ul style="list-style-type: none"> *Begin to understand how to use wheels and axles <u>Materials and Structures:</u> *Measure materials *Describe some different characteristics of materials *Join materials in different ways *Use joining, rolling or folding to make it stronger *Use own ideas to try to make product stronger 	<ul style="list-style-type: none"> ingredients and importance of varied diet *Say where food comes from (animal, underground etc.) *Describe how food is farmed, home-grown, caught *Draw eat well plate; explain there are groups of food *Describe "five a day" *Cut, peel and grate with increasing confidence
<u>Year 3</u>	<ul style="list-style-type: none"> *Begin to research others' needs *Show design meets a range of requirements *Describe purpose of product *Follow a given design criteria 	<ul style="list-style-type: none"> *Select suitable tools/equipment, explain choices; begin to use them accurately *Select appropriate materials, fit for purpose *Work through plan in order *Consider how good product will be 	<ul style="list-style-type: none"> *Look at design criteria while designing and making *Use design criteria to evaluate finished product *Say what I would change to make design better *Begin to evaluate existing products, considering: how well they have been made, 	<ul style="list-style-type: none"> <u>Textiles:</u> *Join different textiles in different ways *Choose textiles considering appearance and functionality *Begin to understand that a simple fabric shape can 	<ul style="list-style-type: none"> *Carefully select ingredients *Use equipment safely *Make product look attractive *Think about how to grow plants to use in cooking

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	<ul style="list-style-type: none"> *Have at least one idea about how to create product *Create a plan which shows order, equipment and tools *Describe design using an accurately labelled sketch and words *Make design decisions *Explain how product will work *Make a prototype *Begin to use computers to show design 	<ul style="list-style-type: none"> *Begin to measure, mark out, cut and shape materials/components with some accuracy *Begin to assemble, join and combine materials and components with some accuracy *Begin to apply a range of finishing techniques with some accuracy 	<p>materials, whether they work, how they have been made, fit for purpose</p> <ul style="list-style-type: none"> *Begin to understand by whom, when and where products were designed *Learn about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products 	<p>be used to make a 3D textiles project</p> <p><u>Materials and Structures:</u></p> <ul style="list-style-type: none"> *Use appropriate materials *Work accurately to make cuts and holes *Join materials *Begin to make strong structures <p><u>Electrical Systems:</u></p> <ul style="list-style-type: none"> *Use simple circuit in product *Learn about how to program a computer to control product 	<ul style="list-style-type: none"> *Begin to understand food comes from UK and wider world *Describe how healthy diet= variety/balance of food/drinks *Explain how food and drink are needed for active/healthy bodies *Prepare and cook some dishes safely and hygienically *Grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
<u>Year 4</u>	<ul style="list-style-type: none"> *Use research for design ideas *Show design meets a range of requirements and is fit for purpose *Begin to create own design criteria *Have at least one idea about how to create product and suggest 	<ul style="list-style-type: none"> *Select suitable tools and equipment, explain choices in relation to required techniques and use accurately *Select appropriate materials, fit for purpose; explain choices *Work through plan in order *Realise if product is going to be good quality 	<ul style="list-style-type: none"> *Refer to design criteria while designing and making *Use criteria to evaluate product *Begin to explain how I could improve original design *Evaluate existing products, considering: how well they've been made, materials, whether 	<p><u>Textiles:</u></p> <ul style="list-style-type: none"> *Think about user when choosing textiles *Think about how to make product strong *Begin to devise a template *Explain how to join things in a different way 	<ul style="list-style-type: none"> *Explain how to be safe/hygienic *Think about presenting product in interesting/attractive ways *Understand ingredients can be fresh, pre-cooked or processed *Begin to understand about food being grown,

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	<p>improvements for design</p> <ul style="list-style-type: none"> *Produce a plan and explain it to others *Say how realistic plan is *Include an annotated sketch *Make and explain design decisions considering availability of resources *Explain how product will work *Make a prototype *Begin to use computers to show design 	<ul style="list-style-type: none"> *Measure, mark out, cut and shape materials/components with some accuracy *Assemble, join and combine materials and components with some accuracy *Apply a range of finishing techniques with some accuracy 	<p>they work, how they have been made, fit for purpose</p> <ul style="list-style-type: none"> *Discuss by whom, when and where products were designed *Research whether products can be recycled or reused *Know about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products 	<ul style="list-style-type: none"> *Understand that a simple fabric shape can be used to make a 3D textiles project <p><u>Materials and Structures:</u></p> <ul style="list-style-type: none"> *Measure carefully to avoid mistakes *Attempt to make product strong *Continue working on product even if original didn't work *Make a strong, stiff structure <p><u>Electrical Systems:</u></p> <ul style="list-style-type: none"> *Use number of components in circuit *Program a computer to control product 	<p>reared or caught in the UK or wider world</p> <ul style="list-style-type: none"> *Describe eat well plate and how a healthy diet=variety / balance of food and drinks *Explain importance of food and drink for active, healthy bodies *Prepare and cook some dishes safely and hygienically *Use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
<u>Year 5</u>	<ul style="list-style-type: none"> *Use internet and questionnaires for research and design ideas *Take a user's view into account when designing *Begin to consider needs/wants of individuals/groups when designing and ensure 	<ul style="list-style-type: none"> *Use selected tools/equipment with good level of precision *Produce suitable lists of tools, equipment/materials needed *Select appropriate materials, fit for purpose; explain choices, considering functionality *Create and follow detailed step-by-step plan 	<ul style="list-style-type: none"> *Evaluate quality of design while designing and making *Evaluate ideas and finished product against specification, considering purpose and appearance *Test and evaluate final product *Evaluate and discuss existing products, considering: how 	<p><u>Mechanisms:</u></p> <ul style="list-style-type: none"> *Refine product after testing *Grow in confidence about trying new / different ideas *Begin to use cams, pulleys or gears to create movement <p><u>Electrical Systems:</u></p>	<ul style="list-style-type: none"> *Explain how to be safe / hygienic and follow own guidelines *Present product well - interesting, attractive, fit for purpose *Begin to understand seasonality of foods *Understand food can be grown, reared or

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	<p>product is fit for purpose</p> <ul style="list-style-type: none"> *Create own design criteria *Have a range of ideas *Produce a logical, realistic plan and explain it to others *Use cross-sectional planning and annotated sketches *Make design decisions considering time and resources *Clearly explain how parts of product will work *Model and refine design ideas by making prototypes and using pattern pieces *Use computer-aided designs 	<ul style="list-style-type: none"> *Explain how product will appeal to an audience *Mainly accurately measure, mark out, cut and shape materials/components *Mainly accurately assemble, join and combine materials/components *Mainly accurately apply a range of finishing techniques *Use techniques that involve a small number of steps *Begin to be resourceful with practical problems 	<p>well they've been made, materials, whether they work, how they have been made, fit for purpose</p> <ul style="list-style-type: none"> *Begin to evaluate how much products cost to make and how innovative they are *Research how sustainable materials are *Talk about some key inventors/designers/engineers/chefs/manufacturers of ground-breaking products 	<ul style="list-style-type: none"> *Incorporate switch into product *Confidently use number of components in circuit *Begin to be able to program a computer to monitor changes in environment and control product <p><u>Textiles:</u></p> <ul style="list-style-type: none"> *Think about user and aesthetics when choosing textiles *Use own template *Think about how to make product strong and look better *Think of a range of ways to join things *Begin to understand that a single 3D textiles project can be made from a combination of fabric shapes <p><u>Materials and Structures:</u></p> <ul style="list-style-type: none"> *Select materials carefully, considering intended use of product and appearance 	<p>caught in the UK and the wider world</p> <ul style="list-style-type: none"> *Describe how recipes can be adapted to change appearance, taste, texture, aroma *Explain how there are different substances in food / drink needed for health *Prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source *Use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
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				<ul style="list-style-type: none"> *Explain how product meets design criteria *Measure accurately enough to ensure precision *Ensure product is strong and fit for purpose *Begin to reinforce and strengthen a 3D frame 	
<u>Year 6</u>	<ul style="list-style-type: none"> *Draw on market research to inform design *Use research of user's individual needs, wants, requirements for design *Identify features of design that will appeal to the intended user *Create own design criteria and specification *Come up with innovative design ideas *Follow and refine a logical plan *Use annotated sketches, cross-sectional planning and exploded diagrams 	<ul style="list-style-type: none"> *Use selected tools and equipment precisely *Produce suitable lists of tools, equipment, materials needed, considering constraints *Select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics *Create, follow, and adapt detailed step-by-step plans *Explain how product will appeal to audience; make changes to improve quality *Accurately measure, mark out, cut and shape materials/components *Accurately assemble, join and combine materials/components *Accurately apply a range of finishing techniques 	<ul style="list-style-type: none"> *Evaluate quality of design while designing and making; is it fit for purpose? *Keep checking design is best it can be *Evaluate ideas and finished product against specification, stating if it's fit for purpose *Test and evaluate final product; explain what would improve it and the effect different resources may have had *Do thorough evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose 	<p><u>Mechanisms:</u></p> <ul style="list-style-type: none"> *Refine product after testing, considering aesthetics, functionality and purpose *Incorporate hydraulics and pneumatics *Be confident to try new / different ideas *Use cams, pulleys and gears to create movement <p><u>Electrical Systems:</u></p> <ul style="list-style-type: none"> *Use different types of circuit in product *Think of ways in which adding a circuit would improve product *Program a computer to monitor changes in environment and control product 	<ul style="list-style-type: none"> *Understand a recipe can be adapted by adding / substituting ingredients *Explain seasonality of foods *Learn about food processing methods *Name some types of food that are grown, reared or caught in the UK or wider world *Adapt recipes to change appearance, taste, texture or aroma *Describe some of the different substances in food and drink, and how they can affect health *Prepare and cook a variety of savoury dishes

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	<ul style="list-style-type: none"> *Make design decisions, considering, resources and cost *Clearly explain how parts of design will work, and how they are fit for purpose *Independently model and refine design ideas by making prototypes and using pattern pieces *Use computer-aided designs 	<ul style="list-style-type: none"> *Use techniques that involve a number of steps *Be resourceful with practical problems 	<ul style="list-style-type: none"> *Evaluate how much products cost to make and how innovative they are *Research and discuss how sustainable materials are *Consider the impact of products beyond their intended purpose *Discuss some key inventors/designers/engineers/chefs/manufacturers of ground-breaking products 	<p><u>Textiles:</u></p> <ul style="list-style-type: none"> *Think about user’s wants/needs and aesthetics when choosing textiles *Make product attractive and strong *Make a prototype *Use a range of joining techniques *Think about how product might be sold *Think carefully about what would improve product *Understand that a single 3D textiles project can be made from a combination of fabric shapes <p><u>Materials and Structures:</u></p> <ul style="list-style-type: none"> *Select materials carefully, considering intended use of the product, the aesthetics and functionality *Explain how product meets design criteria *Reinforce and strengthen a 3D frame 	<p>safely and hygienically including, where appropriate, the use of heat source</p> <ul style="list-style-type: none"> *Use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
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