



Year 3

Technical knowledge:	<ul style="list-style-type: none"> • Apply understanding of how to strengthen, stiffen & reinforce more complex structures • Understand & use mechanical systems in their products eg [gears, pulleys,cams, levers, linkages] • Understand seasonality, & know where and how a variety of ingredients are grown, reared, caught and processed • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking • how mechanical systems such as levers and linkages or pneumatic systems create movement • how to make strong, stiff shell structures 		
NC POS Design: Use research & 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 & communicate their ideas through discussion, annotated sketches, cross-sectional & exploded diagrams, prototypes, pattern pieces & computer-aided design. Make: Select from & use a wider range of tools & equipment to perform practical tasks [for example, cutting, shaping, joining & finishing] accurately. Select from & use a wider range of materials & components, including construction materials, textiles & ingredients, according to their functional properties & aesthetic qualities Evaluate: Investigate & analyse a range of existing products. Evaluate their ideas & products against their own design criteria & consider the views of others to improve their work. Understand how key events & individuals in design & technology have helped shape the world	Theme (See knowledge)	Skills <ul style="list-style-type: none"> • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work • gather information about the needs and wants of particular individuals and groups • develop their own design criteria and use these to inform their idea • generate realistic ideas, focusing on the needs of the user • make design decisions that take account of the availability of resources <ul style="list-style-type: none"> • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities • order the main stages of making measure, mark out, cut and shape materials and components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques, including those from art and design, with some accuracy <ul style="list-style-type: none"> • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • refer to their design criteria as they design and make • use their design criteria to evaluate their completed products investigate and analyse: <ul style="list-style-type: none"> • who designed and made the products • where products were designed and made • when products were designed and made • whether products can be recycled or reused 	Vocab plan target group labels design technology model fold score measure mark out materials assemble join combine finishing strengths improvements evaluate purpose



Cooking & nutrition: Understand & apply the principles of a healthy & varied diet. Prepare & cook a variety of predominantly savoury dishes using a range of cooking techniques.		<ul style="list-style-type: none">• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eatwell plate• that to be active and healthy, food and drink are needed to provide energy for the body	hygiene healthy safety sweet/ savoury



Year 4

Technical knowledge: Apply understanding of how to strengthen, stiffen & reinforce more complex structures
 Understand & use mechanical systems in their products eg [gears, pulleys,cams, levers, linkages]
 Understand seasonality, & know where and how a variety of ingredients are grown, reared, caught and processed

NC POS	Theme	Skills	Vocab
<p>Design: Use research & 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 & communicate their ideas through discussion, annotated sketches, cross-sectional & exploded diagrams, prototypes, pattern pieces & computer-aided design.</p>		<ul style="list-style-type: none"> work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment describe the purpose of their products indicate the design features of their products that will appeal to intended users explain how particular parts of their products work gather information about the needs and wants of particular individuals and groups develop their own design criteria and use these to inform their idea generate realistic ideas, focusing on the needs of the user make design decisions that take account of the availability of resources 	<p>plan target group labels design technology model fold score</p>
<p>Make: Select from & use a wider range of tools & equipment to perform practical tasks [for example, cutting, shaping, joining & finishing] accurately. Select from & use a wider range of materials & components, including construction materials, textiles & ingredients, according to their functional properties & aesthetic qualities</p>		<ul style="list-style-type: none"> select tools and equipment suitable for the task explain their choice of tools and equipment in relation to the skills and techniques they will be using select materials and components suitable for the task explain their choice of materials and components according to functional properties and aesthetic qualities order the main stages of making: measure, mark out, cut and shape materials and components with some accuracy assemble, join and combine materials and components with some accuracy apply a range of finishing techniques, including those from art and design, with some accuracy 	<p>measure mark out materials assemble join combine finishing</p>
<p>Evaluate: Investigate & analyse a range of existing products. Evaluate their ideas & products against their own design criteria & consider the views of others to improve their work. Understand how key events & individuals in design & technology have helped shape the world</p>		<ul style="list-style-type: none"> identify the strengths and areas for development in their ideas and products consider the views of others, including intended users, to improve their work refer to their design criteria as they design and make use their design criteria to evaluate their completed products investigate and analyse: <ul style="list-style-type: none"> who designed and made the products 	<p>strengths improvements evaluate purpose</p>



		<ul style="list-style-type: none">• where products were designed and made• when products were designed and made• whether products can be recycled or reused	
<p>Cooking & nutrition: Understand & apply the principles of a healthy & varied diet.</p> <p>Prepare & cook a variety of predominantly savoury dishes using a range of cooking techniques.</p>		<ul style="list-style-type: none">• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world• how to prepare and cook a variety of predominantly savory dishes safely and hygienically including, where appropriate, the use of a heat source• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell plate• that to be active and healthy, food and drink are needed to provide energy for the body	hygiene healthy safety sweet/ savoury
<p>Technical knowledge</p>		<p>how to use learning from science to help design and make products that work</p> <ul style="list-style-type: none">• how to use learning from mathematics to help design and make products that work• that materials have both functional properties and aesthetic qualities• that materials can be combined and mixed to create more useful characteristics• that mechanical and electrical systems have an input, process and output• the correct technical vocabulary for the projects they are undertaking• how mechanical systems such as levers and linkages or pneumatic systems create movement• how to make strong, stiff shell structures	Lever Linkages Movement Structure Pneumatic Strong Stiff Mechanical Electrical

Year 5



<p>Technical knowledge:</p>	<ul style="list-style-type: none"> • Understand & use electrical systems in their products eg [series circuits,- switches, bulbs, buzzers, motors] including understanding of how to strengthen, stiffen & reinforce more complex structures • Understand seasonality, & know where and how a variety of ingredients are grown, reared, caught and processed • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking • how more complex electrical circuits and components can be used to create functional products • how to reinforce and strengthen a 3D framework
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NC POS	Theme	Skills	Vocab
<p>Design: Use research & 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 & communicate their ideas through discussion, annotated sketches, cross-sectional & exploded diagrams, prototypes, pattern pieces & computer-aided design.</p>	<p>(See knowledge)</p>	<ul style="list-style-type: none"> • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • develop a simple design specification to guide their thinking • share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas • generate innovative ideas, drawing on research • make design decisions, taking account of constraints such as time, resources and cost 	<p>plan target group labels design technology model fold score</p> <p>measure mark out materials assemble join combine finishing</p> <p>strengths improvements evaluate purpose</p>
<p>Make: Select from & use a wider range of tools & equipment to perform practical tasks [for example, cutting, shaping, joining & finishing] accurately. Select from & use a wider range of materials & components, including construction materials, textiles & ingredients, according to their functional properties & aesthetic qualities</p>		<ul style="list-style-type: none"> • select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities • produce appropriate lists of tools, equipment and materials that they need • formulate step-by-step plans as a guide to making • follow procedures for safety and hygiene • accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems 	
<p>Evaluate: Investigate & analyse a range of existing products. Evaluate their ideas & products against their own design criteria & consider the views of others to improve their work. Understand how key events & individuals in design & technology have helped shape the world</p>		<ul style="list-style-type: none"> • identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used 	



		<ul style="list-style-type: none">• how well products work; achieve their purposes; meet user needs & wants• investigate and analyse:• how much products cost to make• how innovative products are• how sustainable the materials in products are• what impact products have beyond their intended purpose• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	
Cooking & nutrition: Understand & apply the principles of a healthy & varied diet. Prepare & cook a variety of predominantly savoury dishes using a range of cooking techniques.		<ul style="list-style-type: none">• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking• that seasons may affect the food available• how food is processed into ingredients that can be eaten or used in cooking• that recipes can be adapted to change the appearance, taste, texture and aroma• that different food and drink contain different substances – nutrients, water and fibre – that are needed for health	hygiene healthy safety



Year 6

Technical knowledge:

- Understand & use mechanical systems in their products eg [gears, pulleys,cams, levers, linkages] including understanding of how to strengthen, stiffen & reinforce more complex structures
- Understand seasonality, & know where and how a variety of ingredients are grown, reared, caught and processed
- Understand how to use learning from science to help design and make products that work
- Understand how to use learning from mathematics to help design and make products that work
- that materials have both functional properties and aesthetic qualities
- **that materials can be combined and mixed to create more useful characteristics**
- that mechanical and electrical systems have an input, process and output
- **the correct technical vocabulary for the projects they are undertaking**
- how mechanical systems such as cams or pulleys or gears create movement
- how to reinforce and strengthen a 3D framework

NC POS

Design:
Use research & 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 & communicate their ideas through discussion, annotated sketches, cross-sectional & exploded diagrams, prototypes, pattern pieces & computer-aided design.

Make:

Select from & use a wider range of tools & equipment to perform practical tasks [for example, cutting, shaping, joining & finishing] accurately.
Select from & use a wider range of materials & components, including construction materials, textiles & ingredients, according to their functional properties & aesthetic qualities

Theme

(See knowledge)

Skills

- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment
 - describe the purpose of their products
 - indicate the design features of their products that will appeal to intended users
 - explain how particular parts of their products work
 - carry out research, using surveys, interviews, questionnaires and web-based resources
 - identify the needs, wants, preferences and values of particular individuals and groups
 - develop a simple design specification to guide their thinking
 - share and clarify ideas through discussion
 - model their ideas using prototypes and pattern pieces
 - use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas
 - use computer-aided design to develop and communicate their ideas
 - generate innovative ideas, drawing on research
 - **make design decisions, taking account of constraints such as time, resources and cost**
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- select tools and equipment suitable for the task
 - explain their choice of tools and equipment in relation to the skills and techniques they will be using
 - select materials and components suitable for the task
 - explain their choice of materials and components according to functional properties and aesthetic qualities
 - **produce appropriate lists of tools, equipment and materials that they need**
 - **formulate step-by-step plans as a guide to making**

Vocab

plan
target group
labels
design
technology
model
fold
score

measure
mark out
materials
assemble
join
combine
finishing



		<ul style="list-style-type: none">• follow procedures for safety and hygiene• accurately measure, mark out, cut and shape materials and components• accurately assemble, join and combine materials and components• accurately apply a range of finishing techniques, including those from art and design• use techniques that involve a number of steps• demonstrate resourcefulness when tackling practical problems	
<p>Evaluate: Investigate & analyse a range of existing products. Evaluate their ideas & products against their own design criteria & consider the views of others to improve their work. Understand how key events & individuals in design & technology have helped shape the world</p>		<ul style="list-style-type: none">• identify the strengths and areas for development in their ideas and products• consider the views of others, including intended users, to improve their work• critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make• evaluate their ideas and products against their original design specification• how well products have been designed• how well products have been made• why materials have been chosen• what methods of construction have been used• how well products work• how well products achieve their purposes• how well products meet user needs and wants• also investigate and analyse:<ul style="list-style-type: none">• how much products cost to make• how innovative products are• how sustainable the materials in products are• what impact products have beyond their intended purpose• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	strengths improvements evaluate purpose
<p>Cooking & nutrition: Understand & apply the principles of a healthy & varied diet. Prepare & cook a variety of predominantly savoury dishes using a range of cooking techniques.</p>		<ul style="list-style-type: none">• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking• that seasons may affect the food available• how food is processed into ingredients that can be eaten or used in cooking• that recipes can be adapted to change the appearance, taste, texture and aroma	hygiene healthy safety sweet/ savoury



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| | | <ul style="list-style-type: none">• that different food and drink contain different substances – nutrients, water and fibre – that are needed for health | |
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