

DT Overview

Aim of the unit: (From the National Curriculum) – KS1

Design

- 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

Make

- 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

Evaluate




- Explore and evaluate a range of existing products
- Evaluate their ideas and products against design criteria

Technical knowledge

- 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.

Cooking and Nutrition

- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.





One	<p style="text-align: center;">Construction and Textiles <u>Animal Masks / Christmas decorations</u></p>  <ul style="list-style-type: none">• Use pictures and words to convey what they want to design / make.• Explore ideas by rearranging materials.• Select pictures to help develop ideas.• Use mock-ups e.g. recycled material trial models to try out their ideas.• Select materials from a limited range.• Explain what they are making.• Name the tools they are using.• Start to use technical vocabulary.	<p style="text-align: center;">Cooking and Nutrition <u>Fruit Kebabs</u></p>  <ul style="list-style-type: none">• Group familiar food products e.g. fruit and vegetables.• Cut and chop a range of ingredients.• Work safely and hygienically.• Know about the need for a variety of foods in a diet.	<p style="text-align: center;">Mechanisms Car for Goldilocks and the 3 bears</p>  <ul style="list-style-type: none">• Use pictures and words to convey what they want to design / make.• Explore ideas by rearranging materials.• Select pictures to help develop ideas.• Use mock-ups e.g. recycled material trial models to try out their ideas.• Select materials from a limited range.• Explain what they are making.• Name the tools they are using.• Start to use technical vocabulary.• Cut out shapes which have been created by drawing round a template.
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	<ul style="list-style-type: none"> • Cut out shapes which have been created by drawing round a template. • Join materials in a variety of ways. • Decorate using a variety of techniques. • Know some ways of making structures stronger. • Show how to stiffen some materials. • Know how to make a simple structure more stable. • Attach wheels to a chassis using an axle. • Know some different ways of making things move in a 2-D plane. 	<ul style="list-style-type: none"> • Join materials in a variety of ways. • Decorate using a variety of techniques. • Know some ways of making structures stronger. • Show how to stiffen some materials. • Know how to make a simple structure more stable. • Attach wheels to a chassis using an axle. •
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EVALUATE

- Explore existing products and investigate how they have been made (including teacher-made examples).
- Talk about their design as they develop and identify good and bad points.
- Say what they like and do not like about items they have made and attempt to say why.

Vocabulary	<ul style="list-style-type: none"> • Plan • Prepare • Design • Materials • Ideas • Use • Template • Fast • Slow • Faster • Slower • Up • Down • Turn • Wind up • Draw • Tools • Fix • Glue • Attach • Features • Cloth • Foam • Felt • Paper • Tissue • Newspaper • Cardboard • String • Wool • Scissors • Tape • Cut • Stick • Decorate • Healthy • Unhealthy • Fruit • Vegetables • Clean • Safe • Dirty • Unsafe • Amount • Ingredients • Dietary requirements • Prefer •
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Two	<p style="text-align: center;"><u>Construction and Textiles</u> <u>LS Lowry Village / Hand puppets</u></p>   <ul style="list-style-type: none"> • Propose more than one idea for their product. • Use ICT to communicate ideas. • Use drawings to record ideas as they are developed. • Add notes to drawings to help explanations. • Discuss their work as it progresses. 	<p style="text-align: center;"><u>Cooking and Nutrition</u> <u>Fruit Smoothies</u></p>  <ul style="list-style-type: none"> • Cut, peel, grate, chop a range of ingredients. • Work safely and hygienically. • Know about the Eatwell Plate. • Understand where food comes from. 	<p style="text-align: center;"><u>Mechanisms</u> <u>Moving on a 2D plane</u></p>  <ul style="list-style-type: none"> • Propose more than one idea for their product. • Use ICT to communicate ideas. • Use drawings to record ideas as they are developed. • Add notes to drawings to help explanations. • Discuss their work as it progresses.
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	<ul style="list-style-type: none"> • Select and name the tools needed to work the materials. • Explain which materials they are using and why. • Start to use technical vocabulary. • Cut out shapes which have been created by drawing round a template. • Join materials in a variety of ways. • Decorate using a variety of techniques. • Know some ways of making structures stronger. • Show how to stiffen some materials. • Know how to make a simple structure more stable. • Attach wheels to a chassis using an axle. • Know some different ways of making things move in a 2-D plane. 		<ul style="list-style-type: none"> • Select and name the tools needed to work the materials. • Explain which materials they are using and why. • Start to use technical vocabulary. • Cut out shapes which have been created by drawing round a template. • Join materials in a variety of ways. • Decorate using a variety of techniques. • Know some ways of making structures stronger. • Show how to stiffen some materials. • Know how to make a simple structure more stable. • Know some different ways of making things move in a 2-D plane.
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	<p>EVALUATE</p> <ul style="list-style-type: none"> • Decide how existing products do / do not achieve their purpose. • Discuss how closely their finished product meets their own design criteria. 		
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Vocabulary	<ul style="list-style-type: none"> • Plan • Prepare • Design • Materials • Ideas • Use • Model • Development • Market Research • Survey • Template • Fast • Slow • Faster • Slower • Up • Down • Turn • Wind up • Draw • Sketch • Tools • Fix • Attach • Features • Brick • Wood • Stone • Cloth • Metal • Foam • Felt • Paper • Tissue • Newspaper • Cardboard • String • Wool • Clay • Scissors • Glue • Tape • Cut • Stick • Decorate • Healthy • Unhealthy • Source • Fruit • Vegetables • Clean • Safe • Dirty • Unsafe • Amount • Ingredients • Recipe • Weight • Nutrients • Vegetarian • Dietary requirements • Change • Improve • Prefer • Useful • Unsuccessful • Future • Progress • modify 		
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Aim of the unit: (From the National Curriculum) – KS2

Design

- 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

Make

- 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

Evaluate

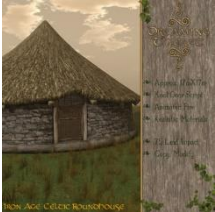

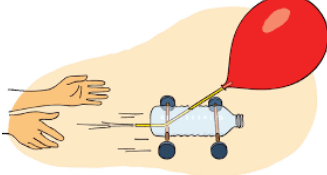
- Investigate and analyse a range of existing products
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- Understand how key events and individuals in design and technology have helped shape the world



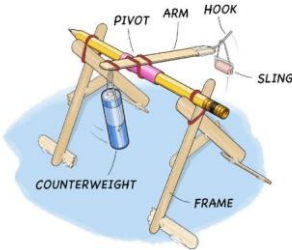
Technical knowledge

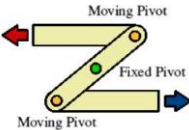
- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- Apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

- 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
- Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Three	<p style="text-align: center;">Constructions and Textiles <u>Round houses/Christmas Decorations</u></p>  <ul style="list-style-type: none">• Develop more than one design or adaptation of an initial design.• Plan a sequence of actions to make a product.• Think ahead about the order of their work and decide upon tools and materials.• Propose realistic suggestions as to how they can achieve their design ideas.• Select from a range of tools for cutting, shaping, joining and finishing.• Use tools with accuracy.• Select from materials according to their functional properties.• Use appropriate finishing techniques.	<p style="text-align: center;">Cooking and Nutrition <u>Thai Green Curry</u></p>  <ul style="list-style-type: none">• Follow instructions / recipes.• Join and combine a range of ingredients.• Begin to understand the food groups on the Eatwell Plate.	<p style="text-align: center;">Mechanisms <u>Moving Monsters</u></p>  <ul style="list-style-type: none">• Develop more than one design or adaptation of an initial design.• Plan a sequence of actions to make a product.• Think ahead about the order of their work and decide upon tools and materials.• Propose realistic suggestions as to how they can achieve their design ideas.• Select from a range of tools for cutting, shaping, joining and finishing.• Use tools with accuracy.• Select from materials according to their functional properties.• Use appropriate finishing techniques.• Use an increasingly appropriate technical vocabulary for tools materials and their properties.• Understand seam allowance.
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	<ul style="list-style-type: none"> • Use an increasingly appropriate technical vocabulary for tools materials and their properties. • Prototype a product. • Strengthen frames with diagonal struts. • Measure and mark square section, strip and dowel accurately to 1cm. 		<ul style="list-style-type: none"> • Prototype a product. • Sew on buttons and make loops. • Strengthen frames with diagonal struts. • Measure and mark square section, strip and dowel accurately to 1cm. • Use linkages to make movement larger or more varied.
	<p>EVALUATE</p> <ul style="list-style-type: none"> • Investigate similar products to the one to be made to give starting points for a design. • Research needs of user. • Decide which design idea to develop. • Consider and explain how the finished product could be improved. • Discuss how well the finished product meets the user's design criteria. • Investigate key events and individuals in design and technology. 		
<p>Vocabul ary</p>	<p>Plan • Organise • Initial ideas • Prototype Criteria • Diagrams • Labels • Annotate • Brief • Product • Purpose • Application • Constraints • Materials • Mould • Form • Shape • Adhesive • Presentation • Machine made • Dimensions • Durable • Healthy • Unhealthy • Balanced • Vitamins • Nutrition • Healthy eating • Hygiene • Diet • Cross contamination • Storage • Presentation • Taste • Flavour • Assess • Edit • Improve • Alter • Develop • Test • Analyse • Effective • Fit for purpose • Design criteria • Alternatives • Models • Quality • Function • Functionality</p>		
<p>Four</p>	<p>Construction and textiles Roman Shields / Christmas Decorations</p>  <ul style="list-style-type: none"> • Record the plan by drawing using annotated sketches. • Use prototypes to develop and share ideas. • Consider aesthetic qualities of materials chosen. 	<p>Cooking and Nutrition Chicken Fajitas</p>  <ul style="list-style-type: none"> • Make healthy eating choices – use the Eatwell plate. • Understand seasonality. • Know where and how ingredients are reared and caught. • Prepare and cook using different cooking techniques 	<p>Mechanisms Trebuchet</p>  <ul style="list-style-type: none"> • Record the plan by drawing using annotated sketches. • Use prototypes to develop and share ideas. • Consider aesthetic qualities of materials chosen. • Prepare pattern pieces as templates for their design. • Select from techniques for different parts of the

	<ul style="list-style-type: none"> • Use CAD where appropriate. • Prepare pattern pieces as templates for their design. • Select from techniques for different parts of the process. • Use an increasingly appropriate technical vocabulary for tools materials and their properties. • Understand seam allowance. • Prototype a product. • Sew on buttons and make loops. • Strengthen frames with diagonal struts. • Measure and mark square section, strip and dowel accurately to 1cm. • Incorporate a circuit into a model. • Use electrical systems such as switches bulbs and buzzers. • Use ICT to control products. • Use linkages to make movement larger or more varied. 		<p>process.</p> <ul style="list-style-type: none"> • Use an increasingly appropriate technical vocabulary for tools materials and their properties. • Prototype a product. • Strengthen frames with diagonal struts. • Measure and mark square section, strip and dowel accurately to 1cm. • Use linkages to make movement larger or more varied.
	<p>Evaluate</p> <ul style="list-style-type: none"> • Draw / sketch existing products in order to analyse and understand how products are made. • Identify the strengths and weaknesses of their design ideas in relation to purpose / user. • Consider and explain how the finished product could be improved. • Investigate key events and individuals in design and technology. 		
Vocabulary	<p>Plan • Organise • Prototype • Initial ideas • Criteria • Diagrams • Labels • Annotate • Brief • Product • Consumer • Customer • Target audience • Purpose • Application • Constraints • Client • Materials • Mould • Liquid • Solid • Form • Shape • Adhesive • Mass-produce • Hand-made • Presentation • • Dimensions • Durable • Healthy • Unhealthy • Balanced • Vitamins • Disease • Nutrition • Healthy eating • Hygiene • Diet • Cross contamination • Grams • Storage • Presentation • Taste • Texture • Flavour • Disinfect • Bacteria • Assess • Edit • Improve • Alter • Outcome • Develop • Test • Analyse • Effective • Fit for purpose • Design criteria • Alternatives • Models • Quality • Function • Functionality</p>		
Five	<p>Construction and Textiles <u>Boats / Christmas Decorations</u></p>	<p>Cooking and Nutrition <u>Chocolate Truffles</u></p>	<p>Mechanisms</p> 



- Record ideas using annotated diagrams.
- Use models, kits and drawings to help formulate design ideas.
- Sketch and model alternative ideas.
- Decide which design idea to develop.
- Develop one idea in depth.
- Select from and use a wide range of tools.
- Cut accurately and safely to a marked line.
- Select from and use a wide range of materials.
- Use the correct vocabulary appropriate to the project.
- Join materials using appropriate methods.
- Create 3-D textile products using pattern pieces.
- Understand pattern layout with textiles.
- Cut strip wood, dowel, square section wood accurately to 1mm.
- Build frameworks to support mechanisms.
- Stiffen and reinforce complex structures.
- Use mechanical systems such as cams, pulleys and gears.
- Use electrical systems such as motors and switches.
- Program, monitor and control using ICT.



- Join and combine a widening range of ingredients.
- Select and prepare foods for a particular purpose.
- Know where and how ingredients are grown and processed.

- Record ideas using annotated diagrams.
- Use models, kits and drawings to help formulate design ideas.
- Sketch and model alternative ideas.
- Decide which design idea to develop.
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- Build frameworks to support mechanisms.
- Stiffen and reinforce complex structures.
- Use mechanical systems such as cams, pulleys and gears.
- Use electrical systems such as motors and switches.
- Program, monitor and control using ICT.

EVALUATE

- Research and evaluate existing products.
- Consider user and purpose.
- Consider and explain how the finished product could be improved related to design criteria.
- Investigate key events and individuals in design and technology.

Vocabulary

Plan • Organise • Prototype • Initial ideas • Criteria • Diagrams • Labels • Annotate • Brief • Product • Consumer • Customer • Target audience • Purpose • Application • Constraints • Client • Materials • Mould • Liquid • Solid • Form • Shape • Adhesive • Lattice • Mass-produce • Hand-made • Packaging •

Presentation • Machine made • Dimensions • Durable • Healthy • Unhealthy • Balanced • Vitamins • Disease • Nutrition • Healthy eating • Hygiene • Diet • Cross contamination • Grams • Storage • Presentation • Taste • Texture • Flavour • Disinfect • Bacteria • Assess • Edit • Improve • Alter • Outcome • Develop • Test • Analyse • Effective • Fit for purpose • Design criteria • Alternatives • Models • Quality • Function • Functionality

Six

Construction and Textiles
Christmas Decorations



- Plan the sequence of work.
- Devise step by step plans which can be read / followed by someone else.
- Use exploded diagrams and cross-sectional diagrams to communicate ideas.
- Make prototypes.
- Use researched information to inform decisions.
- Produce detailed lists of components / materials and tools.
- Refine their product – review and rework / improve
- Use the correct vocabulary appropriate to the project.
- Join materials using appropriate methods.
- Create 3-D textile products using pattern pieces.
- Understand pattern layout with textiles.
- Cut strip wood, dowel, square section wood accurately to 1mm.
- Build frameworks to support mechanisms.

Cooking and Nutrition
Chinese Soup



- Understand and apply the principles of a healthy and varied diet.
- Choose ingredients to support healthy eating choices when designing their food products.
- Prepare and cook a variety of mostly savoury dishes using a range of cooking techniques.

Mechanisms
Interactive Board Games



- Plan the sequence of work.
- Devise step by step plans which can be read / followed by someone else.
- Use exploded diagrams and cross-sectional diagrams to communicate ideas.
- Make prototypes.
- Use researched information to inform decisions.
- Produce detailed lists of ingredients / components / materials and tools.
- Refine their product – review and rework / improve
- Use the correct vocabulary appropriate to the project.
- Join materials using appropriate methods.
- Create 3-D textile products using pattern pieces.
- Understand pattern layout with textiles.
- Cut strip wood, dowel, square section wood accurately to 1mm.
- Build frameworks to support mechanisms.
- Stiffen and reinforce complex structures.
- Use mechanical systems such as cams, pulleys and gears.
- Use electrical systems such as motors and

	<ul style="list-style-type: none"> • Stiffen and reinforce complex structures. • Use mechanical systems such as cams, pulleys and gears. • Use electrical systems such as motors and switches. • Program, monitor and control using ICT. 		<p>switches.</p> <ul style="list-style-type: none"> • Program, monitor and control using ICT.
	<p>EVALUATE</p> <ul style="list-style-type: none"> • Identify the strengths and weaknesses of their design ideas. • Report using correct technical vocabulary. • Discuss how well the finished product meets the design criteria having tested on/discussed outcomes with the user. • Understand how key people have influenced design in a variety of contexts. • Investigate key events and individuals in design and technology. 		
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