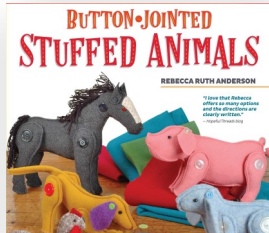
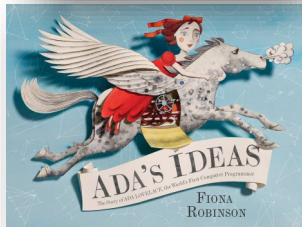




YEAR 6

**DESIGN & TECHNOLOGY
CURRICULUM**

Year 6 D&T - Broader Curriculum Aims and Objectives

Key Themes	Topics of Study	
- Food and Nutrition - Electrical Systems - Textiles	- Come Dine with Me - Computer Controlled Buggy - Stuffed Toy	
Key D&T Knowledge and Understanding	Vocabulary	
- Know that a planned 3 course meal should include food from different groups in order for it to be healthy. - Know the different ways to prepare food and select the appropriate techniques for each course of the planned meal. - Know the different ways to cook food and select the most appropriate process for each course of the planned meal. - Know the importance of using seasonal foods for eating sustainably and the environment. - Know how to create a paper template making sure that it is proportional. - Know how to sew accurately with even regularity of stitches. - Know how to use a blanket stitch to reinforce the edge of a fabric material or securely join two pieces of fabric together. - Know how to use applique or decorative stitching to decorate the front of a stuffed toy. - Know how to use strong and secure stitches, threading a needle and tying knots with greater independence. - Know how to repair gaps and holes that may appear after stuffing. - Know that mechanical and electrical systems have an input, process and output. - Know how more complex electrical circuits and components can be used to create functional products. - Know the different components needed for an electrical circuit and how to connect up the circuit using these components. - Know that mechanisms, including levers, pulleys and gears, allow us to use a smaller force to have a greater effect and change motion. - Know that a pulley is a wheel on a fixed axle with a groove in it to guide a rope or cable. - Know that a motor can be used to drive a pulley. - Know that smaller pulleys go faster on flat surfaces and that larger pulleys usually go better up hill.	design, template, model, stuffed toy, fabric, running stitch, cross-stitch, applique, equipment, flavours, ingredients, method, research, recipe, bridge method, cross-contamination, farm to fork, preparation, pulley, drive belt, axle, bearing, series circuit, short circuit.	
	Quality Literature Links	Ground Breaking Individuals
 		

Year 6 D&T - Broader Curriculum Aims and Objectives

Progression of Skills / Disciplinary Knowledge

Designing	Making	Technical Knowledge	Evaluating and Analysing	Cooking and Nutrition
Understanding Contexts, Users and Purposes. Generating, developing, modelling and communicating ideas	Planning, Practical Skills and Techniques	Construction and Textiles	Own Ideas and Products Existing Products	Understand and apply the principles of nutrition and learn how to cook.
• 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. • Generate innovative design ideas, follow and refine a logical plan. • Use annotated sketches. • 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.	• 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 the product will appeal to the audience and 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. • Use techniques that involve a number of steps. • Be resourceful with practical problems.	• Select materials carefully, considering intended use of the product, the aesthetics and functionality. • Explain how a product meets the design criteria. • Reinforce and strengthen a 3D structure or product. • Refine a product after testing, considering aesthetics, functionality and purpose. • Try new/different ideas with confidence. • Use different types of circuit and think of ways in which adding a circuit would improve a product. • Make a product attractive and strong. • Make a prototype. • Use a range of joining techniques. • Understand that a single textiles project can be made from a combination of fabric shapes.	• Evaluate the quality of design while designing and making, considering if it is fit for purpose. • 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. • Conduct thorough evaluations of existing products considering how well they've been made, materials, whether they work, how they've been made and if they are fit for purpose. • 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.	• Understand how a recipe can be adapted by adding/substituting ingredients. • Explain seasonality of foods. • Present a product to a high standard to make the product interesting and aesthetically attractive. • Learn about food processing methods. • 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 dishes safely and hygienically. • Use of range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

PRIOR LEARNING LINKS - D&T

Y5 Healthier Burger: Learn about the different ingredients within dishes and where they come from. Understand which foods we can eat in an abundance and which are not as healthy. Design and make their own healthier burger including design label.



Year 6 Design & Technology

Unit of Learning: **Come Dine with Me**

D&T School Theme: Food and Nutrition

FUTURE LEARNING LINKS - D&T

KS3: Food Technology: learn more about how and where different foods are produced. Prepare and cook a range of different dishes including sweet and savoury and hot and cold dishes. Learn more about food safety in terms of cooking and re-heating meat etc.

Teaching Sequence for this Unit.

What will we need to research in order to design a three-course meal?

What ingredients will I need?

What equipment will I need in order to follow the method?

A FN TK

What are your three dishes and will they compliment each other?

Who will make the starter?

Who will make the main?

Who will make the dessert?

What additional ingredients will be needed?

FN D TK

How are the main ingredients in our course grown/reared, farmed/caught or processed?

How can a storyboard be used to explain this?

A FN TK

Can we prepare our ingredients and follow our recipes to create our dishes?

What could be the potential dangers?

What is meant by cross-contamination?

M FN TK

What should go on your recipe page for a class book?

What illustrations could accompany your recipe page?

What top tips can you give to accompany the recipe?

FN TK

What criteria could we use to evaluate and score our own dishes as well as the dishes of other groups?

Which group would win the come dine with me challenge if we used this?

E FN

Focus for Disciplinary Knowledge

Designing	Making	Technical Knowledge	Evaluating and Analysing	Food and Nutrition
Understanding Contexts, Users and Purposes. Generating, developing, modelling and communicating ideas	Planning, Practical Skills and Techniques	Construction, Textiles, Mechanical Systems and Electrical Systems	Own Ideas and Products Existing Products	Understand and apply the principles of nutrition and learn how to cook.

PRIOR LEARNING LINKS - D&T

Y2 Fabric Pouch: Learn how to sew running stitches and how to thread a needle and cut and tie thread. Use materials and decorative features. Join two identical fabric shapes.

Y4 Book Sleeves. Explore different types of fasteners. Make and test a template. Pin, mark and cut out fabric. Use different techniques including sewing, to join and decorate.



Year 6 Design & Technology

Unit of Learning: Can we design and make a stuffed toy?

D&T School Theme: Textiles

FUTURE LEARNING LINKS - D&T

Teaching Sequence for this Unit.

What would be a good stuffed toy design for a younger child?

How can simple designs help to ensure that a product is finished to a high standard?
What will be the shape of the main body? Which extras can be added as features?

A D TK

How does a template help to ensure that our fabric is the right shape and size?

What colour fabric will we use for the main body?
Can we draw our template, pin the fabric to it, mark and cut it out accurately and neatly?

D M TK

How can we sew strong and secure blanket stitches?

Why is it best to use a contrasting coloured thread when practising the stitch on scraps of fabric?
What other decorative stitching could we try?

M TK

What is the best way to create and add decorations to fabric?

What should be attached to the fabric first and why?
Can we use a running, blanket or cross-stitch to attach pieces of decorative material or objects to the front of the toy.

M TK

Can we use a strong and secure blanket stitch to assemble the components of a stuffed toy?

How will we repair any holes or gaps?
Can we present and discuss our finished product with the class?
What would be two positive aspects? What would be one thing to change or improve?

M E TK

Focus for Disciplinary Knowledge

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PRIOR LEARNING LINKS - D&T

- **Y5:** Used cam mechanisms to make a model move. Explored how the shape of a cam affects the motion path of the follower.
- Learnt about strengthening and securing to increase stability and for improving finishing effects.
- **Y4 Torches:** Designed, made and assembled a torch including its circuit. Securing the circuit within the torch casing, ensuring that the switch can be turned on and off. Included appropriate design features.



Year 6 Design & Technology

Unit of Learning: **Can we design, make and program a moving vehicle?**

D&T School Theme: Electrical systems and Computer Programming.

FUTURE LEARNING LINKS - D&T

KS3 Computer Science and

Engineering: Continue to develop their understanding of how to program using a computer. Work with a range of different materials and tools in order to create different products matched to user and purpose. Work with heating materials and joining using soldering technique. Create electrical circuits to use inside a functional product.

Teaching Sequence for this Unit.

How does the sample vehicle work?

What are the key electrical and mechanical components?

A TK

Can we make our own circuit?

What does the step-by-step guide tell us to do first? Second?

What will we need to ensure to make sure that it is connected up correctly?

What can we check if it doesn't work?

A D TK

Can we think of a design for our vehicle and sketch and annotate it on a design sheet?

What size pulley and wheels will be used?

Where will the electrical parts go?

D TK

How will we make the outer frame?

Can we use our marking out, sawing and smoothing skills?

How can we reinforce the joins using cardboard?

Why mustn't the axle holders touch the frame?

M TK

Can we fit the axles, bearings and motor?

What does the step-by-step guide tell us to do first, second etc?

What will be the key considerations for each step?

M TK

What will be the final steps to finishing our vehicle?

Where will we attach the battery and switch so that they don't interfere with the moving parts?

How can we secure and tidy the wires?

M TK

How will we test our vehicle to see how well we have been successful?

What difficulties did we encounter? How did we overcome them?

E TK

Focus for Disciplinary Knowledge

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