



YEAR 3

**DESIGN & TECHNOLOGY
CURRICULUM**

Year 3 D&T - Broader Curriculum Aims and Objectives

Key Themes	Topics of Study	
- Food Technology - Mechanical Systems - Structures	- Eating seasonally - Making tarts. - Levers and Sliders - Moving monsters - Stable structures - Pre-historic monuments	
Key D&T Knowledge and Understanding	Vocabulary	
- Know that seasonality of food refers to the time of year when a given type of food is at its peak, either in terms of harvest or its flavour. - Know that different parts of the world have different seasonal food. - Know the benefits and problems with seasonal food being available in shops all year round. - Know how to follow a recipe using seasonal ingredients. - Know how to use a range of cooking utensils and equipment safely. - Know that there is always an input and an output in a mechanism. - Know that a linkage is a system of levers that are connected by pivots. - Know that a lever is something that turns on a pivot, which enables things to move on a curve. - Identify the parts in different linkage mechanisms. - Know how simple linkages change the direction of motion. - Know that the shape of a structure affects its strength. - Know that the shape of materials can be changed to improve their strength and stiffness. - Know how to turn 2D nets into 3D structures. - Know how to create a frame structure for support. - Know that some frame structures are used to protect or hold things. - Know that other materials can be added to them to help reinforce them.	Climate: Polar, Mediterranean, Temperate and Tropical, exported, imported, nutrients, recipe, seasonal food, Exploded diagram, function, input, linkage, mechanism, motion, net, output, pivot, pneumatic system, thumbnail sketch. 2D/3D shapes, design criteria, evaluation, façade, feature, net, recyclable, scoring, stable, strong, weak, structure, tab. Accurate, applique, cross-stitch, decorate, detail, fabric, patch, running stitch, seam, stencil, stuffing, target audience.	
	Quality Literature Links	Ground Breaking Products
		 Mary Anderson

Year 3 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.
• Show how a design meets a range of requirements. • Begin to research others' needs • Describe the purpose of a product. • Follow a given design criteria. • Have a least one idea about how to create a product. • Create plans which show order, equipment and tools. • Make design decisions. • Explain how a product will work. • Begin to use computers to show design.	• Select suitable tools/ equipment; explain choices; begin to use them accurately. • Select appropriate materials that are fit for purpose. • Work through a plan in order. • Consider how good a product will be. • 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. • Apply a range of finishing techniques with some accuracy.	• Use appropriate materials . • Work accurately to make cuts and holes. • Join materials. • Begin to make strong structures. • Select appropriate tools/ techniques. • Alter a product after checking, to make it better. • Begin to try new/different ideas. • Use simple levers and linkages to create movement. • Learn how to use a computer program to design and create a product.	• Consider design criteria while designing and making. • Use design criteria to evaluate a finished product. • Suggest what could be changed to improve a product. • Evaluate existing products considering: how well they have been made, materials, whether they work, how they have been made, if they are fit for purpose. • Learn about some inventors/designers/ engineers/chefs/ manufacturers of ground-breaking products.	• Carefully select ingredients. • Use equipment safely. • Make a product look aesthetically pleasing. • Begin to understand that food comes for the UK and the wider world. • Describe a varied diet in terms of healthy balance of food and drinks. • Explain how food and drink are needed for active, healthy diets.

PRIOR LEARNING LINKS - D&T

- **Y2 Healthy Wraps**– develop understanding of different food groups and healthy diets. Explore and use different combinations of ingredients to ensure the wrap tastes good and is healthy.



Year 3 Design & Technology

Unit of Learning: **Let's Make a Seasonal Tart**

D&T School Theme: Food and Nutrition

FUTURE LEARNING LINKS - D&T

Y4 Alternative Biscuits–Learn new techniques needed for preparing and baking biscuit dough. Learn about the importance of prototype and make their own biscuit prototype, experimenting with different ingredients. Follow and adapt a recipe.

Teaching Sequence for this Unit.

Where in the world does our food come from?

Why do some foods come from different countries?
How does climate affect food growth around the world and in the UK?

FN TK

Why is home grown best?

How does importing food affect the environment?
Which UK fruits and vegetables grown in each season?

FN TK

Can we create a recipe using seasonal fruit and vegetables?

What ingredients will be used?
How will it be prepared and cooked?
How nutritious is our recipe?

D FN TK

Can we follow a recipe to make a tart?

What is the best way to stay safe and be hygienic when working in a kitchen?

FN M TK

How successful was our seasonal tart?

Did it taste as expected?
Did it look appetising?
Did it reflect a balanced diet?

E A TK

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

Y1-Moving Story Book: Explored how sliders are used to make things move-side-to-side and up-and-down. Designed moving picture , created slider and assembled own moving story book.

FUTURE LEARNING LINKS - D&T

- Y5: Mechanisms-Automata**
Toys: 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.

Year 3 Design & Technology

Unit of Learning: **Let's Make a Moving Monster**

D&T School Theme: Mechanisms-Pivots, levers and linkages

Step 3: Art Lessons: Computer-aided design

How can technology help us to create designs?

Can we create digital artwork to show what our moving monsters look like?

Teaching Sequence for this Unit.

How do moving parts work together to create a mechanism?

What examples of mechanism can we see in everyday products?
Which components allow them to move?

A TK

What can be found out from exploring linkage systems?

What are pivots and where can we see them in action?
Can we experiment with linkages by varying materials and altering the width/length of levers?

A M TK

Can we generate two different possible ideas for a product, which both meet the design criteria?

Can we choose the best idea to complete a final design sheet?
What other features should the monster have?

D TK

What will be the best linkage system to suit the moving monster?

Can we choose the best materials to make our linkage system and the monsters body parts? Can we complete our moving monster?

A M TK

How well does our moving monster fit the requirements of the design criteria?

What could be changed to improve it further?

E TK

Focus for Disciplinary Knowledge

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PRIOR LEARNING LINKS - D&T

EYFS: Created model structures of house, bridges and carriages using a range of materials.

Y1: Windmills: Used nets and templates to make a windmill and turbine. Know how to strengthen structures using a base.

Y2 Ferris Wheel: Designed and made key components for a Ferris wheel structure. Learnt how to strengthen using tabs and joins. Followed a plan to assemble.

FUTURE LEARNING LINKS - D&T

Y5 Bridge Building: Learn about different types of bridge structures. Test how stable model bridge structures are and learn how to use further methods such as triangles, to strengthen them. Design and make a wooden truss bridge.

Year 3 Design & Technology

Unit of Learning: **Monuments**

D&T School Theme: Structures

Teaching Sequence for this Unit.

What is a monument and why do they need to be strong and stable?

What different monuments do we know?

Which properties of materials are important for structures?

A

TK

What would be the best design for Stonehenge?

What 3D shapes make the various parts of Stonehenge?

How could we draw the design for Stonehenge using 2D and 3D shapes?

D

TK

Can we create our own monument design using an agreed set of criteria?

Which 3D shapes/junk modelling materials will be used to make each feature?

Which materials, colours, additional features will we include for our chosen user?

D

TK

How are 3D nets constructed effectively?

What shapes will we need to make from nets for our monument?

How can we secure one shape to another using tape, blue tac and/or glue?

M

TK

What are the features of a good quality monument structure?

Why is a monument base needed?

What other features do we need to add based on our original design brief?

M

TK

Is our final monument suitable for the original person/purpose which it was designed?

What are we happy with and would we change anything?

E

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