

Design Technology Curriculum 2021

Year 1

Autumn 1 – London: All Aboard

ART Unit (Basics of Drawings)

Autumn 2 - Jurassic Park

ART Unit (Georgia O'Keeffe)

Spring 1 – Not so traditional tales

MECHANISMS: Sliders and Levers

Create a moving picture to retell a Not so Traditional Tale

As designers,

- Can I design and make a moving picture for a not so traditional tale?
- Can I make decisions about the product design and use an annotated sketch to show ideas?
- ✓ Can I explore and use mechanisms such as levers and sliders in order to make a picture move?

Spring 2 - Tomorrow's World: The Future of Food

FOOD: preparing fruit and vegetables (including cooking & nutrition requirements for KS1)

Prepare and make a fruit salad

As designers,

- ✓ Can I explore where our food comes from?
- ✓ Can I prepare food safely and hygienically?
- ✓ Can I describe properties of food ingredients (e.g. taste, smell, texture and consistency)?
- ✓ Can I understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of *The Eatwell plate?*

DT day – link to Ancillary Question 3 in the Collins Geography Food Topic.

Summer 1 – All Around the World: Amazing Africa

ART Unit (Cardboard Sculptures)

Summer 2 – Explorers

STRUCTURES: Freestanding

Build a model rocket

As designers,

- ✓ Can I design and make a model rocket using a freestanding structure?
- ✓ Can I explore the features of a castle before using different materials to create them?
- ✓ Can I build structure, exploring how to make it stronger, stiffer and more stable?
- ✓ Can I with help, measure mark out, cut and shape a range of materials?

Autumn 1 - London: Spectacular Skyline

ART Unit (Skyline Collage)

Autumn 2 - Pioneers

ART Unit (Collography)

Spring 1 - Rainforests

FOOD: preparing fruit and vegetables (including cooking & nutrition requirements for KS1) To prepare and make a 'rainforest' fruit smoothie or fruit cocktail sticks

- ✓ Can I explore where our food comes from (with a focus on foods from the rainforest) e.g. farmed or grown at home?
- ✓ Can I prepare food safely and hygienically?
- ✓ Can I describe properties of food ingredients (e.g. taste, smell, texture and consistency)?
- Can understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of *The Eatwell plate?*

Spring 2 - Recycle today for a better tomorrow

MECHANISMS: Wheels and Axels

To design and make a recycled 'futuristic' vehicle using wheels and axels. As designers,

- ✓ Can I design and build a vehicle using wheels and axels and recycled junk materials?
- ✓ Can I explore and use mechanisms, such as wheels and axels in the product?
- ✓ Can I distinguish between fixed and freely moving axles?

Summer 1 - Egyptians

TEXTILES: Templates and joining techniques

To design and make Egyptian bunting using a template and joining techniques

- ✓ Can I research, plan, make and evaluate a design?
- ✓ Can I measure, mark and cut from different textiles
- ✓ Can I understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling?
- ✓ Can I explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons?

Summer 2 – Our Feathered Friends

ART Unit (Animal Sculptures)

Autumn 1 – London: Londinium

ART Unit (Matisse)

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Autumn 2 - Greek Myths

STRUCTURES: Shell

To design and make a present box using a shell structure

As designers,

- Can I select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy?
- ✓ Can I develop and use knowledge of how to construct strong, stiff shell structures?
- Can I develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes?

Spring 1 – Creatures of the Night

MECHANISMS: Levers and Linkages

To design and make shadow puppets using levers and linkages

As designers,

- ✓ Can I research, plan, make and evaluate a design for a shadow puppet with at least one moving part?
- ✓ Can I use folding and scoring to shape materials accurately?
- ✓ Can I make cuts and holes accurately?
- ✓ Can I understand how to use lever and linkage mechanisms?

Spring 2 – Tomorrow's World: On the Brink

ART Unit (Visual Texture)

Summer 1 – All Around the World: India

FOOD: Healthy and varied diet (including cooking and Nutrition requirements for KS2)

Indian Cuisine: To prepare and make Naan bread and condiments

- ✓ Can I understand where foods come from?
- ✓ Can I understand how recipes can be changed?
- ✓ Can I identify which foods make a healthy diet and The Eatwell Plate?
- Can I know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught?
- ✓ Can I prepare simple dishes hygienically and safely?

Summer 2 –Toy Story

ART Unit (Monet)

Year 4

Autumn 1 – London: Tales of the Thames

ART Unit

Autumn 2 – Voyagers and Villains (Vikings)

ELECTRICAL SYSTEMS: Simple circuits and switches (including programming and control)

To design and make a torch to be used during a night time Forest school session.

As designers,

- ✓ Can I create a switch to use in a torch design?
- ✓ Can I connect simple electrical components and a battery in a series circuit to achieve a functional outcome?
- ✓ Can I identify the main features of torches?
- ✓ Can I understand and use computing to program and control products containing electrical systems, such as series circuits incorporating switches, bulbs and buzzers?

Spring 1 – Myths and Legends

ART Unit (Family Unit sculptures)

Spring 2 – Tomorrow's World: Blue Planet

TEXTILES: 2D shape to 3D product

To design and make a beach bag or shoe bag

As designers,

- ✓ Can I research, plan, make and evaluate a design for a canvas bag?
- ✓ Can I accurately measure, cut and mark materials?
- ✓ Can I understand how to securely join two pieces of fabric together?
- ✓ Can I understand the need for patterns and seam allowances?

Summer 1 – All Around the World: Japan

FOOD: Healthy and varied diet (including cooking and Nutrition requirements for KS2)

To prepare and make a Japanese dish

- ✓ Can I understand where our food comes from?
- Can I know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught?
- ✓ Can I understand how recipes can be varied?
- ✓ Can I identify which foods and drinks consist of a healthy diet (Eatwell Plate)?
- ✓ Can I prepare food hygienically and safely?

Summer 2 - The Natural World

ART Unit (Printing famous landmarks)

Autumn 1 – London: Vile Victorians

MECHANISMS: Pulleys, gears or cams

TO design and make Victorian Automaton

As designers,

- ✓ Can I research, plan, make and evaluate a design for a Victorian automaton?
- ✓ Can I explore how different mechanisms work to make automata move?
- ✓ Can I understand that mechanical systems have an input, process and an output?
- Can I understand how cams can be used to produce different types of movement and change the direction of movement?

Autumn 2 - Medical Marvels

ART Unit: Still Life Painting

Spring 1 – Natural Disasters

ART Unit: Mixed Media Conceptual Art

Spring 2 – Tomorrow's World: Climate of Fear

FOOD: Celebrating culture and seasonality (including cooking and nutrition requirements for KS2) Example project: To make a pizza using locally sourced/in season vegetable toppings

- ✓ Can I understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed?
- ✓ Can I understand how to safely use utensils and equipment, including heat sources, to prepare and cook food?
- ✓ Can I write a step-by-step recipe, including a list of ingredients, equipment and utensils?

Summer 1 – All Around the World: China

ART Unit: Human Impact Collage

Summer 2 - Space

ELECTRICAL SYSTEMS: Using more complex switches and circuits (include programming, control and monitoring)

Example project: To design and make a gadget which might help make an everyday task easier e.g. design a visual door bell rather than aural for someone who couldn't hear As designers,

- ✓ Can I create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment?
- ✓ Can I understand and use electrical systems in a product?
- ✓ Can I apply understanding of computing to program, monitor and control products?

Year 6

Autumn 1 - London: Blitz Brits

ART UNIT (mixed media self portraits)

Autumn 2 - London: Blitz Brits

STRUCTURES: Frame

To design and make an Anderson Shelter using a frame structure

As designers,

- ✓ Can I design and build an Anderson Shelter model, using a strong and stable frame structure?
- ✓ Can I investigate different structures, how they were made and what shapes proved to be strong in architecture?
- ✓ Can I build own prototype shelters out of different materials?

Spring 1 – Tomorrow's World: Sustainable Solutions

ART UNIT (Junk sculptures)

Spring 2 – Tomorrow's World: Sustainable Solutions

FOOD: Celebrating culture and seasonality (including cooking and nutrition requirements for KS2) Example project: To make a soup using locally sourced/in season ingredients and bread rolls

As designers,

- ✓ Can I safely use utensils and equipment, including heat sources, to prepare and cook food?
- ✓ Can I understand about seasonality in relation to food products and the source of different food products?
- ✓ Can I write a step-by-step recipe, including a list of ingredients, equipment and utensils?

Summer 1 – All Around the World: North America

ART UNIT (Architecture)

Summer 2 – All Around the World: North America

TEXTILES: Combining different fabric shapes (including computer aided design)

To design and make a cushion

As designers,

- ✓ Can I research different cushions and their materials, exploring their functions, practicalities and USP?
- ✓ Can I design and prototype a cushion?
- ✓ Can I learn and use a variety of stitching techniques to manufacture a cushion?
- ✓ Can I understand that a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics?

- To ensure that the DT programs of study are met effectively, each year group will complete **3** DT projects across the year.
- A whole half term will be dedicated to each DT project (the remaining 3 half terms will be dedicated to Art).
- As long as the projects are covered within the two-year block (i.e.6 projects in lower KS2), they can be taught in any order. This means that projects can be matched with termly topics or themes and links can be made with related learning in other subjects such as science or maths.
- Each term's project will address a particular aspect of DT. At KS1, these are mechanisms, structures, food and textiles. In KS2, mechanical systems, electrical systems, structures, food and textiles will be taught.
- To ensure coverage and progression across the school, there will be a two year cycle of all the key areas of study.
- Each project will have a particular focus for children's learning e.g. in KS1, the focus for textiles is 'templates and joining techniques.'
- To comply with the Cooking and Nutrition requirements, children should 'prepare dishes' i.e. (more than one dish) in KS1 and 'prepare and cook a variety of predominantly savoury dishes' i.e. (several dishes) in KS2.