Newall Green Primary School
Aiming High To Reach Our Goals
Firbank Road, Newall Green, Wythenshawe, Manchester, M23 2YH
Tel: 0161 437 2872 Fax: 0161 436 2178 www.newallgreen.manchester.sch.uk
Cherry Tree Trust

Design & Technology Curriculum

Document Control	
Title	Design & Technology Curriculum
Date	March 2024
Supersedes	
Amendments	List of DT inventors/designers for each topic
Related Policies/Guidance All policies can be found on the school web page.	
Review	March 2025

Intent

The Design and Technology curriculum that we teach has been planned to develop the five key skills for life of: Problem solving, Teamwork, Self-management (initiative, organisation, accountability) Self-belief (confidence, resilience, positive attitude) and Communication.

Design and Technology is an inspiring and practical subject. It encourages children to learn to think and solve problems both as individuals and as members of a team. At Newall Green Primary School, we encourage children to use their creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. We aim to, wherever possible, link work to other subjects such as: mathematics, geography, history, science, computing and art. The children are also given opportunities to reflect upon and evaluate past and present design technology, its uses and its effectiveness, and are encouraged to become innovators.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook.

Key stage 1

When designing and making, pupils should be taught to:

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.

Key stage 2

When designing and making, pupils should be taught to:

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

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

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

Key stage 2

- 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.

PlanBee Design and Technology Scheme

The topics to be covered are shown on the following pages which breaks down the key areas into terms. As long as they are achieved by the end of the academic year, you can apply them in any order which fits best around other topics. The topics in the overview are to be covered for a half term within the term specified. The other half term will be covered by the art curriculum.

Modifications

We have matched a famous inventor/designer to each PlanBee topic. All we expect is a quick starter on the person at the start of a new unit and for the person to be re-capped at the end of each topic. Teachers may refer to them in future DT topics and in future starters. The DT inventors are on the following page.

Year 1

Eat more fruits and vegetables: John Sorenson – Soreen

https://www.soreen.com/our-history/

https://www.manchestereveningnews.co.uk/business/business-news/soreen-factory-manchester-malt-loaf-15415459

Moving Minibeasts: Mary Anderson – Inventor, Windscreen wiper.

https://www.invent.org/inductees/mary-anderson

https://www.npr.org/2017/07/25/536835744/alabama-woman-stuck-in-nyc-traffic-in-1902-invented-the-windshield-wiper

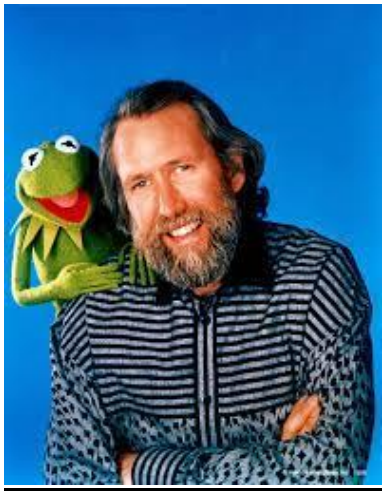
Stable Structures: Archibald Leitch- Architecy (Football Stadiums)

https://www.bbc.co.uk/news/uk-scotland-48028660

Year 2

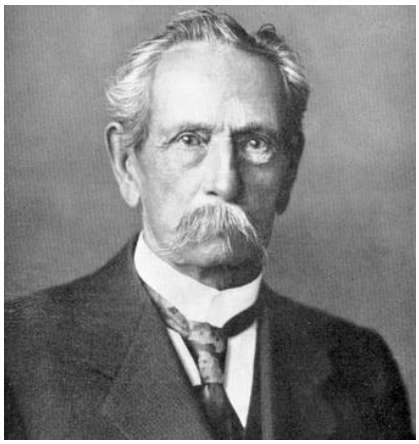
Puppets: Jim Henson

https://www.youtube.com/watch?v=ZbBcJaqi0Gg



Vehicles: Karl Benz – First Car

https://easysciencеforkids.com/karl-benz/?utm_content=cmp-true



Perfect Pizzas: Jamie Oliver

https://wiki.kidzsearch.com/wiki/Jamie_Oliver

https://youtu.be/T38LMV1mUbw **making pizza video**

Year 3

Storybooks: Peter Saville – graphic designer (born in Manchester)

https://www.famousgraphicdesigners.org/peter-saville

Designed City of Manchester Logo

British Inventors: Ada Lovelace

https://www.youtube.com/watch?v=jl-vzdtEaVQ

Light-up signs: Garett Morgan (traffic light inventor)

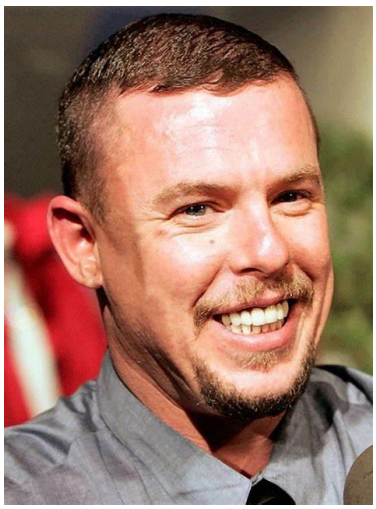
https://www.twinkl.co.uk/resource/ks2-all-about-garrett-morgan-powerpoint-t-tp-2550178

(PowerPoint)

Year 4

Seasonal Stockings: Alexander McQueen

https://www.vam.ac.uk/articles/alexander-mcqueen-an-introduction



Mini Greenhouses: Sir Nicholas Grimshaw – EDEN Project

https://grimshaw.global/projects/culture-and-exhibition-halls/the-eden-project-the-biomes/ facts, video and pictures

https://youtu.be/cDDTehpcjmk video

Seasonal Food: John Nichols – Vimto – born in Lancashire

https://www.nicholsplc.co.uk/about-nichols/our-history/

Great timeline on the website to use.

Year 5

Building Bridges: Thomas Pritchard - The first Iron-bridge

The Iron Bridge website

7 Things You Didn't Know About The Iron Bridge | English Heritage (english-heritage.org.uk)

Chinese Inventions: Cai Lun – inventor of paper

https://youtu.be/npzCWUwCnxA

https://youtu.be/MjKXS3aqO6o

Fashion and Textile: Stephanie Kwolek – inventor of Kevlar

TIME for Kids | This is Stephanie: Read the Story of Stephanie Kwolek

Scientists and Inventors: Kwolek and Materials Year 5 Lesson 6 (twinkl.co.uk) Powerpoint and investigation idea

t-par-1670507280-stephanie-kwolek_ver_1.pdf (twinkl.co.uk) PDF fact file

Year 6

Programming Pioneers: Alan Turing – Mathematician and Computer scientist

The life of Alan Turing - for kids! - National Geographic Kids (natgeokids.com)

Alan Turing: Creator of modern computing - BBC Teach

KS2 Alan Turing and Enigma PowerPoint (teacher made) (twinkl.co.uk)

Bird Houses: Zaha Hadid – architect

https://youtu.be/FwOqd5Rf0tc https://youtu.be/7zosfa2GQ1A Starfish shaped airport in Beijing

Burgers: Mary Ellen McTague – Co-founder of Eat Well Mcr

Biography — Mary-Ellen McTague Eat Well (eatwellmcr.org)

https://youtu.be/PorjuW2P7nI Watch her cooking

Complete DT Overview: Year 1 to Year 6

PlanBee

	Autumn Term	Spring Term	Summer Term
Year 1	**Eat More Fruits and Vegetables**	**Moving Minibeasts**	**Stable Structures**
Year 2	**Puppets**	**Vehicles**	**Perfect Pizzas**
Year 3	**Storybooks**	**British Inventors**	**Light-Up Signs**
Year 4	**Seasonal Stockings**	**Making Mini Greenhouses**	**Seasonal Food**
Year 5	**Building Bridges**	**Chinese Inventions**	**Fashion and Textiles**
Year 6	**Programming Pioneers**	**Bird House Builders**	**Burgers**