



DT Progression Map

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Being a design technologist in EYFS

The children use resources to develop their own ideas, transforming the resources into a new structure. Children will explore how things work. Children explore different materials freely, in order to develop their ideas about how to use them and what to make, children will return to and build on their previous learning refining ideas and developing them. Children develop their own ideas and then decide which materials to use to express them. Children join different materials and explore different textures.

By the end of
Year F2

Project: Homes and Habitats Cycle A Sum1

ELG: Creating with Materials

Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
Share their creations, explaining the process they have used.

Children in F1

To know what minibeast they are going to sculpt.

To know what the materials they are using are called e.g. clay, leaf, mud, grass.

To know how to pinch, mould, press and pull to sculpt their minibeast.

Children in F2

To know what minibeast they are going to sculpt and the features it needs.

To know how to use different techniques and tools to sculpt their minibeast.

To know what the materials they are using are called e.g. clay, leaf, mud, grass, twigs, branches and know that these are natural materials.

Project: Kitchen Disco – Cycle B – Summer 1 – Looking after our body - Make soup

PSED

Know and talk about the different factors that support their overall health and wellbeing: • regular physical activity • healthy eating

Children in F1

-Know that there are changes in their bodies after exercise (breath, body)

-Know to wash and dry hands after using the toilet

-Know how to dress, pull up own trousers/ skirt/ pants/ zipper

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	-Know how to use the mud kitchen Children in F2 -Know that exercise has an effect on my body -Know that exercise has a positive contribution on my wellbeing -Know what a healthy diet is -Know to and why we wash my hands after exercise, before preparing food, before eating food, after going to the toilet -Know how to transport and store cooking equipment safely -Know that I need to eat well, exercise well, sleep well and be clean to be healthy and well
Being a design technologist in KS1 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].	
By the end of Y2	Dear Greenpeace -Making a Soap Dish – using clay and tools Cycle A Understanding how a kiln works. Manipulate materials to wanted effect. Use tools safely and with control. Understand finishing techniques to make product last longer. Cycle A – Autumn 2 – Dreams of freedom Making coleslaw Cooking and nutrition Where food comes from Across KS1 pupils should know: • that all food comes from plants or animals • that food has to be farmed, grown elsewhere (e.g. home) or caught Food preparation, cooking and nutrition Across KS1 pupils should know: • how to name and sort foods into the five groups in The eatwell plate • that everyone should eat at least five portions of fruit and vegetables every day • how to prepare simple dishes safely and hygienically, without using a heat source • how to use techniques such as cutting, peeling and grating Technical knowledge Making products work • that food ingredients should be combined according to their sensory characteristics

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Cycle A – Autumn 2 – Dreams of freedom

Making a dream catcher

Designing

Understanding contexts, users and purposes

- say whether their products are for themselves or other users

- use simple design criteria to help develop their ideas

Generating, developing, modelling and communicating ideas

- use knowledge of existing products to help come up with ideas
- model ideas by exploring materials, components and construction kits and by making templates and mock- ups

Making

Planning

- select from a range of materials and components according to their characteristics

Practical skills and techniques

- use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components
- assemble, join and combine materials and components

Technical knowledge

Making products work

- about the simple working characteristics of materials and components
- how freestanding structures can be made stronger, stiffer and more stable

Cycle B – Colour Monster – Happiness Autumn 1

Making a healthy happy meal.

Making

Planning

- follow procedures for safety and hygiene
- use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components

Technical knowledge

Making products work

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	- that food ingredients should be combined according to their sensory characteristics Cooking and nutrition Where food comes from - that all food comes from plants or animals - that food has to be farmed, grown elsewhere (e.g. home) or caught Food preparation, cooking and nutrition - how to name and sort foods into the five groups in The eatwell plate - that everyone should eat at least five portions of fruit and vegetables every day - how to prepare simple dishes safely and hygienically, without using a heat source - how to use techniques such as cutting, peeling and grating Cycle B – Summer 1 – All different, all equal. Stellaluna. Making a t-shirt Design Understanding contexts, users and purposes - work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment - state what products they are designing and making - describe what their products are for - say how they will make their products suitable for their intended users - use simple design criteria to help develop their ideas Generating, developing, modelling and communicating ideas - use knowledge of existing products to help come up with ideas - model ideas by exploring materials, components and construction kits and by making templates and mock- ups - use information and communication technology, where appropriate, to develop and communicate their ideas Making Practical skills and techniques - use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components - measure, mark out, cut and shape materials and components Evaluating Own ideas and products
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	• make simple judgements about their products and ideas against design criteria Existing products • how products are used • where products might be used • what materials products are made from • what they like and dislike about products Technical knowledge Making products work • about the simple working characteristics of materials and components • the correct technical vocabulary for the projects they are undertaking
Being a design technologist in KS2 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].	
By the end of Y4	Project Title: Adapting to a new society after conflict. Autumn 1 – Cycle A. The Colour of Home. Know how to measure frames Know how to put their own design onto a frame Understand published work Know how artists use frames to accentuate their work. Know the purpose of their product Know the own design criteria and know how to use these to inform their ideas Explain their choice of materials and components according to functional properties and aesthetic qualities Know how to cut and finish with accuracy Know how to evaluate own work, referring back to design criteria. Cycle A – Autumn 2 – Impact of conflict on children. A child's garden Design Understand contexts, users and purposes Across KS2 pupils should: • work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products In early KS2 pupils should also: • • develop their own design criteria and use these to inform their ideas

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	- develop a simple design specification to guide their thinking Generating, developing modelling and communicating ideas Across KS2 pupils should: - model their ideas using prototypes and pattern pieces - use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas Making Planning In early KS2 pupils should also: - order the main stages of making Practical skills and techniques In early KS2 pupils should also: - measure, mark out, cut and shape materials and components with some accuracy - assemble, join and combine materials and components with some accuracy - apply a range of finishing techniques, including those from art and design, with some accuracy Evaluating Own ideas and products In early KS2 pupils should also: - refer to their design criteria as they design and make - use their design criteria to evaluate their completed products Technical knowledge Making products work Across KS2 pupils should know: - how to use learning from mathematics to help design and make products that work Cycle A – Spring 1 – Our impact on the local environment and animals – This morning I met a whale. Making a bird feeder measure, mark out, cut and shape materials and components with some accuracy assemble, join and combine materials and components with some accuracy apply a range of finishing techniques, including those from art and design, with some accuracy Design and Make a Bird Feeder Design
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Know what the product is for
 Use design criteria to shape their ideas
 Design a product, how it looks and works
 Think and talk through ideas with someone else
 Draw and label design
 Share and clarify ideas through discussion
 Model ideas using prototypes and pattern pieces
 Use annotated sketches to develop and communicate ideas
 Use ICT to design to develop and communicate their ideas
 Make
 Select tools and equipment suitable for the task
 Follow a step by step plan, choosing the right materials and tools
 Explain their choice of tools and equipment in relation to the skills and techniques they will be using and the task Choose materials and components according to how they work and look
 Order the main stages of making
 Evaluate
 Show how their final product meets the design criteria
 Explain what went well and what they would change in their final design
 Use design criteria as they design and make
 Use their design criteria to evaluate their completed products
 Explain how they improved their original design

Cycle A - Spring 2 – Our impact on the global environment and animals – Will we miss them?

make design decisions that take account of the availability of resources
 explain their choice of tools and equipment in relation to the skills and techniques they will be using

Animal prints tote bags to sell
 Know that materials have both functional properties and aesthetic qualities
 Select tools and equipment suitable for the task
 Follow a step by step plan, choosing the right materials and tools
 Apply a range of finishing techniques, including those from art and design, with some accuracy

Cycle B – Spring 1 – What des fashion say about me? Bill’s new frock.

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Making a t-shirt for a school mascot teddy.

Design

Understanding contexts, users and purposes

Across KS2 pupils should:

- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment

In early KS2 pupils should also:

- develop their own design criteria and use these to inform their ideas

Generating, developing, modelling and communicating ideas

Across KS2 pupils should:

- share and clarify ideas through discussion
- model their ideas using prototypes and pattern pieces

Making

Planning

Across KS2 pupils should:

- select materials and components suitable for the task

Practical skills and techniques

Across KS2 pupils should:

- follow procedures for safety and hygiene
- use a wider range of materials and components than KS1, including textiles, food ingredients, mechanical components and electrical components

In early KS2 pupils should also:

- measure, mark out, cut and shape materials and components with some accuracy
- assemble, join and combine materials and components with some accuracy
- apply a range of finishing techniques, including those from art and design, with some accuracy

Evaluating

Existing products

Across KS2 pupils should investigate and analyse:

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- how well products have been designed
- how well products have been made
- why materials have been chosen
- what methods of construction have been used
- how well products work
- how well products achieve their purposes
- how well products meet user needs and wants

Cycle B – Summer 1 – Is being a vegan healthy? Charlotte's Web

Using a heat source

Pizza with yeast? Work in partners

Design

Understanding contexts, users and purposes

Across KS2 pupils should:

- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment
- describe the purpose of their products
- indicate the design features of their products that will appeal to intended users
- explain how particular parts of their products work

Generating, developing, modelling and communicating ideas

In early KS2 pupils should also:

- generate realistic ideas, focusing on the needs of the user

Making

Practical skills and techniques

Across KS2 pupils should:

- follow procedures for safety and hygiene

Evaluating

Own ideas and products

Across KS2 pupils should:

- identify the strengths and areas for development in their ideas and products
- consider the views of others, including intended users, to improve their work

Technical knowledge

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	Making products work In early KS2 pupils should also know: - that food ingredients can be fresh, pre-cooked and processed Cooking and nutrition Where food comes from Across KS2 pupils should know: - that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world Food preparation, cooking and nutrition Across KS2 pupils should know: - how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source - how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking In early KS2 pupils should also know: - that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eat well plate - that to be active and healthy, food and drink are needed to provide energy for the body
By the end of Y6	Cycle A – The secret life of bee. Sustainable development Know how to design a bee hotel Know about inventors, designers who have developed ground-breaking products. Use market research to inform ideas. Describe the purpose of their product. Know how to create a simple design specification to guide their thinking .Explain how particular parts of their products work Share and clarify ideas through discussion. Model ideas using prototypes and pattern pieces. Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas. Use ICT to develop and communicate their ideas. Make design decisions, taking account of constraints such as time and resources. Apply learning from science and maths to help design and make products that work Know how to make a bee hotel Select tools and equipment suitable for the task. Explain their choice of tools and equipment in relation to the skills and techniques they will be using. Select materials and components suitable for the task. Explain their choice of materials and components according to functional properties and aesthetic qualities. Produce appropriate lists of tools, equipment and materials that they will need. Make step-by-step plans as a guide to making

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Accurately **measure, mark out, cut and shape materials and components**. Accurately **assemble, join** and combine materials and components.
Accurately apply a range of **finishing** techniques, including those from art and design

Know how to evaluate a bee hotel

Identify the strengths and areas for development in their ideas and products. Consider the views of others, including intended users
Critically **evaluate** the quality of the design, manufacture and fitness for purpose of their products as they design and make
Evaluate their ideas and products against their original design specification

Cycle A – Autumn 2 – Water pollution – Flush

Design a product with functional properties.

Design a water filtration system.

Describe the **purpose** of their product

Explain how particular parts of their products work

Explain their choice of **materials** and components according to **functional properties**

Know about **engineers** who have developed ground-breaking products

Cycle A – Homelessness – Summer 1 – The pursuit of happiness.

Making soup from our school gardens for a community food bank/ soup kitchen nutrition focus

Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source

Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking

Know adapt recipes to change the appearance, taste, texture and aroma

Know that seasons may affect the food available

Know food is processed into ingredients that can be eaten or used in cooking

Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health

Food will be studied again in Y56 during the dreams and aspirations project where children create products for a bake sale including taking into account dietary requirements and production on mass.

Cycle B – Spring 2 – Dreams and Aspirations – Kick

Cooking – no bake cake.

prepare and cook a variety of predominantly savoury dishes using a range of cooking technique

Know how to follow recipes

Know how to weigh and measure accurately

Know how to select and use the most appropriate ingredients and equipment to plan and cook a range of dishes

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Know how to modify existing recipes.
 Demonstrate an extended range of food skills and techniques
 Know food can spoil and decay due to the action of microbes, insects and other pests
 Know how to use date marks and food storage instructions on food packaging
 Know how to demonstrate good personal hygiene, good food safety when cooking
 Compare the processes involved in making different food products – commercial and domestic
 Know when creating a large scale event, considerations must be made for diet, allergies, cultural factors in order to make products inclusive
 Children have previously studied food during their homelessness project where they made food for a soup kitchen. The focus was on nutrition and growing. This builds on from this, as we are designing and cooking for a purpose to be sold commercially for an audience in an event.

Cycle – B – Summer 1 or 2 – Health and wellbeing. Link to science

Make an electric circuit.

Design

Understanding contexts, users and purposes

Across KS2 pupils should:

- work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment
- describe the purpose of their products
- indicate the design features of their products that will appeal to intended users
- explain how particular parts of their products work

Generating, developing, modelling and communicating ideas

Across KS2 pupils should:

- share and clarify ideas through discussion
- model their ideas using prototypes and pattern pieces
- use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas

Evaluating

Own ideas and products

Across KS2 pupils should:

- identify the strengths and areas for development in their ideas and products

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	• consider the views of others, including intended users, to improve their work In late KS2 pupils should also: • critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification Existing products Across KS2 pupils should investigate and analyse: • how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants Key events and individuals Across KS2 pupils should know: • about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products Technical knowledge Making products work Across KS2 pupils should know: • how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking In late KS2 pupils should also know: • how more complex electrical circuits and components can be used to create functional products
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