St. Gregory's Catholic Primary School

Together, in Jesus, we Love, Learn, Create and Celebrate!

Progression in DT Curriculum - Summary

Our curriculum has been designed to be a 'progression model' by specifying the knowledge we want children to learn, ordering it coherently and building in opportunities to check that children are remembering what they have been taught. The aim of this DT curriculum is for pupils to develop a deeper understanding of the important and integral role which design and designed products play in our society. In doing so, they will be using their knowledge, creativity and imagination, to design and make products that solve real and relevant problems within a variety of contexts.

Concepts and Skills

The curriculum is split into three different areas: **'cook'**, **'sew'** and **'build'**. Two different 'aspects' of design are interwoven into the three areas of study: the **environment and sustainability**, and **enterprise and innovation**. These 'aspects' acknowledge enduring and contemporary concerns of modern design.

Each unit specifies the **concepts** and **skills** which the children are expected to learn over the course of a unit. These concepts and skills progress gradually throughout the course of the six years of study.

- In **'cook'**, children learn to cook from recipes which gradually build basic culinary skills. Whilst studying these practical skills, they learn about concepts relating to food such as nutrition, seasonality, food production, transportation and food from different cultures.
- In **'sew'**, children practise using fabric and thread to learn basic sewing techniques to create objects which demonstrate embroidery, appliqué, weaving and plaiting. Concepts such as the properties and creation of different fabrics, fast fashion, industrialisation, waste, recycling and pollution are interwoven into these units.

  In **'build'**, children learn about the creation of structures and mechanical and electrical devices to create products such as toys, electric wobblers and hydraulics. The practical process of designing and creating a product is coupled with learning technical knowledge, which has a bearing on what the children make. These concepts, for example force, motion and the properties of materials, are often connected with those encountered in the science curriculum.

Skills may be classed as **procedural knowledge**. This is knowledge exercised in the performance of a task, such as chopping on a chopping board using a knife. Concepts may be classed as **declarative knowledge**. This means facts or information, such as knowing that fabric can be made of natural or synthetic materials.

The Process of Design

The process of design is an important part of what makes up the subject what distinguishes it from other related disciplines, such as mathematics, science, computing and art. This process includes exploring existing products and their uses, understanding developments in history and the influence of key individuals in the field, and generating ideas and designs (by drawing and creating prototypes) based on design criteria which considers user, purpose, function and appeal. Consideration of the properties of potential materials and the choice of tools is an important part of this process. The sequence of lessons in the 'sew' and 'build' areas of study follow a structure which reflects this process: research and investigate, design, make, use and evaluate.

Blocking

The curriculum is designed so that each year group will complete a unit of work in 'cook', 'sew' or 'build' once a year. Each unit has been devised so that it can be delivered in a five-hour block, once a term (rather than a lesson each week), which can be taught over a single day or two half days. From a logistical and practical standpoint, this makes the curriculum easier to implement. Alternatively, for 'sew' and 'build' units, we carefully consider delivering the five-hour block over a few weeks, if this suits timetabling at the time. 'Cook' units are split into two, two- and-a-half-hour sessions, and we may distribute delivery of these two sessions over two half terms instead of within one half term.

There are several ways in which the design of the curriculum, if delivered in blocks (rather than week by week), facilitates progression. This includes:

- The curriculum is designed to make connections between our art, science, geography and history curricula, as parts of it directly relate to areas of knowledge which the pupils acquire in these subjects (e.g. nutrition in science, industrialisation in history, trade in geography). Where a unit looks at concepts which are also addressed in these subjects, the design and technology unit is generally taught after units in these other disciplines (e.g. Y6 Upcycling Fashion is taught after Y5 Industrial Revolution and Y6 British Geographical Issues). This allows the children to approach their study of design and technology with a degree of confidence and the opportunity to consolidate their knowledge by creating connections between the different disciplines.
- By following the unit structure with fidelity (i.e. research and investigate, design, make, use and evaluate), which includes prior learning and a plenary in every lesson, we can ensure pupils are actively engaged in retrieving and reflecting upon what they already know.

- By completing the evaluate session at the end of the unit, pupils will have the opportunity to review what they have learnt in the context of what they have made, actively retrieving prior knowledge which they will consider in the context of what they have created.
- Careful sequencing of the curriculum ensures methodical progression of skills, concepts and processes which the children learn throughout the course of the curriculum. For example, children practise and revise running stitch in Y3 Sew - Key Rings/Decorations (which they learnt in Y2 Sew – Pencil Cases), before moving onto back stitch. By following the sequence of the units with fidelity, we can ensure that the children's knowledge and skills gradually build.

Using this document

This document has been designed to support teachers and leaders with understanding how the curriculum enables children to make progress in music, which will support them with ensuring the curriculum is enacted effectively in school. This document is **not** designed to be used as a checklist, assessment document or to be used with children.

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1. **Sew**

Examples of the development of knowledge in 'sew' units across our DT curriculum include:

Joining Fabric (skill)	Characteristics of Fabric and the Environment/Sustainability (concepts)
Y1 – Animal Sock Puppets • Joining fabric by gluing **Y2 – Pencil Cases** • Joining fabric using running stitch • Adding fabric decorations by gluing **Y3 – Key Rings/Decorations** • Joining fabric using running stitch and backstitch • Adding fabric decorations by gluing **Y4 – Cushions** • Joining fabric to create a seam using running stitch and backstitch • Adding fabric appliqué decoration using overcast stitch **Y5 – Bags** • Joining fabric to create a seam using backstitch • Creating a hem using backstitch • Adding fabric appliqué decoration using overcast stitch • Adding embroidery decoration using backstitch **Y6 – Upcycling Fashion** Choosing from a range of skills they have already practised to create an upcycled t-shirt. They can choose from: • Running stitch - to create seams, hems or an embroidered line. • Backstitch - to create seams, hems or to create an embroidered line. • Appliqué - to create decoration using overcast stitch. • Sewing on a button	**Y1 – Animal Sock Puppets** • Reusing/recycling materials • Properties of a range of materials **Y2 – Pencil Cases** • Using suitable materials • Properties of fabric – soft, rough, stiff, flexible **Y3 – Key Rings/Decorations** • Definitions, characteristics and uses for natural/synthetic materials • Different ways of making fabric – weaving, pressing (felt) **Y4 – Cushions** • Natural/Synthetic materials • Different ways of making fabric – environmental impact **Y5 – Bags** • Natural/Synthetic materials • Different ways of making fabric – environmental impact • Suitability of fabric to make clothes/bags – hems, seams **Y6 – Upcycling Fashion** • Fast fashion - design, manufacturing and selling of clothes focused on producing a very large number of clothes cheaply • Upcycling - using an old, disused item to make a new one • Manufacture of clothes/fabrics - Some clothes manufacturers and designers try to use methods and resources which are environmentally friendly and do not create pollution

2. **Build**

Examples of development of knowledge in 'build' units across our DT curriculum include:

Mechanical and Electrical Systems (concept)

Y1 – Vehicles
- Mechanical systems: wheels and axles

Y2 – Zoo Enclosures
- Mechanical systems: levers and sliders

Y3 – Hydraulic Heads
- Mechanical systems: linkages, types of motion, hydraulics

Y4 – Cams toy
- Mechanical systems: cams, followers, sliders, camshaft, rotary motion, linear motion, cam profiles
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Y5 – Electric Wobbler

Electrical systems: circuits, batteries, bulbs and buzzers
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Y6 – Water Walls/Electrical Toys (Fairground Ride)

Mechanisms: pulleys, Archimedes' screw
- Electrical systems: circuits, batteries, bulbs, buzzers and motors
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3. Cook

Examples of development of knowledge in 'cook' units across our DT curriculum include:

Cutting (skill)	Measuring (skill)
Y1 - Dips and Vegetables • Cutting using a knife and a chopping board (bridge technique - cucumber/celery) • Chopping using a knife and a chopping board (claw technique - cucumber) • Cutting with scissors **Year 2 - Pizza/Gingerbread** • Chopping using a knife and a chopping board (butter) • Cutting/slicing using a knife and a chopping board - bridge and claw technique (1/2 pepper/mushrooms) • Tearing **Y3 -Pasta** • Chopping using a knife and a chopping board (claw method - aubergine, courgette, carrot, celery) • Peeling a carrot **Y4 - Apple Crumble/Ratatouille and Couscous** • Peeling, coring, cutting an apple on a chopping board (bridge technique) • Chopping/cutting using a knife and a chopping board (bridge and claw method - aubergine, courgette, onion) • Peeling an onion • Tearing **Y6 - Mezze** • Chopping/cutting using a knife and a chopping board (bridge and claw technique - herbs, lemon) • Grating cucumber	**Y1 - Dips and Vegetables/Jam Tarts, Mince Pies** • Measuring in teaspoons and tablespoons **Y2 – Gingerbread/Pizza** • Measuring in teaspoons and tablespoons **Y3 - Bread and Butter/Pasta** • Measuring in teaspoons and tablespoons • Measuring using scales (50/200/500 grams) **Y4 - Ratatouille and Couscous/Apple Crumble** • Measuring in teaspoons and tablespoons • Measuring using scales (100/150/200 grams) **Y5 - Honey Cake/Pitta Bread** • Measuring in teaspoons and tablespoons • Measuring using scales (50/200/250 grams) • Measuring using a measuring jug (60/125 millilitres) **Y6 - Mezze** • Measuring multiple ingredients in a recipe • Measuring in teaspoons and tablespoons (using the abbreviations tsp and tbsp) • Measuring using scales (50/250 grams)

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Nutrition (concept)	Food Production (concept)
Y1 - Dips and Vegetables/Jam Tarts, Mince Pies • Nutrition - vegetables • Sweet/savoury • Cooked/raw **Year 2 - Pizza/Gingerbread** • Sweet/savoury • Spicy/sweet food • Cooked/raw **Y3 -Bread and Butter/Pasta** • Making bread with flour made from wheat • Wholegrains and health **Y4 - Apple Crumble/Ratatouille and Couscous** • Sweet/savoury • Vegetables as part of a healthy diet • The different parts of a plant which we eat • Apples as part of a healthy diet **Y5 - Pitta Bread/Honey Muffins** • Sweet/Savoury • Bread as part of a balanced, healthy diet, different types • Health benefits of honey **Y6 - Mezze** • Sweet/Savoury • Bread as part of a balanced, healthy diet, different types	**Y1 - Dips and Vegetables/Jam Tarts, Mince Pies** • Seasonality - preserving fruit for the winter **Year 2 – Pizza/Gingerbread** • Processed/home-made food • Preserving food **Y3 -Bread and Butter/Pasta** • Dairy products, milk and butter production **Y4 - Apple Crumble/Ratatouille and Couscous** • Different varieties of apples, seasonality **Y5 - Pitta Bread/Honey Muffins** • Using yeast - leavened/unleavened bread, • Wheat production • Honey production and history **Y6 - Mezze** • Using yeast - leavened/unleavened bread, • Cooking from different cultures Wheat production

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4. **Process**

Examples of development of knowledge of skills and concepts involved in the process of design across our DT curriculum include:

Generating Ideas and Designs against Design Criteria (process)	
Y1 - Animal Sock Puppets/Vehicle Wheelies • Understand criteria (user, purpose, function, appeal), • Generate/innovate/develop ideas by talking, drawing, labelling **Y2 - Pencil Cases/Zoo Enclosures** • Understand criteria (user, purpose, function, appeal), • Generate/innovate/develop ideas by talking, drawing, labelling, creating a mock up **Y3 - Key Rings, Decorations/Hydraulic Heads** • Devise criteria (user, purpose, function, appeal), • Generate/innovate/develop ideas by creating annotated drawings and prototypes	**Y4 - Cushions/Decorations/Cams toy** • Devise criteria (user, purpose, function, appeal), • Generate/innovate/develop ideas by creating annotated drawings and exploded diagrams **Y5 - Bags/Electric Wobblers** • Devise criteria (user (who is interviewed), purpose, function, appeal), • Generate/innovate/develop ideas by creating annotated drawings and cross-sectional diagrams **Y6 - Upcycling Fashion/Water Walls/Fairground Ride** • Devise criteria (user (who is interviewed), purpose, function, appeal), • Generate/innovate/develop ideas by creating annotated drawings, prototypes, pattern pieces