DT Curriculum Map

Key Phase:

YEAR A

Term	Project and context	NC objectives: Design, Make, Evaluate and Improve	Practical skills	Links to other curriculum objectives (Science/PSHCE)
Autumn 1				
Spring 1				
Summer 1				

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Key Phase:

Term	Project and context	NC objectives: Design, Make, Evaluate and Improve	Practical skills	Link to other curriculum objectives (Science/PSHCE)
Autumn 1	Children will design and make a Christmas card that incorporates levers in some way to make the card interactive.	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 Evaluate • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 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]	Cutting using scissors Making holes Joining using tape, glue, split pins and staples Finishing to make an appealing product.	Maths – measuring and converting between mm and cm. Shape – vocabulary for variety of 2D shape.

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Key Phase:

Spring 1				
Summer 1				

YEAR B

KS2:

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

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Key Phase:

- 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

- 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.

Food

Structures

Textiles

Mechanisms

Electrical Systems

Mechanical systems

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Key Phase:

LKS2 Science Objectives

Animals, including humans Y3

• identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat

Y4 • describe the simple functions of the basic parts of the digestive system in humans

Sound (maybe make an instrument)

- identify how sounds are made, associating some of them with something vibrating
- recognise that vibrations from sounds travel through a medium to the ear
- find patterns between the pitch of a sound and features of the object that produced it
- find patterns between the volume of a sound and the strength of the vibrations that produced it
- recognise that sounds get fainter as the distance from the sound source increases.

Forces and magenets Y3

• compare how things move on different surfaces

• notice that some forces need contact between two objects, but magnetic forces can act at a distance

- observe how magnets attract or repel each other and attract some materials and not others
- compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- describe magnets as having two poles

• predict whether two magnets will attract or repel each other, depending on which poles are facing.

Eletricity Y4

- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit

• recognise some common conductors and insulators, and associate metals with being good conductors.

PSHCE – link to ‘Healthy Me’ – nutrition and healthy eating / lifestyle

Computing KS2

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output

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Key Phase:

- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

LKS2 – Y3

♣ measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

♣ measure the perimeter of simple 2-D shapes

draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them

Y4

♣ Convert between different units of measure [for example, kilometre to metre; hour to minute]

♣ measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

♣ find the area of rectilinear shapes by counting squares

♣ estimate, compare and calculate different measures, including money in pounds and pence

UKS2 Y5

♣ convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)

♣ understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints

♣ measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

♣ calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes

♣ estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]

♣ solve problems involving converting between units of time

♣ use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Y6

♣ solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

♣ use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

♣ draw 2-D shapes using given dimensions and angles

♣ recognise, describe and build simple 3-D shapes, including making nets