



# **Design Technology**

Overview and Progression

Maps



# Design Technology Curriculum

## Design Technology Curriculum Intent

Design and Technology at Saxon is a creative and practical subject, where children use their imagination to design and create products which are suitable for use in everyday life. We aim for the curriculum at Saxon to cover the four key areas of sewing and textiles, cooking and nutrition, using materials and electrical and mechanical components. The teaching of Design and Technology follows the design, make and evaluate cycle and is underpinned by technical knowledge. Where appropriate, the focus for the learning within the subject will also link to the wider topic each year group is studying, to make the learning purposeful and engaging. DT at Saxon also enables children to apply the knowledge and skills learned in other subjects, particularly Maths and Science. DT is a subject in which pupils use their imagination to become resourceful and innovative, learning how they can make a positive impact on their local and global community.

## The Core Concepts for Design Technology

Core Concepts in Design & Technology			
<b>Designing</b> Understanding core concepts and purposes, generating, developing, modelling and communicating ideas	<b>Making</b> Planning, practical skills and techniques	<b>Evaluating</b> Own ideas and products, existing products, key events and individuals (KS2)	<b>Technical Knowledge</b> Making products work

# Design Technology Overview



	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Autumn</b>	<p><u>Structures</u></p> <p>Junk Modelling Building and joining</p> <p>Topic: Marvellous Me</p>	<p><u>Structures</u></p> <p>Stable structures Joining products together <i>Making a rocket</i></p> <p>Topic: Space</p>	<p><u>Textiles</u></p> <p>Puppets Cutting shapes from a template, cross stitch</p> <p>Topic: Fairy tales</p>	<p><u>Textiles</u></p> <p>Clothing, Range of stitches adding decoration (buttons)</p> <p>Topic: The Stone age</p>	<p><u>Structures</u></p> <p>Joints and reinforcing joints – more accurately and independent</p> <p>Topic: Viking Boats</p>	<p><u>Textiles</u></p> <p>Sleeping bag (making a seam and adding decorations)</p> <p>Topic: Polar Regions</p>	<p><u>Structures</u></p> <p><i>Anderson Shelters</i> Making shell structure</p> <p>Topic: The Wider World WW2</p>
<b>Spring</b>	<p><u>Textiles</u></p> <p>Bookmarks Weaving</p> <p>Topic: World Book Day</p>	<p><u>Mechanical systems</u></p> <p>Slider in moving pictures</p> <p>Topic: Our World</p>	<p><u>Structures</u></p> <p>Independent, stronger stiffer products <i>Making Victorian houses</i></p> <p>Topic: Fire of London</p>	<p><u>Mechanical Systems</u></p> <p>Catapults Levers and linkages pulleys</p> <p>Topic: Romans</p>	<p><u>Mechanical Systems</u></p> <p>Levers and linkages pulleys Shaduf – Water pulley</p> <p>Topic: Egyptians</p>	<p><u>Mechanisms</u></p> <p>Mechanical Systems, axels and wheels Moon Rover</p> <p>Topic: Space</p>	<p><u>Mechanisms</u></p> <p><b>Construction</b> Pop-up Books Strengthening, Stability and Reinforcement</p> <p>Topic: Vikings</p>
<b>Summer</b>	<p><u>Mechanical Systems</u></p> <p>Split pins</p> <p>Topic: Under the water</p>	<p><u>Textiles</u></p> <p>Running stitch</p> <p>Topic: Adventure</p>	<p><u>Mechanical Systems</u></p> <p>Vehicle Winding mechanisms Wheels and axels</p> <p>Topic: Seaside</p>	<p><u>Structures</u></p> <p><i>Anglo-Saxon house</i> Joints and reinforcing joints</p> <p>Topic: Anglo-Saxon</p>	<p><u>Textiles</u></p> <p>Use a pattern to make a prototype product, sewing more accurate. Tie and dye T shirt</p> <p>Topic: South America</p>	<p><u>Structures</u></p> <p>Bridges, fit for purpose, finishing techniques to strengthen product</p> <p>Topic: Local Adventures</p>	<p><u>Textiles</u></p> <p>Bags pin and tack fabric pieces together (back stitch and blanket stitch)</p> <p>Topic: Transition</p>
<b>Healthy Eating Week</b>	<p><u>Cooking and Nutrition</u></p> <p>Taste, smell, texture</p> <p>Topic: Healthy eating week</p>	<p><u>Cooking and Nutrition</u></p> <p>Understand food comes from plants and animals</p> <p>Topic: Healthy eating week</p>	<p><u>Cooking and Nutrition</u></p> <p>Food can be farmed and grown (5 food groups)</p> <p>Topic: Healthy eating week</p>	<p><u>Cooking and Nutrition</u></p> <p>What food is grown, reared, caught in the UK</p> <p>Topic: Healthy eating week</p>	<p><u>Cooking and Nutrition</u></p> <p>Understand how to prepare/cook food</p> <p>Topic: Healthy eating week</p>	<p><u>Cooking and Nutrition</u></p> <p>Understand that food can be processed</p> <p>Topic: Healthy eating week</p>	<p><u>Cooking and Nutrition</u></p> <p>Prepare and cook predominately savoury dishes</p> <p>Topic: Healthy eating week</p>

# DESIGN TECHNOLOGY LEARNING MAP



## Design

### Year 1

Design simple products that work and look appealing  
Discuss and draw ideas and use ICT to communicate

### Year 2

Design products for others and themselves that are purposeful, functional and appealing themselves that are purposeful, functional and appealing  
Generate, develop, model and communicate ideas through talking, drawing, templates and ICT

## Make

### Year 1

Use a range of materials and components e.g. construction, textiles and ingredients

Use a range of tools and equipment to perform practical tasks eg cut, shape, join and finish

### Year 2

Select from and use a wide range of tools and equipment to perform practical tasks e.g. cut, shape, join and finish

Select from and use a wide range of materials and components (according to their characteristics) e.g. construction, textiles and ingredients

## Year 1 and Year 2 Design, Make, Evaluate Progression Map

## Evaluate

### Year 1

Explore existing products e.g. home, school  
Discuss own ideas and designs

### Year 2

Explore and evaluate a range of existing products e.g. home, school  
Evaluate own ideas and designs against given design criteria

# DESIGN TECHNOLOGY LEARNING MAP



## Design

### Year 3

Communicate ideas using different strategies e.g. discussion, sketch

Use research to inform design

Take risks to become innovative and resourceful

### Year 4

Communicate, generate and develop ideas using a range of strategies e.g. prototypes, pattern pieces

Use research to inform design and develop design criteria

Take risks to become innovative and resourceful

## Make

### Year 3

Select from and use a wide range of tools, equipment, materials and components accurately

### Year 4

Select from and use a wider range of tools, equipment, materials and components accurately to make prototypes

## Year 3 and Year 4 Design, Make, Evaluate Progression Map

## Evaluate

### Year 3

Evaluate own ideas and designs against given design criteria and consider the views of others to improve their work

Investigate a range of existing products that address real / relevant problems, in a range of relevant contexts e.g. home, leisure, school

### Year 4

Evaluate own and others' work suggesting improvements and consider the views of others to improve their work

Investigate a range of existing products in a range of relevant contexts e.g. culture, industry

# DESIGN TECHNOLOGY LEARNING MAP



## Design Year 5

Communicate, generate, develop and model ideas using a range of strategies e.g. computer-aided-design, cross-sectional and exploded diagrams

Use research to inform design and generate own design criteria

Communicate, generate and develop ideas, drawing on other disciplines e.g. science, maths, computing

Confidently take calculated risks to become innovative, resourceful and enterprising

## Year 6

Communicate, generate and develop ideas, drawing on other disciplines e.g. science, maths, computing

Use research to inform innovative design and generate own design criteria

Confidently take calculated risks to become innovative, resourceful and enterprising

## Make Year 5

According to their functional properties and aesthetic qualities, select from and use a wide range of tools, equipment, materials and components accurately to make high quality prototypes

## Year 6

According to their functional properties and aesthetic qualities, select from and use a wide range of tools, equipment, materials and components accurately to make high quality prototypes

## Year 5 and Year 6 Design, make, evaluate Progression Map

## Evaluate Year 5

Generate own design criteria and evaluate ideas and products against these

Investigate and analyse a range of existing products that address real / relevant problems, in a range of relevant contexts

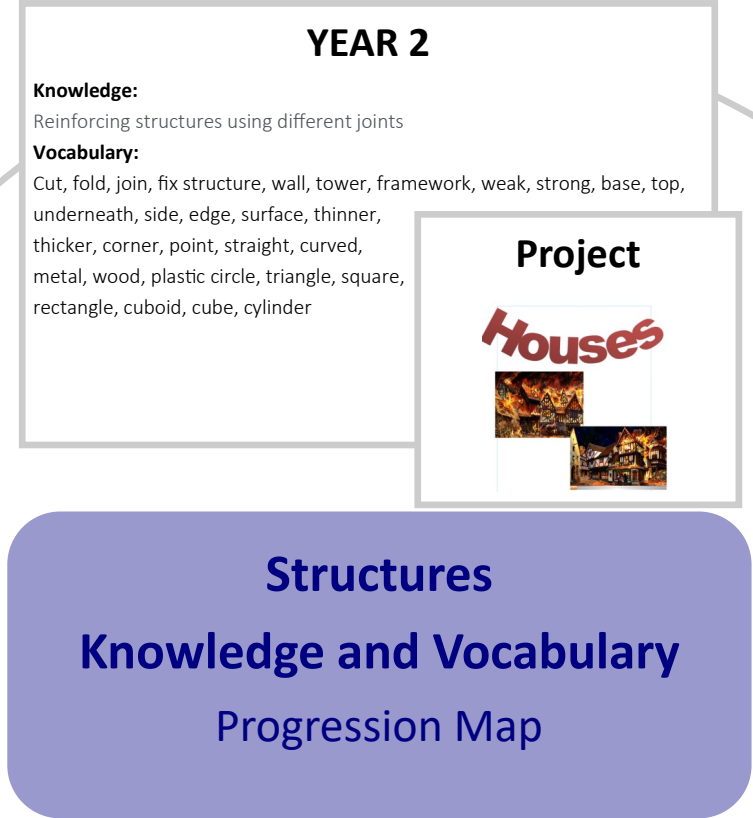
Understand how key events and individuals in D&T helped to shape the world

## Year 6

Generate own design criteria and critique ideas and products against these

Explain and understand how key events and individuals in D&T helped to shape the world

# DESIGN TECHNOLOGY LEARNING MAP



## YEAR 1

**Knowledge:**  
Start to explore techniques how to make structures stronger (folding, rolling)

**Vocabulary:**  
Cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder

### Project



## YEAR 2

**Knowledge:**  
Reinforcing structures using different joints

**Vocabulary:**  
Cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder

### Project



## YEAR 3

**Knowledge:**  
Reinforcing more technical structures and being able to suggest what materials are best to use.

**Vocabulary:**  
Shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision,

### Project



## YEAR 6

**Knowledge:** Reinforcing techniques to create stable and permanent structures

**Vocabulary:**  
Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent

### Project



## YEAR 5

**Knowledge:**  
Reinforcing techniques to improve the strength of a structure (beam).

**Vocabulary:**  
Frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent

### Project



## YEAR 4

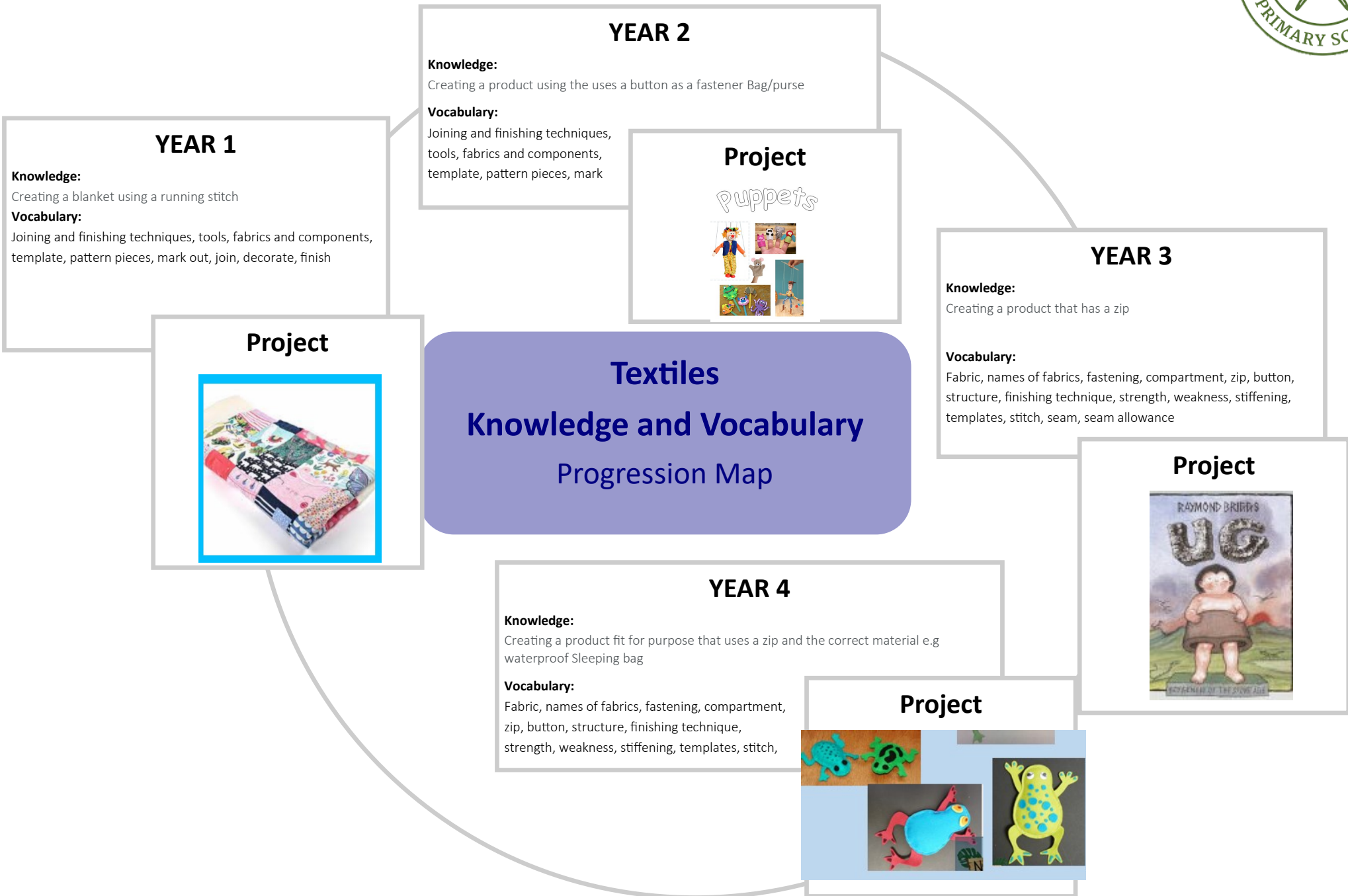
**Knowledge:** Reinforcing and using knowledge of how to construct strong, stiff shell structures.

**Vocabulary:**  
Shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating,

### Project



# DESIGN TECHNOLOGY LEARNING MAP



# DESIGN TECHNOLOGY LEARNING MAP

## YEAR 1

**Knowledge:**

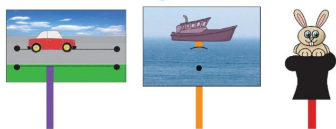
Using a simple fixed pivot lever to make a moving picture

**Vocabulary:**

Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards

### Project

Moving Pictures



Sliders and Levers

## YEAR 2

**Knowledge:**

Creating a product that has linkages and levers

**Vocabulary:**

Vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism

### Project



Summer vehicle

## YEAR 3

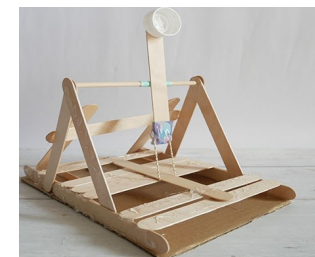
**Knowledge:**

Lever connected to a gear

**Vocabulary:**

Mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating

### Project



## Mechanisms Knowledge and Vocabulary Progression Map

## YEAR 6

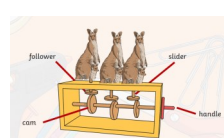
**Knowledge:**

Making connections to real & relevant problems, apply understanding of wider range of mechanical systems (gears, pulleys, cams, levers and linkages)

**Vocabulary:**

Cams levers linkage, follower, gears and pulleys

### Project



Moving toys

## YEAR 5

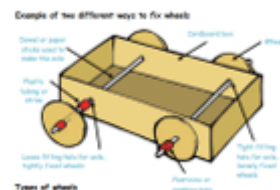
**Knowledge:**

Making connections to real & relevant problems, apply understanding of wider range of mechanical systems (gears, pulleys, cams, levers and linkages)

**Vocabulary:**

Pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output

### Project



## YEAR 4

**Knowledge:**

Identify wider range of mechanical systems and how they work (gears, pulleys, cams, levers and linkages)

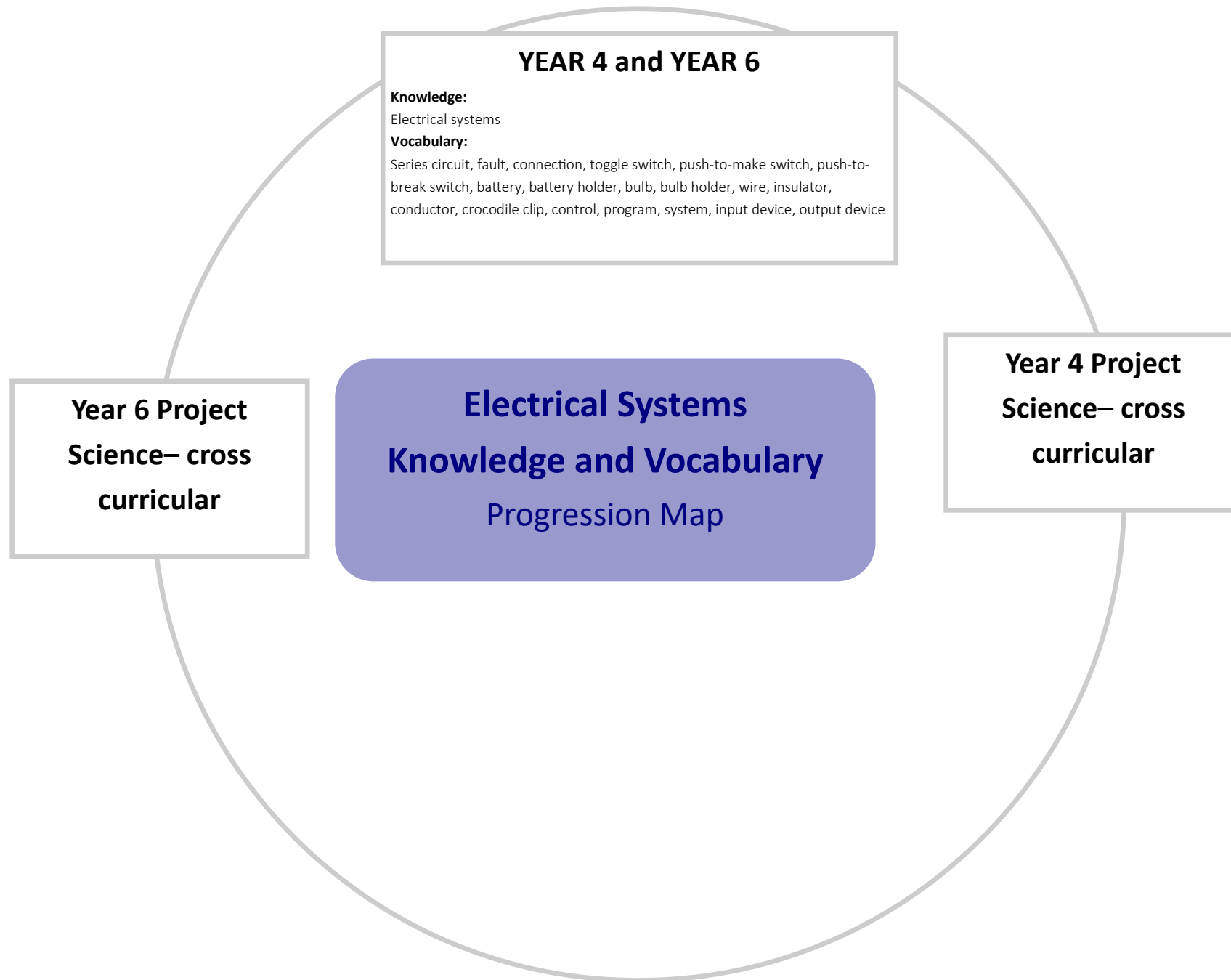
**Vocabulary:**

Mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating

### Project



# DESIGN TECHNOLOGY LEARNING MAP



# DESIGN TECHNOLOGY LEARNING MAP



## Vocabulary

### Year 1 and Year 2

Fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients,

### Year 3 and Year 4

Name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet

### Year 5 and Year 6

Ingredients, yeast, dough, bran, flour, whole-meal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble

## Cooking and Nutrition Progression Map

### YEAR 1

Begin to understand where food comes from.  
Prepare simple dishes using knowledge of healthy food

### YEAR 2

Use basic principles of a healthy and varied diet to prepare dishes  
Understand where food comes from

### YEAR 3

Apply principles of a healthy, varied diet when preparing variety of savoury dishes  
Apply understanding of seasonality and its link to ingredients

### YEAR 4

Know where and how a variety of ingredients are grown, reared, caught and processed

### YEAR 5

Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques

### YEAR 6

Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  
  
Know where and how a variety of ingredients are grown, reared, caught and processed and its impact on meal design  
  
Develop crucial life skill of feeding themselves and others affordably and well