

# SOMERVILLE PRIMARY SCHOOL DESIGN TECHNOLOGY NATIONAL CURRICULUM COVERAGE

	AUTUMN	SPRING	SUMMER
RECEPTION	Being Imaginative Create simple representations of events, people and objects.		
	Chooses particular colours to use for a purpose. Children use what they have learnt about media and materials in original ways, thinking about uses and purposes.		
	They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories. Expressive Art and		
	<u>Design</u>		
	Experiments to create different textures.		
	Understands that different media can be combined to create new effects.  Manipulates materials to achieve a planned effect.		
	Constructs with a purpose in mind, using a variety of resources.  Uses simple tools and techniques competently and appropriately.		
	Selects appropriate resources and adapts work where necessary.		
	Selects tools and techniques needed to shape, assemble and join materials they are using. Early Learning Goal Children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function		

### How can we design a successful kite?

#### 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.

### How can we make a moving picture?

#### 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**

Evaluate their ideas and products against design criteria.

#### **Technical knowledge**

Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

## How can I make my sandwich healthier?

#### **Cooking & Nutrition**

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

# What toppings make a healthy pizza?

#### **Cooking & Nutrition**

Use the basic principles of a healthy and varied diet to prepare dishes.

Understand where food comes from.

# How can I create an effective puppet?

#### 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

### How can I make my fire engine move? 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.

### How do we make a pencil case that How is bread made? can open and close?

#### 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.

#### **Cooking & 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.

#### How can I operate my moving monster?

#### 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

Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

# How can I construct a gingerbread house for Christmas?

#### **Cooking and Nutrition**

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

### Can I design and make a lightbox? 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**

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.

# What makes the strongest design of bridge?

#### 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.

### **YEAR 5 / 6**

Year 2 of rolling programme

# How can I make fashionable clothing?

#### 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.

### What do people in Mexico eat?

#### **Cooking & 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

### **YEAR 5 /6**

Year 1 of rolling programme

# How can we make an effective security alarm?

#### 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**

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.

# What makes and effective bird hide?

#### 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 computeraided 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.

# What makes a tasty burger?

#### **Cooking & 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