Design Technology Progression Document
Year 1

National curriculum requirement

Design & Technology Key Stage 1:

- 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].

When designing and making, pupils should be taught to:

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]
- elect 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 and 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

Substantive Knowledge

Autumn 1 **Food technology** How can we ensure that our sandwich is healthy?	Autumn 2 **Mechanisms** How can we create a picture with moving parts?	Spring 1 **Textiles** How can we use textiles to make a 3-d fabric collage?	Summer 2 **Structures** How can we create a simple structure?
• Know where meats, dairy, fruits and	• Know that mechanisms are the parts that make	• Know that lots of	• Know that a structure- anything that has been built

vegetables come from • Know that to get food we need to **grow** it, **raise** it, or **catch** it. • To stay healthy, we eat a balanced diet of foods from each of the five food groups. • We should aim to eat 5 portions of fruit / veg per day. • To build strong bones and muscles, we need to eat enough protein and dairy. • Know that too many fatty/sugary foods can make you unhealthy and damage your teeth	something work. • Most objects that help us in our lives are made up of different mechanisms. • Sliders and Levers are mechanisms that make things move. • **Sliders** help to move things from side to side and up and down. • **Levers** use a **fulcrum / pivot** (a fixed point around which the lever can pivot) to make things move in arc / curve. • Effective sliders and levers should move smoothly • Know that a s**lot** is a long, narrow cut in the material that enables something slide / move	everyday items are made from textiles. • Know that felt is useful as it doesn't fray • Know that fabrics can be: -shiny, soft, rough, dull, stretchy • Know that fabrics can be joined using glue or staples, and that this is a temporary measure • Know that decorations such as glitter, raised textile paints, fabric crayons, sequins and shiny fabrics, are 'finishing techniques'.	• Know that stable means that it won't fall over easily • That a component is one of the parts of something • Know that a join or link connects two or more things together • Know that by strengthening a structure, it makes something stronger

Disciplinary Knowledge

Designing	Making	Evaluating	Technical Knowledge	Food Technology

• Begin to research existing products before designing their own. • When researching, find out how products work and which materials have been used. • Use own ideas to design something. • Describe how their own idea works. • Design a product which moves. • Explain to someone else how they want to make their product. • Make a simple plan before making. • Begin to develop their own ideas through drawings, and where appropriate, make templates or mock ups of their initial ideas using ICT (if needed).	• Use own ideas to make something. • Assemble and join materials using a variety of methods. • Begin to build structures, exploring how they can be made stronger, stiffer and more stable. • Explore the use of different mechanisms (for example sliders, wheels and axles) in their products. • With help, measure, mark out and cut a range of materials. • Use tools safely (e.g. scissors and a hole punch). • Begin to assemble, join and combine materials and components together using a variety of temporary methods (e.g. glue or sellotape). • Begin to use simple finishing techniques to improve the appearance of their products.	• Describe how something works. • Explain what works well and not so well in the model they have made. • Begin to evaluate their products as they are developed, identifying strengths and possible changes they might make.	• Make their own model stronger. • Make a product that has at least one moving part.	• Cut food safely. • Know that all food comes from either plants or animals. • Use basic food handling, hygiene practices and personal hygiene • Know how to prepare simple dishes safely and hygienically without using a heat source. • Know how to use techniques such as cutting, peeling and grating.

Design Technology Progression Document
Year 2

National curriculum requirement

Design Technology Key Stage 1:

- 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]

When designing and making, pupils should be taught to:

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]
- elect 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

Substantive Knowledge

Autumn 2 **Structures**	Spring 1 **Mechanisms**	Spring 2 **Food Technology**	Summer Terms 1 & 2 **Textiles**
How can we create a	How can you create a	How can we create a pizza with a	How can we create a pouch using

strong and stable structure?	vehicle that moves on axles and wheels?	range of ingredients?	fabric?
• Know that structures are a building or other object constructed from several parts. • Know that structures can be large (e.g. buildings and bridges) or small (e.g. chairs and tables). • Know that freestanding structures are structures that can stand up without being attached to something else. • Know that freestanding structures need to support their own weight and also the weight of the things using them. • Know that structure with wide, flat bases are the most stable	• Know that wheels help vehicles and objects move easily. • Know that **axles** are rods that help wheels to **rotate.** • Know how to use wheels and axles to create a moving vehicle. • Know the difference between **fixed wheels** and **free wheels** • Know that a **chassis** is the base frame of a vehicle. • Know how to make my vehicle look attractive using **finishing techniques**. • Know how my product has/ has not achieved its purpose.	• Know that the five different food groups are: - Carbohydrates - Fruits and Vegetables - Protein - Dairy - Foods high in fat and sugar • Know that good nutrition & healthy food choices help our body grow and repair • Know that ingredients can be bought in shops, markets or grown at home. • We must make sure good food hygiene and safety is followed when preparing and cooking food. • Some people can't eat certain foods as they are allergic or intolerant to it such as nuts, wheat or dairy food • We use all our senses for tasting	• Know there are lots of different ways of **joining** fabrics together. • Some joins are quicker (e.g. stapling, safety pin) whilst some are more secure (e.g. sewing, gluing). • Know that **templates** should be used to cut around and produce accurate shapes and patterns. They can be made out of card or paper. • Know that we use masking tape or pins to attach a template, and use chalk/pastel to draw around it. • Know that a **running stitch** is a sewing stitch made by passing the needle in and out repeatedly with short, even stitches.

Disciplinary Knowledge

Designing	Making	Evaluating	Technical Knowledge	Food Technology

• Begin to develop their design ideas using research and discussion with peers and adults. • Understand the purpose of their product. • Have an identified target group in mind when designing and making a simple product. • Think of an idea and plan what to do next. • Explain why they have chosen specific textiles or materials. • Draw a simple design and label the parts of their product. • Develop their own ideas through drawings, and where appropriate, make templates or mock ups of their initial ideas using ICT (if needed).	• Choose tools and materials and explain why they have chosen them • Join materials and components in different ways, including glue, sellotape and masking tape. • Can identify and name a simple selection of hand tools (e.g. scissors). • Carry out finishing techniques that have been modelled by the teacher. • Use simple sewing techniques including cutting, shaping and joining fabric to make a simple product. • Build structures, exploring how they can be made stronger, stiffer and more stable. • With help, measure, cut and score with some accuracy. • Start to assemble, join and combine materials in order to make a product. • Start to choose and use appropriate finishing techniques based on their own	• Evaluate their work against their design criteria. • Look at a range of existing products and what they like and dislike about products and why. • Start to evaluate their products as they are developed, identifying strengths and possible changes they might make. • With confidence talk about their ideas, saying what they like and dislike about their product.	• Make a model stronger and more stable. • Use wheels and axles, when appropriate to do so. • Know how simple mechanisms work e.g. sliders and linkages. • Make a product that has at least two moving parts.	• Know that everyone should eat at least five portions of fruit and vegetables each day. • Demonstrate how to prepare simple dishes safely and hygienically without using a heat source. • Demonstrate how to use techniques such as cutting, peeling and grating. • Weigh ingredients to use in a recipe. • Describe the ingredients used when making a dish or cake. • Can talk about which food is healthy and which is not. • Follow safe procedures for food safety and hygiene.

	ideas.			