St Anne's C of E Primary School Curriculum Plan

Subject: Design and Technology | Year: 5 | Term: Autumn

Unit: Developing a recipe (Cooking and Nutrition)

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
adaptation – the process of changing something. **cook –** to prepare food by heating it. **cross-contamination –** when something harmful spreads from one food to another. **farm –** to grow crops or keep animals as a business. **hygiene –** keeping things clean. **ingredients –** the foods used in a recipe.	Recipes can be adapted to suit nutritional needs and dietary requirements. They can use a nutritional calculator to see how healthy a food option is. Coloured chopping boards can prevent cross-contamination. Nutritional information is found on food packaging. Food packaging serves many purposes.	**Technical** Where meat comes from - learning that beef is from cattle and how beef is reared and processed. Cross-contamination means bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects. How the information on food packaging allows us to make informed choices about a healthy diet.	**Design** Adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. Write an amended method for a recipe to incorporate the relevant changes to ingredients. Design appealing packaging to reflect a recipe. Research existing recipes to inform ingredient choices. **Make**

label – something that provides information about the product it is attached to. **nutrient –** substances that help living things stay healthy and grow. **nutritional value –** the nutrients a food or recipe provides. **process –** a series of actions.		How to use a variety of kitchen equipment in a safe and hygienic manner. The different food groups and why they need to be included in a healthy and balanced diet.	Cut and prepare vegetables safely. Use equipment safely, including knives, hot pans and hobs. Avoid cross-contamination. Follow a step by step method carefully to make a recipe. **Evaluate** Evaluate pre-existing products to inform their own design. Identify the nutritional differences between different products and recipes. Identify and describe healthy benefits of food groups.

St Anne's C of E Primary School Curriculum Plan

Subject: Design and Technology | **Year:** 5 | **Term:** Spring

Unit: Pop-up books (Mechanisms)

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
aesthetic – how an object or product looks. **CAD –** computer-aided-design. To use the computer to design a product, diagram or drawing. **caption –** a short piece of writing under a picture that describes or explains the picture. **design brief –** a description of what you are going to design and make and how it will work. **design criteria –** a set of rules to help you with your ideas and test their success.	A design brief is a description of what you are going to design and make. Designers often want to hide mechanisms to make a product more aesthetically pleasing. Mechanisms control movement. Mechanisms can change one kind of movement into another. How to use sliders, pivots and folds to create paper based mechanism.	**Technical** Mechanisms can be used to change one kind of motion into another. How to use sliders, pivots and folds to create paper-based mechanisms. How mechanisms change movement type. The functions of sliders, pivots and folds in mechanisms. Why it is important for a product to be aesthetically pleasing.	**Design** Design a pop-up book which uses a mixture of structures and mechanisms. Name each mechanism, input and output accurately. Storyboard ideas for a book. **Make** Follow a design brief to make a pop-up book, neatly and with focus on accuracy. Make mechanisms and/or structures using sliders, pivots and folds to produce movement.

exploded-diagram – a diagram which shows all of the parts of a product, including the internal and external parts. **function -** how something works. **input -** the energy that is used to start something working. **linkage -** lengths of material that are joined together by pivots, so that the links can move as part of a mechanism. **mechanism -** a system of parts all working together. **motion –** the movement an object makes when controlled by an input or output. **output -** the motion that happens as a result of starting the input. **pivot -** the central point, pin or shaft on which a mechanism turns or swings. **prototype –** a simple model which lets you test out your idea and see how it will look and work. **sliders –** something that can move from side to side or up and down. **template –** a stencil to help you draw a shape more easily onto different materials.			Use layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result. **Evaluate** Evaluate pre-existing products to inform their own design. Evaluate the work of others and receive feedback on their own work. Suggest points for improvement.

St Anne's C of E Primary School Curriculum Plan

Subject: Design and Technology | Year: 5 | Term: Summer

Unit: Bridges (Structure)

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
arch bridge – a bridge which is built with a curved arch. **beam bridge –** a bridge which is built with horizontal beams and vertical pillars. **bench hook –** a tool which hooks onto the edge of the workbench. It's used to hold woodwork still when sawing. **compression –** a squashing force caused when parts of a structure are pushed together. **coping saw –** a saw with a narrow D-shaped metal blade, used for cutting curves in wood.	Properties are words that describe the form and function of materials. Some different ways to reinforce structures. Triangles can be used to reinforce bridges. Why material selection is important based on properties. The material (functional and aesthetic) properties of wood.	**Technical** How triangles can be used to reinforce bridges. The difference between arch, beam, truss and suspension bridges. How to carry and use a saw safely. Why the properties of a material are important in deciding its suitability for use in a structure. Why it is important to select appropriate tools for a task.	**Design** Design a stable structure that is able to support weight. Create a frame structure with a focus on triangulation. **Make** Make a range of different shaped beam bridges. Use triangles to create truss bridges that span a given distance and support a load. Build a wooden bridge structure.

file – a tool used to smooth down rough edges on wood or metal materials. **mark out –** to measure and mark where a piece of material needs to be cut or shaped. **reinforce –** to make a structure or material stronger, especially by adding another material or element to it. **sand paper –** strong paper with sand on one side to smooth or polish woodwork. **set square or try square –** a right-angle triangular plate, wood or metal tool used for drawing lines at 90, 45, 60 or 30 degrees. **suspension bridge –** a bridge which is supported by vertical cables and suspended by cables which run between pillars that are connected onto either end of the bridge. **Tenon saw –** a saw with a flat blade, used for cutting wood on straight lines or angles. **tension –** a stretching force caused by two parts of a structure being pulled apart. **truss bridge –** a bridge which is built from a series of triangular beams.		The importance of accuracy when measuring and marking wood to use in a bridge structure.	Independently measure and mark wood accurately. Select appropriate tools and equipment for particular tasks. Use the correct techniques to saw safely. Identify where a structure needs reinforcement and use card corners for support. Explain why selecting appropriate materials is an important part of the design process. Understand basic wood functional properties. **Evaluate** Evaluate pre-existing products to inform their own design. Adapt and improve their own bridge structure by identifying points of weakness and reinforcing them as necessary. Suggest points for improvements for their own bridges and those designed by others.