CANTHONOR CANTHONOR	Design and Technology Curriculum – Year 3 and 4 – Cycle A <u>Please refer to Previous Years' Geography assessment documents linked to hierarchies</u> Link to DT Association guidance – Link to Project on a Dage Documents			
Non- Negotiables	Developing Planning and Communicating Ideas	Link to DT Association guidance – Link to Projects on a Page Documents Evaluating Processes and Products	Knowledg	
Year 3	 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. 	 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 	Apply the	
Year 4	 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. 	 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 	 Understa example, g and use ele circuits inco their und 	
Term	Autumn	Spring		
Торіс	Roman Catapults	Packaging and Nets		
Resources	examples of stable structures <i>eg mug tree, tripod, stool, music stand,</i> examples of free-standing photograph frames, variety of construction kits, suitable for developing understanding of structures, materials for decoration <i>eg paint, fabric, colour magazines for collage, sequins,</i> newspaper, board, thick card, thin card, recycled card <i>eg cereal-packet,</i> <i>card,</i> acetate sheets <i>eg overhead transparencies,</i> squared paper, PVA glue, masking tape, paper clips, scissors, snips, pipe-cleaners	a collection of packaging for different purposes eg from confectionery, biscuits, toys or breakfast cereal, paper, squared paper, coloured card, tissue paper, clear adhesive tape, masking tape, PVA glue, clear and tinted acetate film or sheet, range of tools for marking out, cutting and joining paper and card eg pencils, rulers, scissors, glue spreaders, coloured pencils and/or felt-tip pens, computer and printer with a word processing/graphics program	pictures/images types of sandwic spreads and fillin washing and wa knives, chopping oven	
Vocabulary	designing eg user, choice, decoration, quality, component parts, purpose making eg planning, order, layering, cutting, finish, board knowledge and understanding eg stable, free-standing, stiffen, frame, sturdy, reinforce, quality, distance, near, close, wide, narrow, deep, shallow, thick, thin,	designing eg font, graphic, decision, evaluating, criteria, fit for purpose, holds making eg scoring, tabs, adhesives, join, assemble, accuracy knowledge and understanding eg three-dimensional (3D) shape, cube, cuboid, prism, net, vertex, edge, face, packaging, shell structure, breadth, capacity	designing eg textu questionnaire, da making eg cut, mi grater knowledge and ur groups, hygiene, h sensory eg sweet,	
Lesson 1	 Year 3: To investigate free-standing structures Year 4: To investigate free-standing structures and how they are made stable Activities: Children will study a variety of free-standing objects and consider what makes them strong and stable. They may then either sketch and annotate a variety of photograph frame designs, or examine some photograph frames. Outcomes: Year 3: Children identify how everyday free-standing objects have been made stable Children identify the different components of a photograph frame • Children talk about the features of photograph frames Year 4: Children identify how everyday free-standing objects have been made stable Children identify the different components of a photograph frame • Children talk about the features of photograph frames Year 4: Children identify the different components of a photograph frame • Children talk about the features of photograph frames Year 4: Children identify how everyday free-standing objects have been made stable Children identify the different components of a photograph frame • Children talk about the features of photograph frames 	 Year 3: To investigate packaging. Year 4: To investigate a range of packaging. Activities: Children will think, and study pictures, of a variety of packaging for food and other products. They may then either examine and deconstruct cardboard packaging, or answer questions about given images of packaging. Outcomes: Year 3: • Children understand that packaging serves a variety of purposes • Children deconstruct a packaging box and explain how it was put together • Children understand that packaging serves a variety of purposes • Children deconstruct a packaging box and explain how it was put together • Children understand that packaging serves a variety of purposes • Children deconstruct a packaging box and explain how it was put together (more complex boxes) • Children understand the need to extend the need to extend the net to incorporate tabs for joining Year 4:• Children understand that packaging serves a variety of purposes • Children deconstruct a packaging box and explain how it was put together (more complex boxes) • Children understand the need to extend the net to incorporate tabs for joining 	Year 3: To learn the Year 4: To learn the sandwiches can fo Activities: Children sandwiches and fill a healthy diet. The according to given data) Outcomes: Year 3: Children ke Children name the know that people Year 4: Children ke Children name the Children name the Children name the Children know tha	
Lesson 2	Year 3: To find different ways of strengthening and joining paper and card. Year 4: To find different ways of strengthening and joining paper and card. Activities: Children will think of and describe ways of strengthening paper and card, then experiment with strengthening and joining paper and card in order to further develop their ideas.	 Year 3: To be able to construct nets for 3-D shaped packages. Year 4: To be able to construct nets for different 3-D shaped packages. Activities: Children will learn that many types of cardboard packaging may be constructed using 2-D nets. They will then investigate how 2-D nets are made and constructed to make 3-D packages. 	Year 3: To taste examine flavour Year 4: To taste examine flavour	

lge and Understanding of Materials and Components

heir understanding of how to strengthen, stiffen and reinforce more complex structures

tand and use mechanical systems in their products [for gears, pulleys, cams, levers and linkages] • Understand electrical systems in their products [for example, series orporating switches, bulbs, buzzers and motors] • Apply inderstanding of computing to program, monitor and control their products.

Summer Design a Sandwich

es of sandwiches and fillings, a selection of different viches, a variety of breads, ingredients suitable for lings, plastic table covers, antibacterial cleaner, handvashing-up facilities, aprons, tools and equipment eg ng boards, graters, plates, bowls, plastic film, access to

ture, taste, appearance, healthy, preference, criteria, cost, lata, frequency diagram

nix, spread, slice, blend, grate, chop, chopping board, knife,

understanding eg sandwich, filling, ingredients, fridge, food , high risk, healthy eating, 'balanced plate', thick, thin, .t, sour, bitter, salty

that food can be divided into different groups that food can be divided into different groups and that

form part of a healthy diet. ren will learn about the nutritional content of a variety of fillings, and consider how grouping food can help us plan for hey may then either conduct surveys or design menus

en criteria. (See Y3/4 statistics for expectations on presenting

know that food can be divided into different groups he different food groups and describe their purpose Children le have different preferences

know that food can be divided into different groups • he different food groups and describe their purpose • hat people have different preferences

e a variety of different breads and sandwiches and urs

e a variety of different breads and sandwiches and urs and textures.

	Outcomes:	Outcomes:	Activities: Childr
	Year 3: Children describe ways of making stable structures • Children describe different techniques for strengthening and joining paper • Children experiment with different strengthening and joining techniques	Year 3: • Children understand that 3-D structures can be constructed from nets • Children mark out, cut, score and assemble a 3-D net • Children match different nets to certain product types	different breads personal prefere Outcomes:
	Year 4: Children describe ways of making strong and stable structures • Children describe different techniques for strengthening and joining paper • Children experiment with different strengthening and joining techniques	Year 4: • Children understand that 3-D structures can be constructed from nets • Children mark out, cut, score and assemble a 3-D net • Children match different nets to certain product types	Year 3: • Childre sandwiches • Ch Year 4: • Childre sandwiches • Ch know that different texture of the pr
Lesson 3	 Year 3: To investigate ways of making stable free-standing structures. Year 4: To investigate ways of making stable free-standing structures. Activities: Children will create free-standing 'prototype' photograph frames using paper and card, applying what they learned during the previous lesson. Outcomes: Year 3: Children describe ways of making strong and stable structures • Children select and use strengthening and joining techniques • Children evaluate different types of structures Year 4: Children describe ways of making strong and stable structures • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening and joining techniques • Children select and use appropriate strengthening select appropriate strengthening select appropriate structures 	 Year 3: To explore the use of graphics on packaging. Year 4: To explore the use of graphics on packaging. Activities: Children will study a variety of different graphics on packaging, suggesting reasons for the differences, and who they might have been designed for. They may then either practise writing in different font styles, or use software to select and use different fonts for a variety of given purposes. Outcomes: Year 3: Children understand how graphics are used to create effects • Children understand that the graphics on a product reflect who and what the packaging in designed for Year 4: Children understand how graphics are used to create effects • Children understand that the graphics on a product reflect who and what the packaging in designed for Year 4: Children understand how graphics are used to create effects • Children understand that the graphics on a product reflect who and what the packaging in designed for • Children match a variety of fonts to an intended purpose 	Year 3: To design Year 4: To design Activities: Childr bread and filling annotated image groups. Outcomes: Year 3: • Childre Children describe Children describe Children describe
Lesson 4	 Year 3: To be able to design a photograph frame Year 4: To be able to design a photograph frame for a particular purpose. Activities: Children will draw and annotate their own designs for a photograph frame, considering how they will ensure it is strong, stable and free-standing. Outcomes: Year 3: Children apply what they have learnt about making stable structures in their design ideas • Children design a photograph frame that would be suitable for a particular purpose • Children describe how they will make their finished product Year 4: Children apply what they have learnt about making stable structures in their design ideas • Children design a photograph frame that would be suitable for a particular purpose • Children describe how they will make their finished product Year 4: Children apply what they have learnt about making stable structures in their design ideas • Children design a photograph frame that would be suitable for a particular purpose • Children describe how they will make their finished product 	 Year 3: To be able to design a packaging box for a particular purpose Year 4: To be able to design a packaging box for a particular purpose Activities: Children will apply their prior learning when designing packaging for a product, audience and purpose of their choice. Outcomes: Year 3: Children apply what they have learnt about packaging when designing their own packaging box • Children design a product that is suitable for the intended user • Children incorporate graphics in their design Year 4: Children apply what they have learnt about packaging when designing their own packaging box • Children design a product that is suitable for the intended user • Children incorporate graphics in their design Year 4: Children apply what they have learnt about packaging when designing their own packaging box • Children design a product that is suitable for the intended user • Children incorporate graphics in their design Year 4: Children apply what they have learnt about packaging when designing their own packaging box • Children design a product that is suitable for the intended user • Children incorporate appropriate graphics in their design 	Year 3: To be abl Year 4: To be abl Activities: Refer make their own s Outcomes: Year 3: Children food• Children fo Year 4: Children food• Children fo present their sar
Lesson 5	 Year 3: To be able to make a stable photograph frame Year 4: To be able to make a stable photograph frame from a design. Activities: Referring to their previously completed designs, children will make photograph frames. They are challenged to consider carefully how they will ensure their frame looks like their design. Outcomes: Year 3: Children create a photograph frame • Children create a strong and stable structure • Children suggest ways in which they could improve their finished product Year 4: Children follow a design to create a photograph frame • Children create a strong and stable structure • Children follow a design to create a photograph frame • Children 	 Year 3: To be able to make a packaging box by following a design. Year 4: To be able to make a packaging box by following a design. Activities: Referring to their own, previously completed designs, children will make packaging boxes. Outcomes: Year 3: Children follow a design to create a packaging box • Children work with care • Children identify ways their product could be improved Year 4: Children follow a design to create a packaging box • Children work with care and accuracy • Children identify ways their product could be improved as they are making their packaging box 	Year 3: To be ab Year 4: To be ab Activities: Outcomes: Child a recipe, evaluat product. Year 3: Children Children suggest Year 4: Children Children suggest new design featu

dren will identify, taste, describe and sort a variety of ds and sandwich fillings. They will then discuss their erences.

ren know that there are a variety of different Children taste and describe different foods Iren know that there are a variety of different Children taste and describe different foods • Children erent combinations of ingredients affect the taste and product

ign and plan a sandwich for a particular purpose. ign and plan a sandwich for a particular purpose. Idren will devise their own sandwich recipe, selecting ng. They may then either write their recipe and draw ages to show it, or write and peer review recipes in small

Iren choose a purpose for their sandwich design • ribe each step in the process of making their sandwich Iren choose a purpose for their sandwich design • ribe each step in the process of making their sandwich • In a healthy sandwich

able to create a healthy sandwich. able to create a healthy sandwich. erring to their previously written recipes, children will in sandwiches.

en know how to work safely and appropriately with n follow their designs to create a sandwich en know how to work safely and appropriately with n follow their designs to create a sandwich • Children sandwich in a appealing way

able to evaluate a finished product. able to evaluate a finished product.

ildren will discuss the process of creating and following ating their own process as well as their finished

- en evaluate their work fairly and constructively est improvements to their design
- en evaluate their work fairly and constructively •
- est improvements to their design Children incorporate atures based on their experience of the product

Lesson 6	Year 3: To be able to evaluate a finished product.	Year 3: To be able to evaluate a finished product.	Year 3: To design
	Year 4: To be able to evaluate a finished product.	Year 4: To be able to evaluate a finished product.	Year 4: To desig
	Activities:	Activities: Children will evaluate both their design process and their finished	Activities: Child
	Outcomes: Children will evaluate their own design process as well as their	product, either individually or with a partner.	packaging for th
	finished photograph frame according to a range of given, and agreed upon,	Outcomes:	including consid
	criteria.	Year 3: Children evaluate their own product • Children suggest ways in which	Outcomes:
	Year 3: Children evaluate their finished product • Children suggest ways in	they could improve their product if they were to make it again	Year 3: Children
	which they would change their design if they were to make their photograph	Year 4: Children evaluate their own product fairly • Children comment on the	designing their o
	frame again	work of others and say what they think and feel about them • Children suggest	suitable for the i
	Year 4: Children evaluate their finished product • Children suggest ways in	ways in which they could improve their product if they were to make it again	graphics in their
	which they would change their design if they were to make their photograph		Year 4: Children
	frame again • Children assess how well their finished product meets the		designing their o
	original design criteria		suitable for the i
			graphics in their

Assessment Criteria

	Exploring Existing Products	Developing Ideas	Making New Products	
Year 3	• I can identify qualities of a	. • I can design a functional, appealing product that is fit for	• I can select appropriate tools and techniques for making	• I can evaluate
	range of materials, and suggest	a stated purpose. • I can use words, labelled sketches and	my product. • I can measure, cut, shape and join materials	criteria and sugg
	possible uses	models to communicate realistic design ideas.	with some accuracy using a range of techniques. • I	
			understand how to strengthen, stiffen and reinforce to	
			create a stable structure. • I can use decorative techniques	
Year 4	• I can generate ideas by	. • I can use words, labelled sketches and models to	I can select appropriate tools and techniques for making	• I can evaluate
	researching and using	communicate design ideas and step-by-step plans.	my product. • I understand how to strengthen, stiffen and	techniques which
	information		reinforce to create a stable structure. • I can cut, shape and	
			join materials with increasing accuracy using a range of	
			techniques. • I can use a range of simple finishing techniques	
			to improve my product's appearance.	

ign and make a packaging box for my sandwich ign and make a packaging box for my sandwich dren will apply their prior learning when designing their sandwich, audience and purpose of their choice ideration of graphics.

en apply what they have learnt about packaging when r own packaging box • Children design a product that is e intended user • Children incorporate appropriate ir design

en apply what they have learnt about packaging when r own packaging box • Children design a product that is e intended user • Children incorporate appropriate ir design

Evaluating

e my own and others' finished products against design ggest improvements.

e my finished product, suggesting alternative nich could achieve improvements.