Broadmayne First School Whole School Progression map

Design Technology

Year R	Autumn Term		Spring Term		Summer Term	
Theme	Ourselves	Let's Celebrate	Planet Earth	People who help us	Food and Farming	Fun in the Sun
Intent	*NC link:* • **Moving and Handling** • • To handle equipment and tools effectively, including pencils for writing. • Exploring and Using Media and Materials • • To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • **Being Imaginative** • • To 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					
Substantive (sticky) Knowledge (facts/content)	Make stable structures using construction kits: lego, mobilo, loose parts, bricks - part of getting to know our classroom and apparatus. • I can make something that will stand up. • I can explain what it is and how I made it. • I can transfer my design from lego to building blocks Feel different fabrics and describe them. (e.g. strong, stiff, floppy, shiny, warm, cool, wooly) - what could they be used for. - dancing with scarves, making small worlds - lakes, rivers etc, dressing up box - cloaks • I can describe different materials • I can suggest how the materials can be used (and give some reasons why) • I can draw a picture of something I would like to make		Use scissors, hole punches, different types of glue and tape to create models from recycled materials, paper and card: Chinese New Year - dragons, lanterns, • I can use scissors to cut on a line • I can make a choice of tape or glue to fix something together. • I can say what I like about my model (and what I could improve) Make a snack and a drink for a festival • I can describe how some ingredients taste • I can say which ingredients I like and don't like • I can suggest ingredients to add to biscuits/fruit salad • I can explain that some drinks need to be stirred to mix - squash, tea, hot chocolate		Make a mini-beast including butterflies that flap their wings • I can plan how my mini-beast will look and how it will move • I can use string to make wings flap Use string in the woodland area to make simple pulleys (with string and baskets). Explore adding heavier and lighter objects. • I can use string to make a pulley • I can say what is needed to lift heavier objects. Make small world dens, gardens, landscapes of different materials • I can design my garden/landscape • I can choose appropriate materials to make my model
Disciplinary knowledge	Structures and Textile Design, Make		Structure, cooking and nutrition Design, Make and Evaluate		Mechanisms and mechanical systems, textile	

			Design, Make and technical knowledge
Evidence and enquiry	Children can build objects from construction	Children can make decorations for a festival using cutting and attaching skills	Children can lift an object using a pulley
Key Vocabulary	build , construct Strong, stiff, floppy, shiny, warm, cool, soft	Scissors, cut, tape, glue, fix, attach Sweet, sharp/sour, sticky, runny, hard/soft	pulley, lift, light, heavy, up, down
People/Stories			
Visits/Events		Festivals	Forest School
Wider curriculum	The world around me	RE	Science - minibeasts and habitats, pushes and pulls

KS1 Year 1	Autumn Term		Spring Term		Summer Term	
Theme	Toys	Poles Apart!	To infinity and Beyond!	Mud and Minibeasts	Brilliant Broadmayne!	Amazing Africa!
Intent	*NC link:* **Cooking and Nutrition** • Understand where food comes from. Use the basic principles of a healthy and varied diet to prepare dishes. **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**		**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. **Technical** • Explore and use mechanisms [for example, levers, sliders, wheels and		**Cooking and Nutrition** • Understand where food comes from. Use the basic principles of a healthy and varied diet to prepare dishes. **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** • Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.	axles], in their products. **Evaluate** • Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.	• 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.
Substantive (sticky) Knowledge (facts/content)	*Food* • I can use my senses to describe appearance, smell and taste of a range of fruit and vegetables • I can group fruits and vegetables by their texture and taste *Levers and sliders moving models.* • I can test different sliders and levers (in a pop-up book) • I can explain the difference between a lever and a slider • I can design a card with (a slider for) moving parts for a given audience • I can follow a design/instructions to make a moving model (card) • I can use guiders to make a slider for the moving parts • I can test a finished product to see if it moves or not (and explain why and how it could be improved)	*Design, label and make a space rocket or a moon buggy from recycled materials.* *Making and attaching axles and wheels.* • I can identify what mechanisms make a toy or vehicle move/roll • I can explain that wheels need an axle to move • I can test mechanisms and identify what stops wheels from turning • I can design and make a vehicle that includes wheels, axles and axle holders, which allow the wheels to move • I can adapt a mechanism where needed to make sure it functions	*Cooking and nutrition - soup* • I can identify what is a fruit or vegetable. • I can taste and evaluate different food combinations • I can use fruit and vegetables to design a soup • I can chop fruit and vegetables safely. • I can design some packaging for the soup (including what information should be included) *Puppet (of an African animal)* • I can use a template to design a puppet • I can cut fabrics neatly with scissors • I can choose an appropriate way to join fabrics • I can sequence the steps to construct a puppet

			• I can reflect on the finished product explaining likes/dislikes, what went well/what could be improved
Disciplinary knowledge	Levers and sliders	mechanisms	How to stitch
Evidence and enquiry	Children can make a card with a moving part		
Key Vocabulary	Lever, slider, attach	Mechanisms, axle, wheels, function	Evaluate, Template, design
People/Stories		Look Up!	
Visits/Events		Science Week	
Wider curriculum	Science - senses and Healthy Me week. Christmas	History and Science - Space	Link to Geography - Amazing Africa

KS1 Year 2	Autumn Term		Spring Term		Summer Term	
Theme	Journeys	Reduce, Reuse, Recycle	Nepal	The Great Fire of London	Habitats	Seasides
Intent	*NC link:* **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,		*NC link:* **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		*NC link:* **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	

	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	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	finishing], select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics **Technical** • Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. **Evaluate** • explore and evaluate a range of existing products, evaluate their ideas and products against design criteria
Substantive (sticky) Knowledge (facts/content)	I know what a healthy snack is and why it is important for my body. I know which foods are healthy and which should be eaten less often. I know how to stay safe and clean when preparing food (e.g. washing hands, using tools safely). I know how to name and use basic tools like a knife (child-safe), peeler, and spoon I can safely cut, peel, and mix ingredients with help.	I know that explorers need something strong and useful to carry small items I know how to join fabric using simple stitches like running stitch I can cut fabric carefully using scissors I can use a simple stitch to join two pieces of fabric I know that different materials have different properties (e.g., strong, soft, flexible)	I know that a car needs wheels and axles to move. I know what an axle is and how it helps the wheels turn. I know how to join materials to make strong structures I know that different tools and materials are used for different parts of the car
Disciplinary knowledge	Cooking and Nutrition	Textile and structures	Mechanisms and mechanical systems
Evidence and enquiry	Children can design and make a healthy snack	Children can choose appropriate materials to make something for a given purpose (function)	Children can make a car with wheels that move
Key Vocabulary	Healthy, Snack, Fruit, Vegetable, Ingredients, Balanced, Fresh, Natural, Sugar, Fat, Vitamins, Energy, Chop, Slice, Peel, Mix, Stir, Spread, Cut, Safe, Clean, Hygiene, Utensil, Equipment, Design, Plan, Create, Choose, Make, Improve, Evaluate, Appearance, Texture, Taste, Smell, Function, Grown, Farm, Plant, Tree, Harvest, Source	Pouch, Explorer, Design, Plan, Make, Function, Purpose, Fabric, Material, Strong, Flexible, Durable, Cut, Join, Stitch, Needle, Thread, Running stitch, Fasten, Velcro, Button, Flap, Decoration, Shape, Pattern, Safe, Evaluate, Improve, Tools, Equipment	Car, Design, Plan, Make, Wheels, Axle, Chassis, Mechanism, Move, Rotate, Turn, Spin, Structure, Frame, Material, Cardboard, Join, Cut, Shape, Attach, Strong, Stable, Test, Improve, Evaluate, Tools, Equipment, Safe, Decoration, Model
People/Stories			
Visits/Events			

Wider curriculum	Science – healthy eating plate, P.E – healthy eating and exercise, Art – drawing	History – explorers	History – transport (seasides)

KS2 Year 3	Autumn term		Spring Term		Summer Term	
Theme	Light and Dark	Stone Age	Bronze Age	Iron Age	**The Romans**	Anglo Saxons
Intent	*NC link:* **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. **Make** • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. **Evaluate** • Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria. **Technical** • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems in their products [for example,		**Make** • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. **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. **Cooking and 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.		**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. **Make** • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. **Evaluate** • Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria. **Technical** • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and	

	gears, pulleys, cams, levers and linkages].		linkages].
Substantive (sticky) Knowledge (facts/content)	Structure I can design a shadow puppet by choosing an appropriate material (opaque and sturdy/stiff) I can choose the appropriate materials to design a shadow puppet theatre. I can use taught skills to produce a shadow puppet show	Food and Nutrition I can describe the taste, texture, smell and appearance of a dish I can follow instructions within a recipe I can create a healthy and nutritious recipe for a savoury dish. I can use utensils safely. I know how to prepare myself and a work space to cook in safely, learning the basic rules to avoid food contamination Textile I can weave fabrics and/or yarns together (using under/over pattern) I can make felt using a wet-felting technique (of rubbing fleece fibres together with water and soap)	I know that air can be used as a force I can design a toy which uses pneumatic force I can explain how my toy will work I can explain what went well and what could be improved in my toy.
Disciplinary knowledge	Structures - Design, make, evaluate	Textiles - Make Food and Nutrition - Design, evaluate	Mechanisms and mechanical systems - Design, make, evaluate, technical knowledge
Evidence and enquiry	How can we make a shadow puppet show.?	How did Iron Age people make their clothes? Children can weave a piece of cloth and felt fibres together. Children can design a drink	How can we use air power to create movement in a toy? Children can make a toy using pneumatic force
Key Vocabulary	Opaque, translucent, transparent, attach, material	Weave, fibre, felting	Force, pneumatic, hinge, open, close
People/Stories		The BFG	
Visits/Events		Wild Wessex Farm	
Wider curriculum		Iron Age Celts English - The BFG	Science - Forces

KS2 Year 4	Autumn Term		Spring Term		Summer Term	
Theme	The Mayans	Rivers	World War 1	North America Amazing Americas!	World War 2	South America Carnival!!
Intent	*NC link*		*NC link*		*NC link*	

	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. **Make** • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. **Technical** • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. **Evaluate** • Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria.	**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. **Make** • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. **Technical** • 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. **Evaluate** • Evaluate their ideas and products against their own design criteria. **Cooking and 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. • Know where and how a variety of ingredients are grown, reared, caught and processed. **Evaluate** • Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria. **Technical** • Apply their understanding of how to strengthen,	**Make** • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. **Evaluate** • Investigate and analyse a range of existing products. Evaluate their ideas and products against their own design criteria. **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. **Make** • Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately. **Technical** • 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. **Evaluate** • Evaluate their ideas and products against their own design criteria.

Substantive (sticky) Knowledge (facts/content)	**Structure** I can describe the shapes of Mayan masks I can design a mask based on the masks I have seen. I can use cutting and attaching techniques to create the base of a mask from card I can use papier mache to stiffen, strengthen and smooth the structure	**Structure and Technical** I can compare torches and identify some components I can design a torch I can build a circuit using wires, crocodile clips, a cell, a bulb and a switch I can construct a torch to 'house' the circuit **Food and nutrition** I can taste and describe a range of popcorns I can make popcorn and add sweet and/or savoury flavouring. I can design packaging for my product I can use a net to make my packaging	Textile I can make and test a paper template with accuracy and in keeping with the design criteria I can measure, mark and cut fabric using a paper template I can select a stitch style to join fabric, working neatly, sew small neat stitches Structure/mechanisms I can design a shape that reduces air resistance I can draw a net to create a structure from I can choose shapes that increase or decrease speed as a result of air resistance I can measure, mark, cut and assemble with increasing accuracy I can make a model based on a chosen design
Disciplinary knowledge	Structure - design, make, technical, evaluate	Structure - design, make, technical, evaluate Food and nutrition - make and evaluate	Textile - make, evaluate Structure, mechanisms - design, make, technical, evaluate
Evidence and enquiry	How did the Mayans make their ceremonial masks? Children will be able to make a mask by using construction techniques with paper and card.	How are torches made? Children will be able to test and evaluate some torches. They will be able to design and make a torch What snack foods are popular in North America? How are they made? Can we make different flavours? Children will be able to make popcorn in different flavours. Children will be able to make packaging for their product.	If people living through WW2 couldn't afford new clothes, what did they do? Children will be able to attach two pieces of fabric together to either make longer, bigger or patch a hole. How do windmills use wind power? Children will be able to make a windmill with sails which move (Children will be able to explain why this is environmentally friendly)
Key Vocabulary	Mayan, Materials, Structure , Stiffen, strong Attach, Papier mache	Circuit, Switch, link, connect, buzzer, bulb, cell, Crocodile clips, components Product, flavours, packaging	Sew, Running stitch, Blanket stitch, attach, darn?
People/Stories	Darryl Wakelam - 3D artist	'Electronics for kids' - Oyvind Nydal	
Visits/Events			Wessex Farm trip - Dig for Victory/Land Girls

Wider curriculum	Link to Mayans in History	Link to Electricity in Science Linked to North America in HIstory	Link to WW2 in History Link to Science and Sustainability Air resistance