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Ashdene Primary School – Design Technology Progression Map EYFS –Y6

Purpose of Study	• Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. • Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. • High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.
Aims	• To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. • To build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users. • To critique, evaluate and test their ideas and products and the work of others. • To understand and apply the principles of nutrition and learn how to cook.

EYFS		Y1	Y2	Y3	Y4	Y5	Y6
	National curriculum objectives						
Children at the expected level of development will: invent, adapt Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	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		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			

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Children at the expected level of development will: safely use and explore a variety of materials, tools and techniques, experimenting with colour, design texture, form and function.	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	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
Children at the expected level of development will: Share their creations, explaining the processes they have used.	Evaluate	Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria	Investigate and analyse a range of existing products and to 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	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.	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 linkages] 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.

EYFS		Y1	Y2	Y3	Y4	Y5	Y6
The People Around Me	HT 1	Florence Nightingale & Emmeline Pankhurst	The Great Fire of London	Romans	Ancient Greeks	Anglo Saxons & Vikings	Crime & Punishment
***To research**: Discuss extra ingredients to make porridge different (honey, strawberries, etc)* ***To make**: Porridge Making* ***To evaluate**: Children vote which was their*		*Biscuit baking – shortbread or gingerbread?* ***To research:** Look at different recipes. Which recipe would be the most appropriate?* ***To make:** Discuss the importance of the amount of ingredients used.*	*Bread Making – Look at different recipes for bread.* ***To research**: Look at different bread recipes, including a gluten free. Which recipes do we like/think would be easy etc.*		*A Greek Feast – hummus making and a Greek Salad* ***To research** different Greek foods that would be appropriate for a Greek Feast.*	**To research**the diet of the Saxons and Vikings. To research why fish was such a large part of the Viking diet. Cook fish on an open fire – could potentially use the Ashden area and have a stand-alone session with Ranger Dan.	

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favourite porridge to make and eat.		***To evaluate**: Complete a short evaluation of how different quantities of ingredients change taste.*	***To make**: Create a gluten free loaf and evaluate the taste. (Speak to NA about 20/21 recipe)* ***To evaluate**: Compare baked bread to shop bought bread rolls. Write evaluation.*		<u>***To make***</u> and become competent in a range of cooking techniques [for example, chopping and using a food processor) Make *hummus or a Greek salad.* <u>To evaluate</u> *shop bought hummus and made one or evaluate the taste/ease of Greek salad.*	**(To become competent in a range of cooking techniques – open fire)** **To evaluate** the cooking process and taste. How easy/challenging was it to cook on an open fire.	
Seasons	HT2	Wilmslow	UK - London	Climates	Earthquakes	Volcanoes: Ring of Fire	Where do all our Things Come From?
				To research and to understand where food comes from: Look at the ingredients in two dishes from different parts of the world. Discuss fruits and vegetables being 'in season'. (Understand the source, seasonality and characteristics of a broad range of ingredients) **To design:** Using seasonal vegetables or fruit,make a class soup/smoothie. **To evaluate**: Discuss whether the soup/smoothie would be as easy to make/tasty at a different time of year.			Fun Food Chef **To research** two meals from two different continents. To understand the source, seasonality and characteristics of a broad range of ingredients. **To make** a traditional meal from a country in a different continent. **To evaluate** the making process and taste of the two meals. To design their own meal based on their evaluations.

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Things with Wings	HT 3	Fairground Rides	Boats	Rockets	Cars	Hover boards	NA
	Links to prior learning						
	1	**To design** To research as a class different fairground rides and discuss what they do and how they move. Give each group a JIGSAW fairground ride to put together. What is our stem topic going to be? Discuss what they already know about fairgrounds and fairground rides – chn to complete a Summary Splatter. Show pictures and talk about the purpose of the rides. What does each ride do? What does each element do? Use QR codes with videos from YouTube for chn to use ipads and watch ride videos **Linked to Computing** Information Literacy	**To design** Children to research and create a mood board of things that move in the water. Categorise living things and manmade things. Discuss their shapes and designs. Discuss and research 'How do boats move?'	**To research** Begin comparing 2 different rockets Research and compare Apollo 11 & Souyez (1st) / Musk (most recent)	**To design** Children to research existing formula one cars looking at the shape/design	**To research** Children to research the history of hover crafts, what they are used for (purpose) and how they are made.	**To research** Children to begin to research the history of robotics. Children to consider the different uses of existing robotics and the potential of future robotics. Look at a present day engineer (eg Elon Musk) – ask 'how has robotics changed?'
	2	**To design** Generate ideas through talking, drawing and mock – ups in order to be able to	**To make** Children make a simple mock-up boat that moves in water. Children will select from and	**To evaluate** Continue comparing 2 different rockets. Discuss the difference in	**To design** Children to research existing formula one cars looking at the shape/design	**To design (research)** Children to research the history of hover crafts, what they are	**To design (research)** Children to look at the packaging and promotion of some

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		design a purposeful and functional fairground ride. Use resources such as spaghetti, marshmallows, lego, multilink etc.	use a range of tools and equipment (cutting (coping saw), shaping, joining and finishing).	the older and more recent rockets. Research and compare Apollo 11 & Souyez (1st) / Musk (most recent)	Children to test remote control cars to research shape and shape of cars going around a track.	used for (purpose) and how they are made. Begin to research Christopher Cockerell.	robotics that are currently available,
To design Investigating the impact of wing shape to help birds glide/fly in the air	3	**To make** Select from and use a wide range of materials and components. Chn will explore how to join a range of materials using different equipment (e.g. blu-tac, tape, glue, paperclips, hot glue gun) Cardboard, plastic, wood	**To evaluate** Children will test, observe, explore and evaluate their boats against the design criteria/brief.	-	**To design** Children to research existing formula one cars looking at the shape/design Children to research the fastest things on earth and evaluate the shape of these different objects/animals to see what makes them fast.	**To research** Children to research the history of hover crafts, what they are used for (purpose) and how they are made. Begin to research Christopher Cockerell.	**To evaluate** To investigate and analyse a range of existing products.
To evaluate Adapt designs based on investigation. Begin to gather materials and identify which are most suitable	4	**To evaluate** Evaluate their ideas and products against a design criteria Model how to evaluate a product. Look at the positives and then think about how to improve and develop it	**To evaluate** Children to use the results to discuss and summarise which boats were the most and least successful and why they think they were.	**To research** Look at the design brief and discuss the pros and cons	**To design** Children to research existing formula one cars looking at the shape/design To investigate paper aeroplanes, changing the size and shape to see how this impacts on the speed of travel.	**To design** Children will design their own hovercraft for a purpose: racing, military use or other (see research) Children must design their hovercraft using cross sectional and exploded diagrams that are annotated.	**To research** Share design brief with children. Highlight the purpose of the robot they will design and make. Point out who it will be made for. Children to begin developing their ideas through discussion with their peers.

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To make Making wings using a variety of tools and materials	5	**To make** Select from and use a wide range of materials and components. JUNK MODEL Team building Children make mock-up Lego men rollercoasters made from cardboard.	**To evaluate** Children will evaluate their ideas and products against the design brief.	**To design** Children to begin designing their own rocket with a purpose – small child to operate independentl.	**To design** Children to research existing formula one cars looking at the shape/design To investigate how the surface area at the front of a car impacts on movement of a car– Newton metre and wind tunnel investigations.	**To design** Children will design their own hovercraft for a purpose: racing, military use or other (see research) Children must design their hovercraft using cross sectional and exploded diagrams that are annotated.	**To research** Share design brief with children. Highlight the purpose of the robot they will design and make. Point out the product's audience. Children to begin developing their ideas through discussion with their peers.
To evaluate To evaluate designs based on their testing. Share their creations, explaining the process they have used.	6	**To evaluate** Select from and use a wide range of materials and components. Write a written evaluation based on the junk modelling from the week before.			**To design** Children to research existing formula one cars looking at the shape/design Children to investigate how the shape of the front of a car impacts to speed of travel – playdough and oil investigation.	**To design** Children will design their own hovercraft for a purpose: racing, military use or other (see research) Children must design their hovercraft using cross sectional and exploded diagrams that are annotated.	
EYFS		Y1	Y2	Y3	Y4	Y5	Y6
Things with Wings	HT4	Fairground Rides	Boats	Rockets	Cars	Hover boards	NA
	Links to Prior Learning						
	1	**To design** Design and label a fairground ride	**To design and start to make** Design a boat which moves forwards in water. Aim – which boat moves the	**To make** Star chaser – visit Make a rocket by instruction. Children	**To design** Children to use the results of their scientific investigations to inform	**To make** Children will work in teams to make their own hovercrafts using	**To design** Children to develop ideas using annotated sketches,

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		Use a skeleton template for the design, children add their own ideas. Remind children of the purpose of the fairground ride. Share a clear design brief with the purpose. Is the fairground ride for Lego people? Plastic animals? Teddy bears?	quickest? Use the results they gathered from their mock-up boat to inform this new design. Children will select from and use a range of tools and equipment (cutting (coping saw), shaping, joining and finishing).	must select from a wide range of materials and components, according to their functional properties and aesthetic qualities.	own car designs which must be annotated with cross sectional diagrams. Children to draw scale models of their F1 cars that they will make over the half term. Children to design their team logo for the chassis and decide on aesthetically pleasing colour schemes.	a wide range of tools and equipment to perform practical tasks (cutting, shaping, joining and finishing) under strict supervision – following risk assessments. Children decorate their hovercraft making sure it is fit for purpose.	cross-sectional and exploded diagrams.
	2	**To make** Make fairground ride	**To make** Children make a boat that moves in water. Children will select from and use a range of tools and equipment (cutting (coping saw), shaping, joining and finishing).	**To make** Children begin making their own rockets, working towards a brief. Children should use a wide range of materials and components.	**To make** Children to make small formula one cars with the aim to make them travel the fastest. Children to use cardboard templates to make F1 car bodies and then design their own aerodynamic chassis.	**To make** Children select from a wide range of materials and components according to their functional properties and aesthetic qualities.	**To make** Children to understand and use electrical systems in their products (for example: series circuits incorporating systems, bulbs, buzzers and motors.
To design Design- Make their choice of flying machine choosing between a helium balloon or propeller- can they make one final spectacular machine for Rosie's Aunt to fly! Consider materials, to form and function.	3	**To make** Make fairground ride	**To evaluate** Children will test, observe, explore and evaluate their boats against the design criteria/brief.	**To evaluate** Children will evaluate their own rockets against the design brief. Test – does it work?	**To make** Children to make small formula one cars with the aim to make them travel the fastest. Children decorate their Go Kart making sure it is fit for purpose. Children to design their own cardboard chassis to go on their cars. This should include logos and colour etc.	**To evaluate** Children should discuss and evaluate how easy or difficult they found the process to be. Children should discuss and write about the challenges they faced.	**To make** Children to understand and use electrical systems in their products (for example series circuits incorporating systems, bulbs, buzzers and motors.

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Begin to gather materials and identify which are most suitable Also, think about choice of colour and texture to wow her Aunt!							
To evaluate Evaluate design and function- compare the helium balloon with the propeller- work with the opposite opponent to compare both manmade flying objects present their machines to the other group	4	**To make** Make fairground ride	**To evaluate** Children to use the results to discuss and summarise which boats were the most and least successful and why they think they were.	**To make** Adapt and improve Make second rocket with adaptions. Continue working towards the design brief but refine your design based on your first rocket's performance.	**To make** Children to work in teams to make their Go Karts using a wide range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing). Understand and use electrical systems in their product (for example, series circuits incorporating switches, bulbs, buzzers and motors) Children to use saws/ wood/ glue guns to make wooden frames for electric cars and then add electric circuit to make them move.	**To evaluate** Children should discuss and evaluate the work of their peers and discuss whether the completed hovercrafts are fit for purpose. Revisit the brief and ask 'what were the initial intentions?'	**To evaluate** Children to evaluate their ideas and product against the design criteria and brief. Ask 'how effective have I been in making my Meccano M.A.X.? How could I be more successful/effective if I were to do the task again? Children to evaluate the work of their peers work.
To evaluate To evaluate designs based on their testing. Share their creations, explaining the process they have used.	5	**Evaluate** Children will discuss what their favourite things are about their own fairground ride and what they do not like about it	**To evaluate** Children will evaluate their ideas and products against the design brief.	**To evaluate** Children will re-evaluate their rockets asking how has this changed? Compare the two together. Share things that children like about each others.	**To make** Children to work in teams to make their Go Karts using a wide range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing).	**To evaluate** Children will evaluate their ideas and products against the design brief.	**To evaluate** Children should look back at their design brief and consider how effective their build is with regards to its purpose.

					Children decorate their Go Kart making sure it is fit for purpose. Children to design and then make the chassis for their electric cars including the logos and colour scheme etc.		
	6			**To evaluate** Rocket Show to Parents and ask parents for feedback about their designs and their functionality.	**To evaluate** Children to use the results of their car testing to evaluate the effectiveness of their cars designs and performance on a race track. Children will **evaluate** their ideas and products against the design brief.		
An Explorers Life is For Me	HT5	Inventions	Castles – Beeston Castle	**The Tudors**	**History of Space Travel**	The Victorians	STEM
To design How can an item of clothing be fixed? **To make** Repairing an item of clothing for an explorer. Sew up a hole and add a button. **To evaluate** Discuss what was challenging and easy about the repairs. How else could the item have been repaired?				**To research** Tudor fashion by looking at Tudor paintings. **To design** a headdress for a female or male including traditional Tudor features. **To make** using a strip of material, embroidery and beading. **To evaluate** – discuss the challenges to making a Tudor headdress and what was enjoyable.		**To research** designs of Victorian samplers and what they were used for. **To design** their own sampler on graph paper. **To make** a sampler using embroidery threads. Demonstrate top stitch, back stitch cross stitch and running stitch. **To evaluate** children to compare their own	

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						designs to an existing sampler.	
The UK	HT6	Sea sides	Rainforests	Rivers UK, Europe, Wider World	Coasts: LLandudno	Biomes and vegetation belts	STEM
		To research different techniques to draw on fabric. Use fabric pens and their effect on material – calico. Research images of the seaside – waves, sand, beach huts. Could the class create a 'seaside wall handing – joining 30 individual pieces? **To design** – children draw out their design and consider how they would use fabric crayons to represent the sea side. **To make** a small representation of the seaside using fabric crayons and some embellishments. **To evaluate** how successful is their sea side piece and how do each-others compliment one another?	**To research** a range of rainforest animals and look at how soft toys are made. **To design:** Sketch patterns for three simple rainforest animals and consider applique technique to embellish the designs. **To make** Use felt and blanket stitch to make small stuffed rainforest animals. Use simple blanket stitch but teach running stitch for embroidery it desired. **To evaluate** against a regular cuddly toy. What is better, not a good as a shop bought cuddly toy.		**To research:** What makes **a** successful sunhat for a child, that could be used on a hot day at Llandudno beach? **To design**: Children design their own sunhat considering a peak, the brim, a neck shade etc. **To make** Children use a simple cutting pattern to make their chosen design. **To evaluate** reception children to evaluate their hats – based on your questions.		

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