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Design & Technology Curriculum

Curriculum Intent Statement

At Orchard Meadow pupils will develop into creative thinkers by practising and applying skills throughout the years. They will draw on prior subject knowledge to improve their products year on year.

The curriculum draws on

1. Being confident in creating
2. Making your design come to life
3. Being able to discuss improvements in final products
4. Understanding the importance of nutrition

The curriculum allows discussion of current products and the freedom to think 'out of the box' and be creative. Throughout the key stages children explore and develop skills progressively to allow them to design, build, test and improve their products.

Key driver	Outcome	Enquiry Q
Respect	I consider other people's products and designs discussing them with positives and negatives. I can effectively critique products and apply knowledge from other known products.	How global are our products?
Determination	I respect that the process from design to product is a rigorous process, I will show perseverance when things do not go to plan.	How can we reuse old things to design new things?
Creativity	I can use my imagination to create and solve problems. I will draw on a broad subject knowledge to create and design a product.	How does the user of something change the design? How does human nature impact design?
Confidence	I will present my product and discuss the process with others. I can speak up for my beliefs in product design and justify my ideas.	Do products change who we are? Do we need technology?
Enthusiasm	I am willing to take risks and discuss my ideas. I can share my ideas with others and take on other ideas.	How do products change your mood?
Ambition	I am motivated to present my product to others and fully understand and believe in its contribution to the creative world.	How does technology effect design?

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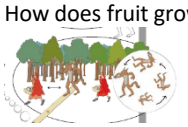
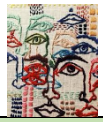
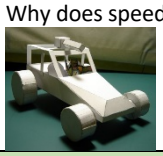
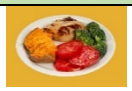
Whole school summary

	Autumn	Spring	Summer
Nursery	How does the user of something change the design?		
	Does all design look the same? 	How does nutrition change design? 	Does the user change the outcome of a product? 
Reception	How can we reuse old things to design new things?		
	How do we change the purpose of an item? 	How do designers change objects? 	How does food get reused? 
Year 1	How global are our products?		
	Why do people dress differently? 	How does fruit grow? 	How does sugar affect final products? 
Year 2	How far should my opinion influence design?		
	Should everyone have their own preference? 	How can I use textile to represent my identity? 	What is the best structure to store food? 
Year 3	Do products define who we are?		
	How do costumes change your personality? 	Does the food I eat define my culture?	?
Year 4	How do products change your mood?		
	Does everyone eat the same bread I do?? 	Ruth Goldberg machine	How do surprises make you feel? 
Year 5	How does human nature impact design?		
	This is the perfect breakfast, don't you agree? 	Should you be fierce or friendly? 	Why does speed matter with cars? 
Year 6	Do we need technology?		
	How does light change a room? 	What is nutrition? 	What will you teach others? 

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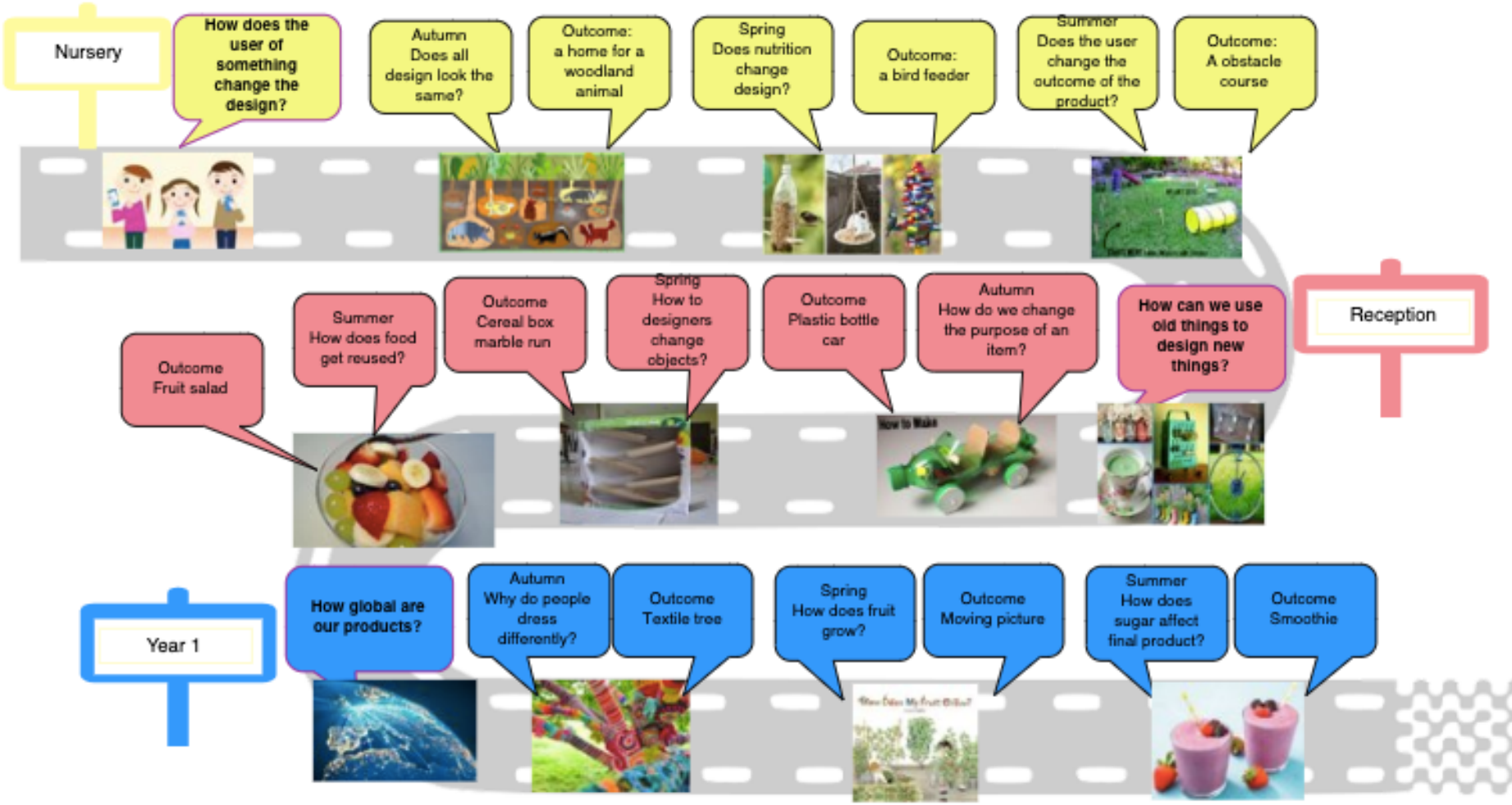
Design & Technology Learning Journey



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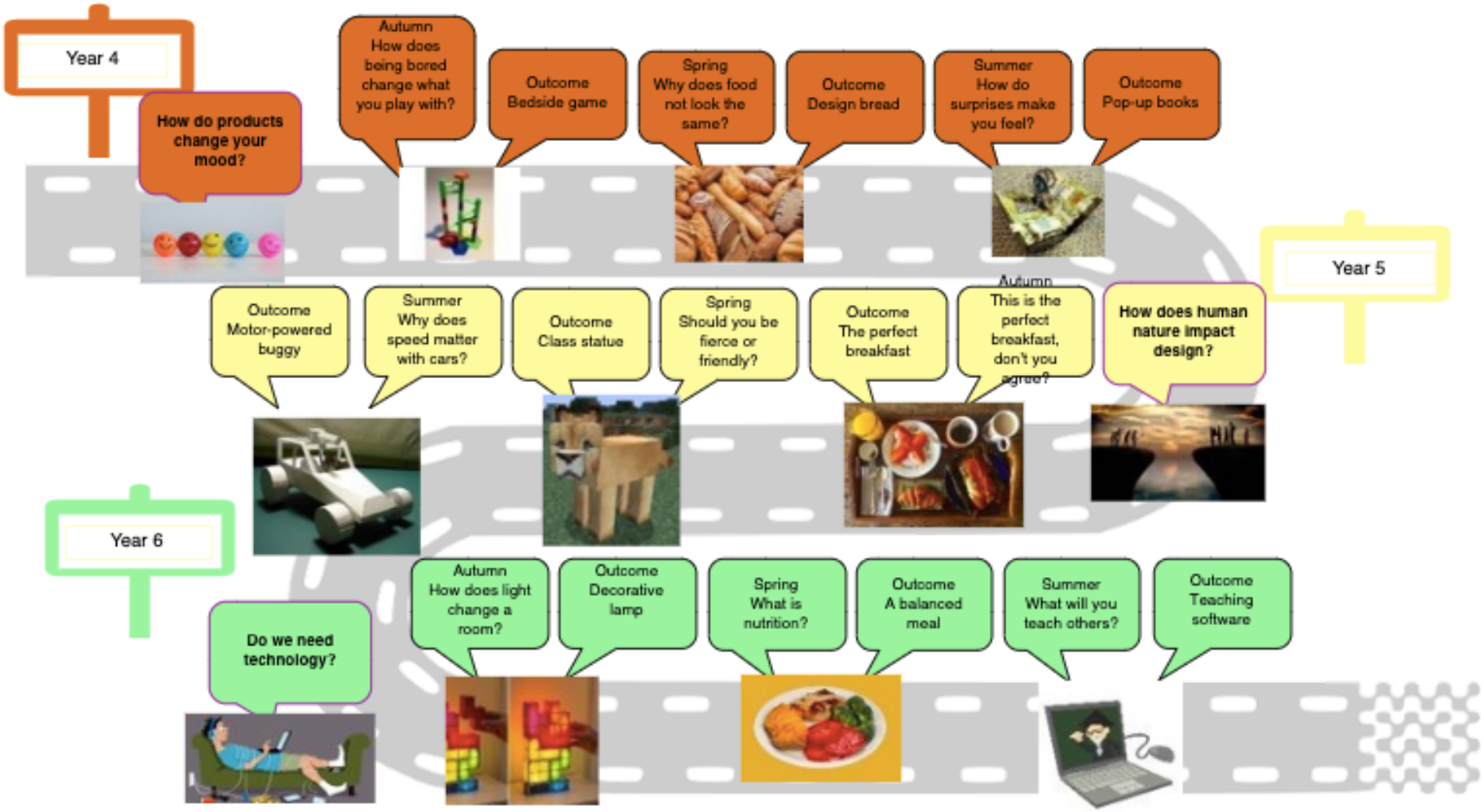

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Coverage of D&T Skills

	Nursery			Reception		
	Autumn **Homes for animals**	**Spring** **Bird feeders**	**Summer** **Obstacle course**	**Autumn** **Plastic bottle car**	**Spring** **Cereal marble run**	**Summer** **Fruit salad**
Enquiry Question	**How does the user of something change the design?**			**How can we reuse old things to redesign new things?**		
I can describe the texture of things and experiment with texture	Does all design look the same?			How do we change the purpose of an item?		
I am beginning to construct by stacking horizontally and vertically and by making enclosures.		How does nutrition change design?	Does the user change the outcome of a product?		How do designers change objects?	
I understand that tools are used for a purpose and use them competently and appropriately		How does nutrition change design?		How do we change the purpose of an item?	How do designers change objects?	
I can construct with a purpose in mind using a variety of resources	Does all design look the same?	How does nutrition change design?	Does the user change the outcome of a product?	How do we change the purpose of an item?	How do designers change objects?	How does food get reused?
I can select tools and techniques needed to shape, assemble and join materials		How does nutrition change design?	Does the user change the outcome of a product?	How do we change the purpose of an item?	How do designers change objects?	How does food get reused?
I can manipulate materials to achieve a planned effect	Does all design look the same?		Does the user change the outcome of a product?	How do we change the purpose of an item?	How do designers change objects?	
I can safely use a variety of tools.		How does nutrition change design?	Does the user change the outcome of a product?	How do we change the purpose of an item?	How do designers change objects?	How does food get reused?
I understand a need for variety in food and eat a healthy range of food.		How does nutrition change design?				How does food get reused?

Driver	Respect	Determination	Creativity	Confidence	Enthusiasm	Ambition

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Progression of D.T. Skills

	Year 1			Year 2		
	Autumn **Textile tree**	**Spring** **Moving picture**	**Summer** **Smoothie**	**Autumn** **Dips**	**Spring** **Fabric faces**	**Summer** **DIY lunch box**
Enquiry question	**How global are our products?**			How far should my opinion influence design?		
I can design a product for myself or others using design criteria		How does fruit grow?	How does sugar affect final products?		How can I use textile to represent my identity?	What is the best structure to store food?
I can generate, develop, model and communicate my ideas through talking, drawing, templates. mock-ups and where appropriate ICT	Why do people dress differently?	How does fruit grow?	How does sugar affect final products?	Should everyone have their own preference?	How can I use textile to represent my identity?	What is the best structure to store food?
I can select from and use a range of tools and equipment to perform practical tasks	Why do people dress differently?	How does fruit grow?	How does sugar affect final products?		How can I use textile to represent my identity?	What is the best structure to store food?
I can select and use a wide range of materials and components (construction materials, textiles and ingredients)		How does fruit grow?	How does sugar affect final products?	Should everyone have their own preference?	How can I use textile to represent my identity?	What is the best structure to store food?
I can explore and evaluate a range of existing products	Why do people dress differently?		How does sugar affect final products?	Should the consumer impact design?		What is the best structure to store food?
I can evaluate my ideas and products against design criteria	Why do people dress differently?	How does fruit grow?	How does sugar affect final products?		How can I use textile to represent my identity?	What is the best structure to store food?
I can build structures, exploring how they can be made stronger, stiffer and more stable	Why do people dress differently?					What is the best structure to store food?
I can explore and use mechanisms in my products		How does fruit grow?				What is the best structure to store food?

(levers, sliders, wheels and axels)						
I use my knowledge of nutrition and diet to prepare a meal			How does sugar affect final products?	Should everyone have their own preference?		
I understand where food comes from		How does fruit grow?	How does sugar affect final products?	Should everyone have their own preference?		

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Progression of D.T. Skills

	Year 3			Year 4		
	Autumn **Design and Make a Costume**	**Spring** **French Party Food**	**Summer** **Design a beebot mat**	**Autumn** **Bedside Game**	**Spring** **Design bread**	**Summer** **Pop-Up Books**
Enquiry question	Do products change who we are?			How do products change your mood?		
I can use research and develop design criteria to inform the creation of a product aimed a groups or individuals	How do costumes change your personality?	But everyone around the world eats the same food, why would party food be different in France?		How does being bored change what you play with?	Why does food not look the same?	How do surprises make you feel?
I can develop, model and communicate my ideas through discussion and create designs			If you tell it, it will go the right way wont it?	How does being bored change what you play with?	Why does food not look the same?	How do surprises make you feel?
I can select from a range of tools and equipment and use them accurately	How do costumes change your personality?	But everyone around the world eats the same food, why would party food be different in France?		How does being bored change what you play with?	Why does food not look the same?	How do surprises make you feel?
I can select and use materials from a wider selection	How do costumes change your personality?		If you tell it, it will go the right way wont it?	How does being bored change what you play with?	Why does food not look the same?	How do surprises make you feel?
I can investigate and analyse a range of existing products		But everyone around the world eats the same food, why would party food be different in France?		How does being bored change what you play with?	Why does food not look the same?	How do surprises make you feel?
I can evaluate my ideas and products against my criteria and take aboard critiques to improve	How do costumes change your personality?	But everyone around the world eats the same food, why would party		How does being bored change what you play with?	Why does food not look the same?	How do surprises make you feel?

		food be different in France?				
I can apply my understanding of how to strengthen, stiffen and reinforce more complex structures			If you tell it, it will go the right way wont it?	How does being bored change what you play with?		How do surprises make you feel?
I understand and use electrical systems in my products			If you tell it, it will go the right way wont it?			How do surprises make you feel?
I can use mechanical systems in my products (gears, pulleys, levers, linkage)				How does being bored change what you play with?		How do surprises make you feel?
I can apply the understanding of computing to program, monitor and control my product.			If you tell it, it will go the right way wont it?			
I understand and apply the principles of a healthy and varied diet		But everyone around the world eats the same food, why would party food be different in France?				
I can prepare and cook a variety of meals and understand seasonality affects food products.		But everyone around the world eats the same food, why would party food be different in France?			Why does food not look the same?	

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Progression of D.T. Skills

	Year 5			Year 6		
	Autumn **The Perfect Breakfast**	**Spring** **Class Statue**	**Summer** **Motor-Powered Buggy**	**Autumn** **Decorative Lamp**	**Spring** **A Balanced Meal**	**Summer** **Teaching Software**
Enquiry question	How does human nature impact design?			Do we need technology?		
I can use research and develop design criteria to inform the creation of a product aimed a groups or individuals	This is the perfect breakfast, don't you agree?	Should you be fierce or friendly?	Why does speed matter with cars?	How does light change a room?	What is nutrition?	What will you teach others?
I can develop, model and communicate my ideas through discussion and create designs	This is the perfect breakfast, don't you agree?	Should you be fierce or friendly?	Why does speed matter with cars?	How does light change a room?	What is nutrition?	What will you teach others?
I can select from a range of tools and equipment and use them accurately	This is the perfect breakfast, don't you agree?	Should you be fierce or friendly?	Why does speed matter with cars?	How does light change a room?	What is nutrition?	
I can select and use materials from a wider selection	This is the perfect breakfast, don't you agree?	Should you be fierce or friendly?	Why does speed matter with cars?	How does light change a room?	What is nutrition?	
I can investigate and analyse a range of existing products	This is the perfect breakfast, don't you agree?	Should you be fierce or friendly?	Why does speed matter with cars?	How does light change a room?	What is nutrition?	What will you teach others?
I can evaluate my ideas and products against my criteria and take aboard critiques to improve	This is the perfect breakfast, don't you agree?	Should you be fierce or friendly?	Why does speed matter with cars?	How does light change a room?	What is nutrition?	What will you teach others?
I can apply my understanding of how to strengthen, stiffen and reinforce more complex structures		Should you be fierce or friendly?				

I understand and use electrical systems in my products			Why does speed matter with cars?	How does light change a room?		
I can use machinal systems in my products (gears, pulleys, levers, linkage)			Why does speed matter with cars?			
I can apply the understanding of computing to program, monitor and control my product.						What will you teach others?
I understand and apply the principles of a healthy and varied diet.	This is the perfect breakfast, don't you agree?				What is nutrition?	
I can prepare and cook a variety of meals and understand seasonality affects food products.	This is the perfect breakfast, don't you agree?				What is nutrition?	

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Appendix 1: Knowledge organiser example

Year 4 Spring

Design & Technology Knowledge Organiser

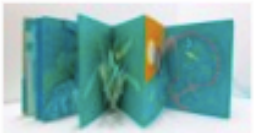
Outcome: Pop-up book

A: Designing
When designing you need to think of the purpose (what will it do?) and the user (who will use it?)
How will your pop up book work? How will it make sure it spins or moves?
What materials will you need?

B: Making
What tools are you going to need? What do you need to do once you have all the materials?

C: Evaluating
What went well with making your book? Did you like it? Did others like? What could you have added? What could you have taken out? What will you do next time?

D: Key Vocabulary	
Quality	How good or bad something is.
Purpose	The reason something is created.
Decorating	To ass something to an object or place, especially to make more attractive.
Evaluate	To judge the quality of something.
joining	To link or connect
Pivot	The central point on which a mechanism turns.
Joint	A point at which parts of a structure are joined
hinge	A moveable joint or mechanism on which a door, gate or lid swings.
Mechanism	A device used to create movement in a product.



Appendix 2: 5C unit plan example

Theme read: What if were all the same by C.M Harris

Key Vocabulary:
fabric, textile, lace, corduroy, jean, satin, silk, design, criteria, materials, evaluate

Year 2 (Term) Spring
Enquiry Question: How can I use textile to represent my identity?
Key driver: Ambition
Key skills: joining fabric together,
Year Enquiry: How far should my opinion influence design?
Piece: Fabric face

Resources
selection of fabric dolls, yarn, lace, felt, corduroy, denim, satin, silk, cotton, fur, velvet, velour, ribbon, wool, individual photo, plastic needles.

Pupil Pledge: I will learn a new skill (sewing)

Launch	Lesson 2	Lesson 3	Lesson 3: Pop quiz	Lesson 4	Celebration
WALT: explore and evaluate a range of existing products. Outcome: exploring different fabrics.	WALT: join fabrics Outcome: join fabrics and add fabrics to a piece.	WALT: select and use a range of tools. Outcome: making a hessian face with features cut out of magazines.	Making a face for sock puppet	WALT: create a design criteria Outcome: design criteria using their own ideas.	WALT: make out fabric faces using our design criteria Outcome: fabric face based on their design,

Content: What will we learn? What are the core concepts?

- create a design and explain what they are going to do.
- create a fabric face by joining pieces of fabric together.

Coherence: How does this link to previous learning?

- Year 1 Textile tree.

Creativity: How will we show we understand in multiple ways?

using sewing techniques and glue to stick materials together.

Compassion: What opportunities are there to teach compassion?

Developing awareness of differences in people.

Community: What links are there to local resources?

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