



SARACENS

BELL LANE

Design & Technology

KS1 Curriculum Map

2024/25

	1	2	3	4	5	6
Mechanisms		Making a moving monster (4) Fairground Wheel (4)		Making a slingshot car (4)	Pop-up book (4)	
Structures	Constructing a Windmill (4)	Baby Bears Chair (4)		Pavillions (4)		Playgrounds (4)
Textiles	Puppets (4)		Cross Stitch and Applique - Egyptian Collars (4)			Waistcoats (4)
Cooking and Nutrition	Smoothies (6)		Eating Seasonally (6)		Developing a Recipe (6)	
Electrical				Torches (4)		Steady Hand Game (4)
Digital			Wearable Technology (6)		Monitoring Devices (4)	
Total	14	12	16	12	14	12
Total plus 1 extra	17	15	19	15	17	15

https://docs.google.com/spreadsheets/d/1VGQIrYQZ_gGahfS76BUqMWagHsNMzg50AC1KjzPBqa0/edit?usp=sharing

Year 1 Unit 1: Constructing a windmill

Lesson number	North Star	Success Criteria	Key Questions	Key vocabulary	National curriculum links	Cross curricular links
1 - Windmills	How can I create a stable structure?	I can find the centre of an object. I can puncture a hole. I can add weight to a structure.	What is a structure? What are structures for? Can you identify some structures in the room? What is a windmill? What are windmills for? Who might live in a windmill? What are the three main parts of a windmill?	Axle Bridge Design Design Criteria Model Net Packaging Structure Template	<p>Design Design purposeful, functional, appealing products for themselves and other users based on design criteria.</p> <p>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, according to their characteristics.</p> <p>Evaluate Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria.</p> <p>Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable.</p>	<p>Mathematics</p> <p>Recognise and name common two-dimensional and three-dimensional shapes</p>
2- Making the sails	How can I use tools and equipment accurately to make part of a structure?	I can hold scissors correctly I can begin to estimate equal distances I can cut carefully	What was the windmill like inside? What might be in the sacks? How did they start the sails moving?	equal fold length rotor blades sails same	<p>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</p>	

		- I can fold to make the shape of the structure	What kept the sails moving? Why might some of your sails be different sizes? Which part of the windmill have you made? What is it supposed to do?	scissors width	materials and components, including construction materials, according to their characteristics. Evaluate Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable.	
3 - Attaching the sails	How can I join parts of a structure?	I can widen a hole. I can join parts together. I can attach a supporting structure. - I can test a structure.	Why is water important? Where might it be useful to get water out of the ground? Have you seen a wind turbine before? What is electricity used for? How is it different to modern wind turbines? How do you think it was the same? What do you need to do to complete the windmill? -What equipment can you see on the model that you do not have?	attach join rotate structure Test turn	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, according to their characteristics. Evaluate Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable.	
4 - Evaluating	How can I evaluate my	I can test my windmill.	What is wrong with this structure?	evaluate improve	Make Select from and use a range of tools and	

Windmills	windmill?	I can make my design better. - I can decorate my windmill for the user.	What can you use to stop it toppling? Can you do anything about the holes not being in the centre? What if the straw is too tall? What colours might be suitable for a windmill to be used outside? Why are these good colour choices? Are there patterns or shapes that might suit the windmill?	test	equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Evaluate Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria. Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable.	
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Year 1 Unit 2: Textiles: Puppets

Lesson number	North Star	Success Criteria	Key Questions	Key vocabulary	National curriculum links	Cross curricular links
Lesson 1: Joining fabrics	How can I use different methods to join fabrics together?	I can remember that different techniques may be used to join fabrics for different purposes I know how to join fabric by pinning, stapling or gluing	Who are the main characters in the story? What do you know about the appearance of the main characters?	Design Equipment Glue Inspiration Method Safety pin Technique Template	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 Explore and evaluate a range of existing products	English Become familiar with key stories, fairy stories and traditional tales, retelling them and considering their particular characteristics
Lesson 2: Designing my puppet	How can I use a template to create my design?	I can design a puppet I can build my design on a template	What do the main characters in the story look like?	Design Equipment Glue	Design Design purposeful, functional, appealing products for themselves or	

				<p>Inspiration Method Safety pin Technique Template</p>	<p>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</p> <p>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</p>	
<p>Lesson 3: Making and joining my puppet</p>	<p>How can I join two fabrics together accurately?</p>	<p>I can join fabrics together I can align two pieces of fabric I know how to use a template I can fit my hand into my puppet</p>	<p>How will you join the two pieces of fabric?</p>	<p>Design criteria Equipment Fabric Glue Inspiration Method Safety Pin Technique Template</p>	<p>Design Design purposeful, functional, appealing products for themselves or other users based on design criteria Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately</p> <p>Make Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p>	
<p>Lesson 4:</p>	<p>How can I</p>	<p>I can use joining</p>	<p>Does your puppet</p>	<p>Decorate</p>	<p>Design</p>	<p>No relevant curricular</p>

Decorating my puppet	embellish my design using joining methods?	methods to decorate my puppet I can still put my hand into the puppet after it is decorated I can evaluate mine and others' work	design look like the character in the story? Do you need to make any changes to your design?	Design criteria Equipment Fabric Glue Inspiration Method Model Safety Pin Technique Template	Design purposeful, functional, appealing products for themselves or other users based on design criteria Make Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Evaluate Evaluate their ideas and products against design criteria	links
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Year 1 Unit 3: Cooking and Nutrition - Smoothies

Lesson number	North Star	Success Criteria	Key Questions	Key vocabulary	National curriculum links	Cross curricular links
Lesson 1 Fruits	What different fruits are there?	I can name fruits and vegetables. I can identify seeds. I can sort fruits and non-fruits.	What is this called, who has eaten this before? What are its tastes, smell, texture, and appearance? What will it look like if we peel or cut it in half? How might we describe its shape? Which parts do we eat? What might I need to do before eating this?	Fruit plant Seed	Cooking and nutrition Understand where food comes from.	Science - Working scientifically Identifying and classifying Using their observations and ideas to suggest answers to questions RSE What constitutes a healthy diet (including understanding calories and other nutritional content). The principles of planning and preparing a range of healthy meals.

<p>Lesson 2: Growing</p>	<p>Where do fruits and vegetables grow?</p>	<p>I can name places where fruits and vegetables grow. I can decide whether a fruit or vegetable will grow aboveground or underground. I can make predictions about where edible parts of plants will grow.</p>	<p>How do we know what is a fruit or a vegetable? Where do fruit and vegetables grow? What part of plants can we eat?</p>	<p>bush leaf root soil stem tree vegetable vine</p>	<p>Cooking and nutrition Understand where food comes from.</p>	<p>Science - Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.</p>
<p>Lesson 3: Cutting and Juicing</p>	<p>How can I prepare fruits?</p>	<p>I can use a fork to hold foods I am cutting. I can use a table knife to cut soft foods. I can use a juicer to get juice from fruits. I can work safely and follow instructions.</p>	<p>What is a smoothie? Are smoothies good for your body? What might we have to do before taste testing? What parts of these fruits and vegetables do we eat? Why is it important to wash the fruit and vegetables before we eat</p>	<p>Fruit Smoothie Healthy Vegetables</p>	<p>Cooking and nutrition Understand where food comes from. Make Select from and use a range of tools and equipment to perform practical tasks</p>	
<p>Lesson 4: testing fruits</p>	<p>Which fruits will I choose for my smoothie?</p>	<p>I can choose fruits and vegetables to taste. I can suggest fruits to put together based on taste. I can describe a food's taste. I can decide on three ingredients to create a recipe.</p>	<p>What is this fruit called? How can you tell? How does it taste? How can you tell whether someone is enjoying a taste? How does this juice taste? How can you tell what juice this is without tasting?</p>	<p>Flavour Select taste</p>	<p>Cooking and nutrition Understand where food comes from. Make Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>	
<p>Lesson 5:</p>	<p>How can I make a</p>	<p>I can gather the</p>	<p>Have you seen a blender</p>	<p>blend</p>	<p>Cooking and nutrition</p>	

Making Smoothies	smoothie?	ingredients for a simple recipe. I can cut and juice fruits as part of a recipe. I can use my senses to compare my smoothie with my partner's.	before? What does it do? Who will use the electric blender? Who is your smoothie for? What ingredients are you using?	blender cut ingredients juice recipe	Use the principles of a healthy and varied diet to prepare dishes.	
Lesson 6: Evaluating	How well does my smoothie meet the design brief?	I can colour a template to create a carton design. I can choose my favourite recipe. I can talk to the class about the design brief.	What do you like about your design? How can you tell which fruits are in the smoothie? What is your favourite design and why?	Compare Evaluate	Evaluate Evaluate their ideas and products against design criteria. Cooking and nutrition Use the principles of a healthy and varied diet to prepare dishes.	

Year 2 Unit 1: Structures: Baby Bear's chair

Lesson number	North Star	Success Criteria	Key Questions	Key vocabulary	National curriculum links	Cross curricular links
Lesson 1: Exploring stability	What are the features of structures and what is the stability of different shapes?	I can identify natural and man-made structures I understand what is meant by stability and can identify when a structure is more or less stable than	Are they man-made or natural? What 3D shapes can you see?	Design criteria Man-made Natural Properties Structure Stable Shape	Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria Technical knowledge	Mathematics – Geometry Identify and describe the properties of three-dimensional shapes, including the number of edges, vertices and faces Identify two-dimensional shapes on the surface of three-

		another I know that shapes and structures with wide, flat bases or legs are the most stable			Build structures, exploring how they can be made stronger, stiffer and more stable	dimensional shapes [for example, a circle on a cylinder and a triangle on a pyramid] Compare and sort common two-dimensional and three-dimensional shapes and everyday objects Measurement Compare and order lengths
Lesson 2: Strengthening materials	How does the shape of a structure affect its strength?	I know the meaning of the words strength, stiffness and stability I know there are different ways paper can be folded to improve its strength and stiffness I can build a strong and stiff structure by folding paper I can test the strength of my structure	What is strength? What is stability? What is stiffness? Why are these important? How can you make structures stronger, stiffer and more stable?	Design criteria Man-made Natural Properties Structure Stable Shape	Make Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable	
Lesson 3: Making Baby Bear's chair	How does my structure meet the design criteria?	I can remember that chairs are structures and need to be strong, stiff and stable I know how to create joints and structures from paper/card and tape	What structures did you see in the story? Why did Goldilocks dislike Daddy Bear's chair? Why did Baby Bear's chair collapse? What colour(s) would Teddy like? Would Teddy like a pattern? Would Teddy like a back	Design criteria Man-made Model Natural Structure Stable Test	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	

			<p>on the chair? How big would the chair need to be? How many legs should the chair have? What shape should the seat be?</p>		<p>Make Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable</p>	
<p>Lesson 4: Fixing and testing Baby bear's chair</p>	<p>What is the strength, stiffness and stability of my structure?</p>	<p>I know that the chair I design for Baby Bear needs to: support Teddy; be strong, stiff and stable I know how to create joints and structures I can evaluate my structure according to the design criteria</p>	<p>Is the chair stable enough? Is the chair strong enough? Is the chair stiff enough? Will Baby Bear like it? What might Baby Bear like to change/improve? What does a good quality/well-made joint look like? What should a successful chair look like/do? What would Baby Bear expect?</p>	<p>Design criteria Man-made Natural Properties Structure Stable Shape</p>	<p>Make Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria</p> <p>Technical knowledge Build structures, exploring how they can be made stronger, stiffer and more stable</p>	

Year 2 Unit 2: Mechanisms: Fairground wheel

Pupils have previously learnt:						
Lesson number	North Star	Success Criteria	Key Questions	Key vocabulary	National curriculum links	Cross curricular links
Lesson 1: Design a Ferris wheel	What are wheel mechanisms and how can I design one?	I know how axles help wheels to move a vehicle I can evaluate different designs I can design and label a working wheel	How does a wheel work? How does the object move? What do you want your wheel to look like? How will the pods attach to the wheel? How will the wheel attach to the axle? How will the axle fit into the frame?	Design Design criteria Wheel Ferris wheel Pods Axle Axle holder Frame	Design Generate, develop and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Evaluate Explore and evaluate a range of existing products Technical Knowledge Explore and use mechanisms in their products	Mathematics Identify and describe the properties of 2D shapes, including the number of sides and the line of symmetry in a vertical line Science Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular use
Lesson 2 Planning the build	What materials are appropriate to make my product? .	I understand the properties of different materials I can communicate my ideas to someone else I can select appropriate materials for my wheel	What shape will the pods be? What material will the pods be made from? Why? What is the advantage of that material? What will keep the people from falling out? Will people sit or stand? What will keep the people dry in bad	Axle Axle holder Design Design Criteria Ferris wheel Frame Pods Wheel	Design Design purposeful, functional, appealing products for themselves and other users based on design criteria Technical Knowledge Explore and use mechanisms in their products	Mathematics Identify and describe the properties of 2D shapes, including the number of sides and the line of symmetry in a vertical line Science Identify and compare the suitability of a variety of everyday materials, including: wood, metal, plastic, glass, brick, rock, paper

			<p>weather? What properties should the wheel have and why? What materials will the frame be made of? Why?</p>			and cardboard for particular use
<p>Lesson 3: Building the frame and wheels</p>	How can I build and test a moving wheel?	<p>I can build a stable structure I can test elements of my design I can adapt my design as necessary I know how to make the wheel rotate</p>	<p>What are we testing? Why? How can we test this? How will we make it fair? Is this a fair test? What have we learnt? Seeing these results, what would you do differently?</p>	<p>Axle Axle holder Design Design criteria Ferris wheel Frame Mechanism Wheel Pod</p>	<p>Evaluate Evaluate their own ideas and products against a design criteria.</p> <p>Technical Knowledge Build structures exploring how they can be made stronger, stiffer, and more stable Explore and use mechanisms in their products</p>	<p>Mathematics Identify and describe the properties of 2D shapes including the number of sides and the line of symmetry in a vertical line</p>
<p>Lesson 4: Adding pods and decoration</p>	How can I make my rotating wheel and what are the strengths and weaknesses of my product?	<p>I can evaluate a wheel mechanism and adapt as necessary I know how to ensure that my pod stays upright whilst being rotated around a fixed point</p>	<p>When we use this tool/material, what should we do so that we stay safe? What will keep the people from falling out? Why do the pods need to rotate?</p>	<p>Axle Mechanism Frame Wheel Pod</p>	<p>Make Select from and use a range of tools and equipment to perform practical tasks</p>	<p>Mathematics Identify and describe the properties of 2D shapes including the number of sides and the line of symmetry in a vertical line</p>

Year 2 Unit 3: Mechanisms: Making a moving monster

Pupils have previously learnt:

Lesson number	North Star	Success Criteria	Key Questions	Key vocabulary	National curriculum links	Cross curricular links
Lesson 1: Pivots, levers and linkages	How do objects move?	<p>I understand that mechanisms are a collection of moving parts that work together in a machine</p> <p>I know that there is always an input and output in a mechanism</p> <p>I can identify mechanisms in everyday objects</p> <p>I understand that a lever is something that turns on a pivot</p> <p>I understand that a linkage is a system of levers that are connected by pivots</p> <p>I can help devise whole-class design criteria for what our moving monster should do</p>	<p>What is a mechanism?</p> <p>What is an input and an output?</p> <p>What is a lever?</p> <p>What is a linkage?</p> <p>What are levers and linkages used for?</p> <p>Can you identify a lever or a linkage?</p> <p>Can you name any products that use levers and linkages?</p> <p>What is a pivot?</p>	<p>Axle</p> <p>Design Criteria</p> <p>Input</p> <p>Linkage</p> <p>Mechanical</p> <p>Output</p> <p>Pivot</p> <p>Wheel</p>	<p>Evaluate</p> <p>Explore and evaluate a range of existing products</p> <p>Technical knowledge</p> <p>Explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products</p>	
Lesson 2: Making linkages	How do objects move?	<p>I understand that mechanisms are a collection of moving parts that work together in a machine</p> <p>I know that there is always an input and output in a mechanism</p> <p>I can identify mechanisms in everyday objects</p> <p>I understand that a lever is something that turns on a pivot</p> <p>I understand that a linkage is a system of levers that are connected by pivots</p> <p>I can help devise whole-class</p>	<p>What products use a pivot?</p> <p>How does the length and/or thickness of your card affect your linkage?</p> <p>What is the difference between a lever and a linkage?</p>	<p>Axle</p> <p>Design Criteria</p> <p>Input</p> <p>Linkage</p> <p>Mechanical</p> <p>Output</p> <p>Pivot</p> <p>Wheel</p>	<p>Evaluate</p> <p>Explore and evaluate a range of existing products</p> <p>Technical knowledge</p> <p>Explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products</p>	

		design criteria for what our moving monster should do				
Lesson 3: Designing my monster	What different designs can I create?	<p>I understand that linkages use levers and pivots to create motion</p> <p>I can think of two of my own points to add to the class design criteria</p> <p>I can draw two moving monster designs that meet all points of my design criteria</p> <p>I can design the linkage I will use to make my monster move</p>	<p>What are levers and linkages?</p> <p>What are pivots used for in linkages?</p> <p>What products use levers and linkages?</p> <p>What are Design Criteria?</p> <p>Why is it important to use Design Criteria?</p> <p>What materials can you use to make your monsters?</p>	<p>Axle</p> <p>Design Criteria</p> <p>Input</p> <p>Linkage</p> <p>Mechanical</p> <p>Output</p> <p>Pivot</p> <p>Wheel</p>	<p>Design</p> <p>Design purposeful, functional, appealing products for themselves and other users based on design criteria</p> <p>Generate, develop, model and communicate their ideas through talking and drawing, templates, mock-ups and, where appropriate, information and communication technology</p> <p>Evaluate</p> <p>Evaluate their ideas and products against design criteria</p>	
Lesson 4: Making my monster	How can I make a moving monster?	<p>I know how to make linkages by connecting levers and pivots</p> <p>I know that materials can be selected according to their characteristics</p> <p>I can design and make the features of my monster</p> <p>I can evaluate how functional my monster is and whether it meets the Design Criteria</p>	<p>What length/width of card strip made for the strongest linkage?</p> <p>Did children reinforce the individual levers to make the linkage stronger?</p> <p>Did the thickness of the card make a difference to how sturdy the linkage was?</p>	<p>Axle</p> <p>Design criteria</p> <p>Input</p> <p>Mechanical</p> <p>Linkage</p> <p>Output</p> <p>Pivot</p> <p>Wheel</p>	<p>Make</p> <p>Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics</p> <p>Technical knowledge</p> <p>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their product</p>	