

## DT medium term planning

### The Design and Technology Curriculum at The Pines:

At The Pines School, we value Design and Technology as an important part of children's entitlement to a broad and balanced curriculum. Design and Technology provides children with opportunities to explore designing, creating and evaluating processes and have the enjoyment of exploring construction through planning, drafting and experimentation. It enables children to develop resilience and curiosity about the world around them and to communicate and express their individual interests, thought and ideas.

The curriculum will equip children with the knowledge and skills to experiment, invent, evaluate and create their own constructions. Children will be challenged to think critically and develop a more rigorous understanding of design and technology. Our curriculum encourages imagination and creativity; involving children in a range of practical activities using visual, tactile and sensory experiences, which will enable them to communicate what they see, think and feel through the creation of their own inventions.



### **Intent**

The curriculum is designed to engage, inspire and challenge pupils, equipping them with the knowledge and skills to experiment, invent and create their own work. It aims to support the development of the key skills of decision making, developing independence, taking responsibilities, developing patience, critical thinking, self-reflection and to share practice with peers. We aim to develop children's self-esteem and their mental wellbeing through participating in Design and Technology activities. We encourage all children to be proud of their achievements and having pride in the work produced. Children will be challenged to think critically and develop a more rigorous understanding of construction and how design and technology reflects and shapes our history, and contributes to the culture, creativity and wealth of our nation. We intend that children will be challenged to develop increased proficiency designing and making products that solve real and relevant problems within a variety of contexts that consider their own and others' needs, wants and values.

**Implementation** – To ensure high standards of teaching and learning in design and technology, we implement a curriculum that is progressive and provides the full National Curriculum which is carefully differentiated to the needs of the children. The curriculum is overseen by a lead teacher from Primary and Secondary who is supported by a named member of the SLT. Design and technology is taught as part of thematic curriculum in Primary and weekly discrete lessons in secondary. Teachers planning is supported by a knowledge overview document and medium term plans. These documents clearly map out the National Curriculum into a broad, progressive curriculum. Planning ensures outcomes are carefully differentiating to the needs of all children and is mapped out to ensure there is clear challenge and high expectations for all learners. We adopt a practical approach to learning and teaching in design and technology, enabling all children to gain 'real-life' experiences. At The Pines, we provide a variety of opportunities for learning to take place inside and outside of the classroom. We encourage opportunities for cross-curricular Design and Technology experiences and frequently use our outdoor facilities for the children to develop their creativity.

The key aim of the Early Years curriculum is to provide high quality play with planning based on themes allowing pupils a holistic approach to learning. Planning for the specific area of expressive arts and design aims is to guide the pupils to explore and use a range of tools and materials safely. Within the continuous provision (activities provided throughout the day indoors and out) children have the opportunity to create and share their creations by engaging with play that is child led, play which is sensitively supported and extended by adults and play that is guided towards specific educational outcomes.

**Impact** – Within Design and Technology, we strive to create a supportive and collaborative ethos for learning by providing stimulating, practical learning opportunities for all children. Our curriculum is high quality, well thought out and is planned to demonstrate progression and prepare children for their pathways in KS4 and beyond. We focus on progression of knowledge and skills and developing curriculum vocabulary. Children will become creative learners with increasing independence and who are confident in designing and making products. Children

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will be challenged to develop knowledge about the architects and designers of the world. Creativity and uniqueness will be celebrated and children will be challenged to develop the skills in evaluating and improving the work they have created. When teaching, there will be an emphasis placed on individuality and children will be given the freedom to explore real life versions of products they will go on to create.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>EYFS</b>	All about me	Colours everywhere	Out and about	Growing up	On the farm	At the seaside
<b>Cycle 1</b>		Come and play – Textiles and paper, joining	Home sweet Home – Card and paper cutting and joining			People who help us – Wood and card Cutting and joining
<b>Cycle 2</b>		Splish splash splosh Textiles, paper and card, cutting joining and finishing with colour	Our local area – Paper, card and wood, cutting and finishing with colour		Journeys Paper, card, wood and axels Cutting shaping, finishing and using mechanisms	
<b>Cycle 3</b>		Once upon a time Textiles and paper Joining and finishing with colour	On the farm Paper and card Cutting, shaping and joining		Body Wise Paper, card and wood. Cutting shaping and joining	
<b>Cycle 4</b>		The great outdoors Textiles and paper Joining and finishing with colour	Marvellous machines Paper, card and wood Cutting shaping and joining		Road Dahl Card, paper and wood Cutting shaping and joining	
<b>Cycle 5</b>		Come dine with me Textiles and paper Cutting shaping and joining	Beautiful Britain Card and wood Cutting shaping and joining.		Fighting fit Card, paper and wood Joining and finishing with colour	

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<b>Cycle 6</b>		Explorers Card, paper and wood Joining shaping and finishing	Chocolate Card, paper and wood Joining and shaping and finishing with colour			Eco Warriors Card, paper and wood Joining and shaping and finishing with colour
<b>Cycle 7</b>	3D Relief picture or Windmill		Keyring or Picture frame		Mug coaster or Photograph holder	
<b>Cycle 8</b>	Bug Hotel or Monster Toy		3D Building or Manga Car Accessory		Game or Egyptian Bracelet	
<b>Cycle 9</b>	Abstract Clock or Pen Holder		Textile Wall Art or Garden Mobile		Art Box or Child's Toy	

#### Cycle 1 Autumn Term – Come and play (textiles and paper )

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Design a functional product based on design criteria. Communicate some simple design preferences</p> <p><b>Make</b> <b>Skills: Joining with glue.</b> Select and use an appropriate tool from a small selection of tools to complete their design. Select an appropriate material or component from a small selection to make their design.</p> <p><b>Evaluate</b> Give a personal opinion about an existing product (product linked to design criteria).</p> <p><b>Technical knowledge</b> Identify if parts of their design should be made stronger, stiffer or more stable.</p>	<p><b>Design</b> Help design a product based on set criteria. Make a choice about their design when given options</p> <p><b>Make</b> <b>Skills: Joining with glue.</b> Use an appropriate tool to complete their design, with support. Use appropriate material or components to make their design.</p> <p><b>Evaluate</b> Make a preference about a product or component from a small number of options (product linked to design criteria).</p> <p><b>Technical knowledge</b> Identify, with support, if parts of their design should be made stronger, stiffer or more stable.</p>	<p><b>Design</b> Make a simple product alongside an adult by following a set plan.</p> <p><b>Make</b> <b>Skills: Joining with glue.</b> Use an appropriate tool with adult support to complete their design. Use appropriate material to make their design.</p> <p><b>Evaluate</b> Touch and feel an existing product (product linked to design criteria).</p> <p><b>Technical knowledge</b> Explore the touch and feel of different textiles materials</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>

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<ul style="list-style-type: none"> <li>- Design, make and evaluate a split pin paper model linked to toys e.g. teddy bear/doll</li> <li>- Design, make and evaluate some clothes for a teddy/doll</li> <li>- Evaluate different toys and games</li> <li>- Design, make and evaluate a board game</li> <li>- Design, make and evaluate a shoe box doll house</li> <li>- Design, make and evaluate a shoe box game</li> <li>- Test two different materials and evaluate which may be best to use for a design</li> <li>- Design, make and evaluate a pop up toy.</li> <li>- Design, make and evaluate sock puppets</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and evaluate a split pin paper model linked to toys e.g. teddy bear/doll with appropriate support</li> <li>- Design, make and evaluate some clothes for a teddy/doll with appropriate support</li> <li>- Evaluate different toys and games when given choices</li> <li>- Design, make and evaluate a shoe box doll house with appropriate support</li> <li>- Design, make and evaluate a junk robot using textiles and paper with appropriate support</li> <li>- Design and make sock puppets with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Make a split pin paper model linked to toys e.g. teddy bear/doll with appropriate support</li> <li>- Make an outfit for a doll/teddy with appropriate support using different textured materials. With appropriate support</li> <li>- Make a feely book using different texture materials with appropriate support</li> <li>- Make wooden spoon characters using different materials for hair with appropriate support</li> <li>- Make paper puppets with appropriate support</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Design, evaluate, like, dislike, draw, glue, sticking, material, paper, textiles, strong, weak, test	Design, evaluate, like, dislike, glue, textiles, paper, materials	Material, paper, glue, soft, rough, hard,

### Cycle 1 Spring Term - Home Sweet home (card and paper)

M - Pathway	ME - Pathway	E - Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Design an appealing product based on design criteria. Communicate their design ideas through drawing a simple design.</p> <p><b>Make</b> <b>Skills: Cutting and joining with glue and Sellotape.</b> Select and use an appropriate tool to perform a practical task from a selection of different tools. Select the appropriate material to perform a practical task from a selection of different materials or components</p> <p><b>Evaluate</b> Make a simple description about an existing product or component</p>	<p><b>Design</b> Help design a product based on design criteria. Select a design to make when given a small selection to choose from.</p> <p><b>Make</b> <b>Skills: Cutting and joining with glue and Sellotape.</b> Use a different, appropriate tool to perform a practical task to complete their design with support. Use a different, appropriate material or components to make their design.</p> <p><b>Evaluate</b> Give a personal opinion about an existing product or component (product linked to design criteria).</p>	<p><b>Design</b> Make a simple product alongside an adult by following a set plan.</p> <p><b>Make</b> <b>Skills: Joining with glue.</b> Use an appropriate tool with adult support to complete their design. Use appropriate material to make their design.</p> <p><b>Evaluate</b> Touch and feel a different existing product (product linked to design criteria).</p>

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<p><b>Technical knowledge</b> Select the most appropriate way they could strengthen their design from a range of choices</p>	<p><b>Technical knowledge</b> Select the most appropriate way they could strengthen their design from two choices.</p>	<p><b>Technical knowledge</b> Explore the touch and feel of different paper and card design materials.</p>
<p><b>Lesson Ideas</b></p>	<p><b>Lesson Ideas</b></p>	<p><b>Lesson Ideas</b></p>
<ul style="list-style-type: none"> <li>- Design and make two pop-up houses with paper and card and evaluate</li> <li>- Design and make different styles of houses using cardboard e.g. flat, town house, detached house and evaluate strong and weak materials</li> <li>- Design a house for a favourite character</li> <li>- Design, make and evaluate a 3D garden</li> <li>- Design, make and evaluate a stained-glass window using card or paper as the structure</li> <li>- Design, make and evaluate a home for an animal</li> <li>- Evaluate a selection of stained-glass windows</li> <li>- Test materials from the Three Little Pigs to make a new house design</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a pop-up house using paper and card with appropriate support</li> <li>- Design and make a simple 3D garden with appropriate support</li> <li>- Design and make a stained-glass window using card or paper as the structure</li> <li>- Evaluate two stained-glass windows when given choices</li> <li>- Create a cardboard city with each child contributing to the design</li> <li>- Design and make a collage house using different colours and textures of paper and card</li> <li>- Design and make a house for an animal</li> <li>- Design and make a house for the Three Little Pigs with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Make a selection of paper and card houses using sensory materials for windows, doors etc with appropriate support</li> <li>- Make choices when given limited options</li> <li>- Create a cardboard city as a class each creating a house</li> <li>- Make textured front doors to match favourite characters with appropriate support</li> <li>- Use different colours and textures of card and paper to collage houses.</li> <li>- Make a house for the Three Little Pigs with appropriate support</li> </ul>
<p><b>Key Vocab / symbols/ Sign</b></p>	<p><b>Key Vocab / symbols/ Sign</b></p>	<p><b>Key Vocab / symbols/ Sign</b></p>
<p>Design, make, join, evaluate, paper, card, strength, flat, town house, detached house, glue, Sellotape, stained glass, cut</p>	<p>Design, make, join, glue, Sellotape, cut, house, home, stained glass, paper, card, collage</p>	<p>Make, join, glue, paper, card, collage</p>

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### Cycle 1 Summer Term - People who help us (wooden sticks and card)

M - Pathway	M/E - Pathway	E- Pathway
<b>Key Knowledge.</b> <b>Design</b> Design a functional product for others, based on design criteria. Begin to generate some design ideas with support. <b>Make</b> <b>Skills: Cutting and joining with glue and Sellotape.</b> Select and use appropriate tools to perform a practical task from a selection of different tools. Select the appropriate material to perform a practical task from a selection of different materials or components. <b>Evaluate</b> Begin to make simple comments about the design of an existing product <b>Technical knowledge</b> Use materials and techniques to make their design stronger, stiffer or more stable, with support.	<b>Key Knowledge.</b> <b>Design</b> Help design a product for others, based on design criteria. Begin to communicate some simple design choices <b>Make</b> <b>Skills: Cutting and joining with glue and Sellotape.</b> Use a different, appropriate tool to perform a practical task to complete their design. Use a different, appropriate material or components to make their design.  <b>Evaluate</b> Give a simple description about an existing product or component. <b>Technical knowledge</b> Identify when a design has been made stronger, stiffer or more stable.	<b>Key Knowledge.</b> <b>Design</b> Make a simple product alongside an adult by following a set plan.  <b>Make</b> <b>Skills: Joining with glue.</b> Use appropriate tools with adult support to complete their design. Use appropriate materials to make their design.  <b>Evaluate</b> Begin to make preferences about materials (linked to design criteria). <b>Technical knowledge</b> Explore the touch and feel of contrasting design materials
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate PWHU characters using different wooden sticks e.g. lollipop sticks, twigs, wooden spoons</li> <li>- Design, make and evaluate finger puppets with card – test different cards to see which is best</li> <li>- Design, make and evaluate hand puppets with card – test different cards to see which is best</li> <li>- Design, make and evaluate new uniform for PWHU</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and begin to evaluate PWHU characters using different wooden sticks e.g. lollipop sticks, twigs, wooden spoons with appropriate support.</li> <li>- Design, make and begin to evaluate emergency vehicles from wooden sticks or card – 2D 3D, with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make PWHU characters using different wooden sticks e.g. lollipop sticks, twigs, wooden spoons with appropriate support.</li> <li>- Design by making choices and make emergency service hats from wooden sticks and card, with appropriate support.</li> <li>- Design by making choices and make toilet roll holder characters, with appropriate support</li> </ul>

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<ul style="list-style-type: none"> <li>- Design, make and evaluate emergency vehicles from wooden sticks or card– 2D 3D</li> <li>- Design, make and evaluate lollipop stick designs – related to PWHU</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and begin to evaluate emergency service hats from wooden sticks and card, with appropriate support</li> <li>- Design, make and begin to evaluate lollipop stick designs – related to PWHU</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a PWHU character collage by choosing from a selection of textured and coloured card, with appropriate support</li> <li>- Design and make a PWHU mask from card and wooden sticks, with appropriate support</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Wooden sticks, wood, card, glue, Sellotape, join test, evaluate, stronger, weaker, robust	Wooden sticks, wood, card, glue, Sellotape, join, strong, weak	Wooden sticks, wood, card, glue, join

### Cycle 2 Autumn Term - Splish, splash, splosh (Textiles, paper and card)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Design an appealing product for themselves, based on design criteria. Generate some simple ideas for their design.</p> <p><b>Make</b> <b>Skills: Cutting and joining with glue and Sellotape. Finishing with colours.</b> Use tools to perform a practical task. Use materials or components to make their design</p> <p><b>Evaluate</b> Begin to make a simple comments about the design of an existing product</p> <p><b>Technical knowledge</b> Explore how simple mechanisms can be used in designs to make things move. <b>Explore how sliders could be used in their designs.</b></p>	<p><b>Design</b> Contribute to the design of a product for themselves, based on design criteria. Communicate simple design choices.</p> <p><b>Make</b> <b>Skills: Cutting and joining with glue and Sellotape. Finishing with colours.</b> Use appropriate tools to perform a practical task to complete their design. Use appropriate materials or components to make their design.</p> <p><b>Evaluate</b> Give a description about an existing product.</p> <p><b>Technical knowledge</b> Use simple mechanisms to make things move. <b>Use sliders to make things move in their designs.</b></p>	<p><b>Design</b> Make a simple product alongside an adult based on a design criteria.</p> <p><b>Make</b> <b>Skills: Cutting and joining with glue and Sellotape. Finishing with colours.</b> Use an appropriate tool with adult support to complete their design. Use appropriate material to make their design</p> <p><b>Evaluate</b> Begin to make preferences about components (linked to design criteria).</p> <p><b>Technical knowledge</b> Explore a range of products with moving parts. <b>Explore games, toys and products which use sliders to make things move.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate an umbrella</li> <li>- Design, make and evaluate a boat</li> <li>- Design, make and evaluate a beach scene, including use of a slider e.g. shoe box with moveable characters</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make an umbrella and create a simple description with appropriate support</li> <li>- Design and make a boat with appropriate support. Begin to make choices to evaluate.</li> </ul>	<ul style="list-style-type: none"> <li>- Make a simple umbrella by making design choices from a selection with appropriate support.</li> <li>- Explore toys which use sliders to make objects move.</li> <li>- Make a simple slider with support.</li> </ul>

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<ul style="list-style-type: none"> <li>- Design, make and evaluate a scene from Commotion in the Ocean, including use of a slider e.g. shoe box with moveable characters</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a pirate outfit, making choices from a selection</li> <li>- Design and make a picture related to the topic including a slider character</li> </ul>	<ul style="list-style-type: none"> <li>- Make sea animals using different textiles</li> <li>- Make a pirate outfit, making choices from a selection</li> <li>- Make a rainbow fish scene with a simple slider</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Design, evaluate, cutting, joining, glue, Sellotape, sturdy, flimsy, slider, movement, scene	Design, slider, character, umbrella, boat, pirate, join, glue, Sellotape, cut, description	Cut, join, glue, Sellotape, slider soft, hard, rough, squishy

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**Cycle 2 Spring Term - Our local area (Paper, card and wood)**

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Design a purposeful product for themselves based on design criteria. Begin to develop their ideas for a design with support.</p> <p><b>Make</b> <b>Skills: Cutting and shaping. Finishing with colours.</b> Select and use a range of tools to perform a practical task. Use a range of materials and components to make their design.</p> <p><b>Evaluate</b> Make a comment on their completed design.</p> <p><b>Technical knowledge</b> Select the most appropriate mechanism which could be used in their design from a range of choices.</p> <p><b>Explore how levers could be used in their designs.</b></p>	<p><b>Design</b> Contribute to the design of a product for themselves, based on design criteria. Communicate their design ideas through drawing a simple design.</p> <p><b>Make</b> <b>Skills: Cutting and shaping. Finishing with colours.</b> Use a range of tools to perform a practical task. Use a range of tools to make their design</p> <p><b>Evaluate</b> Give a description about their completed design</p> <p><b>Technical knowledge</b> Use simple mechanisms to make things move.</p> <p><b>Use levers to make things move in their designs.</b></p>	<p><b>Design</b> Make a simple product based on set criteria, with support.</p> <p><b>Make</b> <b>Skills: Cutting and shaping. Finishing with colours.</b> Use an appropriate tool to complete their design. Use appropriate material to make their design</p> <p><b>Evaluate</b> Begin to make preferences about materials and components (linked to design criteria).</p> <p><b>Technical knowledge</b> Explore a range of products with moving parts.</p> <p><b>Explore games, toys and products which use levers to make things move.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a pop up street/city</li> <li>- Design and make a 3D park – using levers to operate some of the play equipment e.g. seesaw</li> <li>- Design and make a 3D map of the local area with a moveable part (lever)</li> <li>- Research local landmarks or bridges</li> <li>- Design, make and evaluate a local landmark structure – including a lever to make a part move</li> <li>- Design, make and evaluate a bridge/canal lock – including a lever</li> </ul>	<ul style="list-style-type: none"> <li>- Begin to design a pop up street/city by making a simple drawing and making choices, make it and give a description of the final design.</li> <li>- Begin to design a piece of park play equipment by making a simple drawing and making choices, make it including a lever and give a short description of the final design.</li> <li>- Begin to design a local landmark structure by making a simple drawing and making choices, make it including a lever and give a short description of the final design.</li> <li>- Begin to design a bridge by making a simple drawing and making choices, make it including a lever and give a short description of the final design.</li> </ul>	<ul style="list-style-type: none"> <li>- Make a pop up building seen in the local area with appropriate support – begin to make preference about materials they have used.</li> <li>- Make a 3D forest with appropriate support. Make choices from a selection.</li> <li>- Make a simple car mat of the local area. Make choices from a selection and begin to show a preference for materials they have used.</li> <li>- Make a local landmark structure making choices about the materials they want to use.</li> <li>- Explore and begin to make preference about toys or products with levers.</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Design, evaluate, cut, shape, lever, operate, mechanism, 3D, map, landmark, street, city	Design, evaluate, cut, shape, lever, structure	paper, card, wood, building, 3D, map, cut, shape

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### Cycle 2 Summer Term - Journeys (paper, card, wood and axles)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Design a purposeful product for someone, based on design criteria. Develop their ideas for a design.</p> <p><b>Make</b> <b>Skills: Shaping. Finishing with colours.</b> Use a range of materials or components to make their design, with support. Use a range of materials, components and mechanisms to make their design.</p> <p><b>Evaluate</b> Make a simple evaluation about their finished product</p> <p><b>Technical knowledge</b> Plan to use a mechanism in their design.</p> <p><b>Axles.(can also incorporate levers and sliders)</b></p>	<p><b>Design</b> Contribute to the design of a product for someone, based on design criteria. Generate some simple ideas for their design</p> <p><b>Make</b> <b>Skills: Cutting and shaping. Finishing with colours. Using mechanisms in their design.</b> Use a range of tools to perform a practical task, with increasing accuracy. Use a range of tools and mechanisms to make their design.</p> <p><b>Evaluate</b> Make a simple comment about the function of their product.</p> <p><b>Technical knowledge</b> Use a mechanism in their final product.</p> <p><b>Axles.</b></p>	<p><b>Design</b> Make a simple product for someone else, based on set criteria and with support.</p> <p><b>Make</b> <b>Skills: Cutting and shaping. Finishing with colours.</b> Use an appropriate tool to complete their design. Use a range of materials and a mechanism to make their design</p> <p><b>Evaluate</b> Demonstrate the mechanism within their completed product.</p> <p><b>Technical knowledge</b> Explore a range of products with wheels.</p> <p><b>Explore toys and products with wheels.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a car including moving wheels</li> <li>- Design make and evaluate an aeroplane with moving wheels</li> <li>- Design, make and evaluate a bus stop</li> <li>- Design make and evaluate a camper van</li> <li>- Design, make and evaluate a canal boat</li> <li>- Design, make and evaluate a car for the Gingerbread man to escape in.</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and evaluate a car with moving wheels - beginning to make design decisions, make with some support and evaluate with a simple comment</li> <li>- Design, make and evaluate an aeroplane with moving wheels - beginning to make design decisions, make with some support and evaluate with a simple comment</li> <li>- Design, make and evaluate a car for the Gingerbread man to escape in.</li> </ul>	<ul style="list-style-type: none"> <li>- Make a car, aeroplane or truck and support them to use moving wheels.</li> <li>- Explore different vehicles and how they move</li> <li>- Make a model of a river using different textured materials</li> <li>- Make a mini fox proof coop for Rosie (Rosie's walk) with different textured materials</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Design, evaluate, shaping, axle, wheel, movement, plan, draft, research, test	Design, evaluate, cutting, shaping, wheels, axel	Train, car, aeroplane, truck, wheels, turn, spin, track, river, soft, hard, rough, squishy

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### Cycle 3 Autumn Term - Once upon a time (textiles and paper)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop a functional design based on design criteria. Generate their ideas through discussion.</p> <p><b>Make</b> <b>Skills: Joining. Finishing with colours.</b> Select from a range of tools to perform practical tasks. Select from a range of materials to make their design.</p> <p><b>Evaluate</b> Explain the function of an existing product</p> <p><b>Technical knowledge</b> Apply their understanding to strengthen, or stiffen their structures.</p>	<p><b>Design</b> Develop a design based on design criteria. Generate some simple ideas for their design.</p> <p><b>Make</b> <b>Skills: Joining. Finishing with colours.</b> Select the most appropriate tool from a choice to perform practical tasks. Select the most appropriate material to make their design.</p> <p><b>Evaluate</b> Select the most appropriate product for a given task</p> <p><b>Technical knowledge</b> Use materials and techniques to make their design stronger, stiffer or more stable, with support.</p>	<p><b>Design</b> Contribute to a simple design. Make a choice about their design when given options.</p> <p><b>Make</b> <b>Skills: Joining. Finishing with colours.</b> Use an increasing range of appropriate tools to complete their design. Use an increasing range of materials to make their design.</p> <p><b>Evaluate</b> Demonstrate the function of a familiar product</p> <p><b>Technical knowledge</b> Explore and use contrasting design materials in their products</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a fairy godmothers hat</li> <li>- Design, make and evaluate Cinderella carriage</li> <li>- Research and evaluate how other vehicles move</li> <li>- Design, make and evaluate a castle</li> <li>- Design, make and evaluate a bag for Cinderella to take to the ball.</li> </ul>	<ul style="list-style-type: none"> <li>- Design by making choices, and make a fairy godmothers hat with appropriate support</li> <li>- Design by making choices, and make Cinderella carriage with appropriate support</li> <li>- Explore how vehicles move how other vehicles move with appropriate support</li> <li>- Design by making choices, and make a castle as a group with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Make puppets from The Three Billy Goats Gruff by choosing from options</li> <li>- Make bridges from different materials to contrast one another.</li> <li>- Make a troll trap to capture the troll by making choices on materials</li> <li>- Make a BGG diorama using a range of materials and textures</li> <li>- Make a raft to get the billy goats across the river.</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Joining, finishing, function, strengthen, stiffen, structure	joining, materials, strong, stiff, stable	Join, material, design, texture

**Use skills ladders for assessment**

## DT medium term planning

### Cycle 3 Spring Term - On the Farm (Paper, card and wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop an appealing design based on design criteria. Communicate their ideas through discussion.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Select from a range of tools to perform practical tasks. Select from a range of materials to make their design.</p> <p><b>Evaluate</b> Explain the function of a range of existing products.</p> <p><b>Technical knowledge</b> Apply their understanding to strengthen, or stiffen more complex structures.</p>	<p><b>Design</b> Develop a design based on design criteria. Begin to develop their ideas for a design with support.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Select the most appropriate tool from a choice tools to perform practical tasks. Select the most appropriate material to make their design.</p> <p><b>Evaluate</b> Select the most appropriate products for a range of given tasks.</p> <p><b>Technical knowledge</b> Use materials and techniques to make their design stronger, stiffer or more stable, with more independence.</p>	<p><b>Design</b> Contribute to a simple design. Make choices about their design when given options.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Use an increasing range of appropriate tools to complete their design. Use an increasing range of materials to make their design</p> <p><b>Evaluate</b> Demonstrate the function of a range of familiar products.</p> <p><b>Technical knowledge</b> Help to strengthen, or stiffen their designs with adult support.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate an animal home on the farm by testing different materials for strength.</li> <li>- Design, make and evaluate an egg box label – including research</li> <li>- Design, make and evaluate a moveable farm animal from egg boxes using previous knowledge of levers and axels.</li> <li>- Design, make and evaluate a strong fence for an animal enclosure. Think about how to strengthen or stiffen initial ideas.</li> <li>- Design, make and evaluate a tractor using previous knowledge of axels and levers.</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and begin to evaluate an animal home on the farm. Begin to test different materials for strength, with appropriate support</li> <li>- Design, make and begin to evaluate a moveable farm animal from egg boxes using previous knowledge of levers and axels, with appropriate support</li> <li>- Design, make and begin to evaluate a tractor using previous knowledge of axels and levers, with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a milk carton farm animal</li> <li>- Design and make a farm animal using egg cartons</li> <li>- Design and make a moving picture scene of a farm using stick puppets on a slider.</li> <li>- Make a group farm collage using different materials and textures.</li> <li>- Design and make an animal enclosure</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
cutting, shaping, joining, axel, lever, packaging, improve, quality	cutting, shaping, joining, axel, lever	cut, follow, join, design

**Use skills ladders for assessment**

## DT medium term planning

### Cycle 3 Summer Term - All about the body (Paper, card and wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop a functional design for a particular individual, based on design criteria. Develop their ideas through discussion.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Select from a range of tools to perform practical tasks. Select from a range of materials to make their design</p> <p><b>Evaluate</b> Explain how a product carries out its function</p> <p><b>Technical knowledge</b> Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.</p>	<p><b>Design</b> Develop a design based on design criteria. Develop their ideas for a design with support.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Select the most appropriate tool from a choice tools to perform practical tasks. Select the most appropriate material to make their design.</p> <p><b>Evaluate</b> Explain the function of a familiar products.</p> <p><b>Technical knowledge</b> Use materials to strengthen, stiffen or reinforce structures with increasing independence.</p>	<p><b>Design</b> Contribute to a simple design for a particular individual. Make choices about their design when given options.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Use an increasing range of appropriate tools to complete their design. Use an increasing range of materials to make their design.</p> <p><b>Evaluate</b> Demonstrate the function of an increasing range of familiar products.</p> <p><b>Technical knowledge</b> Help to strengthen, stiffen or reinforce their designs with adult support.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate different clothes designs for a range of people e.g. babies, teenagers, adults</li> <li>- Design, make and evaluate a hat for different types of weather</li> <li>- Design, make a mini model and evaluate a wheel chair – consider how to make it strong.</li> <li>- Design, make a mini model and evaluate an item for a baby e.g. pushchair, highchair, rocking horse.</li> <li>- Design, make and evaluate a structure of the human body made from paper straws or wooden sticks.</li> <li>- Design, make and evaluate a waving hand using levers</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and begin to evaluate a hat for different types of weather, with appropriate support</li> <li>- Design and make a split pin moveable body</li> <li>- Design, make and begin to evaluate a mini healthy snack box, with appropriate support</li> <li>- Design, make and begin to evaluate a structure of the human body made from paper straws or wooden sticks, with appropriate support</li> <li>- Design, make and begin to evaluate a bib for a baby, with appropriate support</li> <li>- Design, make and begin to evaluate a waving hand using levers</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a split pin moveable body</li> <li>- Design, make and evaluate a mini healthy snack box</li> <li>- Design and make a 2D human body from paper straws and wooden sticks</li> <li>- Design and make a bib for a baby</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Cutting, shaping, joining, function, audience	Cutting, shaping, joining, evaluate, strong, weak	cutting, shape, joining, tools, strong

**Use skills ladders for assessment**

## DT medium term planning

### Cycle 4 Autumn Term - The great outdoors (Textiles and paper)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop an appealing design for a particular group, based on design criteria. Create simple sketches of their design.</p> <p><b>Make</b> <b>Skills: Joining. Finishing with colours.</b> Select from a range of equipment to perform practical tasks. Select from a range of components to make their design.</p> <p><b>Evaluate</b> Explain how a range of products carries out its function</p> <p><b>Technical knowledge</b> Develop an understanding of a simple mechanical system.</p> <p><b>Explore how gears work and can be used.</b></p>	<p><b>Design</b> Develop a design for a particular group, based on design criteria. Communicate their design ideas through drawing a simple design.</p> <p><b>Make</b> <b>Skills: Joining. Finishing with colours.</b> Select from given equipment to perform practical tasks. Select from given components to make their design.</p> <p><b>Evaluate</b> Explain the function of a range of familiar products.</p> <p><b>Technical knowledge</b> Use simple mechanisms to make things move.</p> <p><b>Use products and toys with gears to explore how they work</b></p>	<p><b>Design</b> Contribute to a simple design for a particular group. Make choices about their design when given an increasing range of options.</p> <p><b>Make</b> <b>Skills: Joining. Finishing with colours.</b> Use an increasing range of appropriate tools to complete their design. Use an increasing range of materials to make their design.</p> <p><b>Evaluate</b> Explore the function of an unfamiliar product.</p> <p><b>Technical knowledge</b> Explore a product with moving parts.</p> <p><b>Explore games, toys and products which use gears to make things move.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a diorama of a garden using gears to make a part move</li> <li>- Design, make and evaluate a new suitcase for Paddington - incorporate gears to make it move</li> <li>- Design, make and evaluate a pair of wellies for a group of people.</li> <li>- Design, make and evaluate a windmill that moves using gears.</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and begin to evaluate a windmill that moves using gears, with appropriate support.</li> <li>- Design, make and evaluate a pair of wellies for a family member or friend, with appropriate support</li> <li>- Design and make a new bag for Paddington, with appropriate support</li> <li>- Design, make and begin to evaluate a kite.</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a pair of wellies for Pete the Cat</li> <li>- Design and make a kite</li> <li>- Design and make a pouch for Pete the Cat to keep his belongings in.</li> <li>- Design and make a mini tent for Pete the Cat</li> <li>- Make a 3D campfire from textiles and paper</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
diorama, audience, joining, finishing, gears, mechanics	gears, audience, joining, finishing, move, turn	join, finish, move, turn

**Use skills ladders for assessment**

## DT medium term planning

### Cycle 4 Spring Term - Marvellous machines

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design.</b> Be supported to develop design criteria to help create a design for a particular individual. Create simple sketches of their design with some simple annotations.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Select from a range of equipment to perform practical tasks. Select from a range of components to make their design.</p> <p><b>Evaluate</b> Give an opinion about their final product with reference to the design criteria.</p> <p><b>Technical knowledge</b> Incorporate mechanical systems in their designs.</p> <p><b>Explore using leavers and linkages in their designs.</b></p>	<p><b>Design</b> Create a design for a particular individual, showing some awareness of making their designs suitable. Communicate their design ideas through drawing their designs.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Select from given equipment to perform practical tasks. Select from given components to make their design.</p> <p><b>Evaluate</b> Give an opinion about their final product.</p> <p><b>Technical knowledge</b> Use a range of mechanisms to make things move.</p> <p><b>Use products and toys with levers and linkages to explore how they</b></p>	<p><b>Design</b> Contribute to a simple design for a particular person. Make a choice about their design when given an increasing range of options.</p> <p><b>Make</b> <b>Skills: Cutting, shaping and joining.</b> Use an increasing range of appropriate tools to complete their design. Use an increasing range of materials to make their design.</p> <p><b>Evaluate</b> Explore the function of their finished product</p> <p><b>Technical knowledge</b> Explore a range of products with moving parts.</p> <p><b>Explore games, toys and products which use leavers and linkages to make things move.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a moving train using linkages, levers and axels</li> <li>- Design, make and evaluate a uniform for a train driver</li> <li>- Design, make and evaluate a bag for a train journey for a particular person.</li> <li>- Design, make and evaluate a Ferris wheel using linkages and levers.</li> <li>- Design a bike for a particular person.</li> <li>- Design, make and evaluate a slingshot vehicle</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and begin to evaluate a moving train using linkages.</li> <li>- Design, make and begin to evaluate a uniform for a train driver</li> <li>- Design, make and begin to evaluate a bag for a train journey for a particular person.</li> <li>- Design, make and begin to evaluate a ferris wheel using linkages and levers.</li> <li>- Design, make and begin to evaluate a slingshot vehicle</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a moving train</li> <li>- Design and make a uniform for a train driver</li> <li>- Design and make a model of a train track with different textured materials</li> <li>- Design and make a slingshot vehicle</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
levers, linkages, cutting, shaping, joining, sketch, design criteria	levers, linkages, cutting, shaping , joining	cutting, shaping, joining

**Use skills ladders for assessment**

## DT medium term planning

### Cycle 4 Summer Term - Roald Dahl (card, paper, wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Be supported to develop design criteria to help create a design for a particular group. Create sketches of their design with simple annotations about chosen materials.</p> <p><b>Make Skills: Cutting, shaping and joining.</b> Select from a range of equipment to perform practical tasks. Select from a range of components to make their design.</p> <p><b>Evaluate</b> Give some opinions about their final product with reference to the design criteria.</p> <p><b>Technical knowledge</b> Explore how pulleys can be used in products. Plan to use a mechanism in their design.</p> <p><b>Pulleys (Can also incorporate gears or levers and linkages in their design).</b></p>	<p><b>Design</b> Create a design for a particular group, showing some awareness of making their designs suitable. Communicate their design ideas through drawing their designs.</p> <p><b>Make Skills: Cutting, shaping and joining.</b> Select from given equipment to perform practical tasks. Select from given components to make their design.</p> <p><b>Evaluate</b> Give some opinions about their final product.</p> <p><b>Technical knowledge</b> Use a mechanism in their final product.</p> <p><b>Pulleys.</b></p>	<p><b>Design</b> Contribute to a simple design for a particular group. Make a choices about their design when given an increasing range of options.</p> <p><b>Make Skills: Cutting, shaping and joining.</b> Use an increasing range of appropriate tools to complete their design. Use an increasing range of materials to make their design.</p> <p><b>Evaluate</b> Demonstrate the function of their finished product.</p> <p><b>Technical knowledge</b> Explore a range of products that use pulleys to make things move.</p> <p><b>Explore toys and products with pulleys.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate moving mini-beasts from James and the giant peach using pulleys, gears, levers and linkages where possible</li> <li>- Design, make and evaluate a diorama of New York City skyline with peach on top of the empire state building – include a pulley.</li> <li>- Design, make and evaluate a 3D structure of the Empire State building (including the peach on the top) – include a pulley or any other previously learnt mechanisms.</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and begin to evaluate moving mini-beasts from James and the giant peach using a pulley, with appropriate support</li> <li>- Design, make and begin to evaluate a diorama of New York City skyline with peach on top of the empire state building – include a pulley, with appropriate support</li> <li>- Design, make and evaluate a 3D structure of the Empire State building (including the peach on the top) – include a pulley, with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a moving story book linked to English key texts.</li> <li>- Design and make (twinkl) a snapping crocodile from the ABC book.</li> <li>- Design and make an elephant sculpture from the ABC book.</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
pulley, gear, lever, linkage, diorama, equipment, components	Pulley, diorama, opinion, mechanism	moving story book, cutting, shaping, joining, pulley

**Use skills ladders for assessment**



## DT medium term planning

### Cycle 5 Autumn Term - Come Dine with me (textiles and paper)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop design criteria to help create a design for a particular group. Create sketches of their design with simple annotations about chosen materials.</p> <p><b>Make Skills: Cutting, shaping and joining.</b> Select from a wide range of tools to perform practical tasks. Select from a wide range of materials to make their design.</p> <p><b>Evaluate</b> Make simple judgements about their products and designs against the design criteria.</p> <p><b>Technical knowledge</b> Develop an understanding of a simple electrical systems.</p> <p><b>Explore how electrical systems can be used in products.</b></p>	<p><b>Design</b> Be supported to develop design criteria to help create a design for a particular group. Develop their ideas through discussion.</p> <p><b>Make Skills: Cutting, shaping and joining.</b> Select tools to perform practical tasks. Select materials to make their design.</p> <p><b>Evaluate</b> Give an opinion about their final product based on the design criteria.</p> <p><b>Technical knowledge</b> Use a simple electrical system to make things light up, move or make sounds.</p> <p><b>Use products and toys with electrical systems to explore how they work.</b></p>	<p><b>Design</b> Contribute to a simple design for a particular group. Make choices to improve the presentation of their design.</p> <p><b>MakeSkills: Cutting, shaping and joining.</b> Use tools to perform simple practical tasks. Use materials to make simple designs.</p> <p><b>Evaluate</b> Share an opinion about their final product</p> <p><b>Technical knowledge</b> Explore a product which creates light.</p> <p><b>Explore a game, toy or product which use electrical systems to make things light up.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a front door with a workable doorbell using a simple circuit.</li> <li>- Design, make and evaluate an alarm for kitchen device using a simple circuit</li> <li>- Design, make and evaluate a light up kitchen device using a simple circuit.</li> <li>- Design, make and evaluate a milk carton character that lights up.</li> <li>- Design, make and evaluate a light up table decoration</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and evaluate a milk carton character that lights up with appropriate support</li> <li>- Design, make and evaluate a light up bottle with appropriate support</li> <li>- Design, make and evaluate a light up/sound poster with appropriate support</li> <li>- Design, make and evaluate a light up table decoration with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a milk carton character that lights up.</li> <li>- Design and make a light up bottle</li> <li>- Design and make a light up table decoration</li> <li>- Use push switches to explore toys</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
electrical system, circuit, light, sound, movement	light, sound, movement, circuit	Light, make

**Use skills ladders for assessment**

## DT medium term planning

Cycle 5 Spring Term - Beautiful Britain (card, paper and wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop design criteria to help create a design for a particular individual. Create simple sketches of their design with some simple annotations.</p> <p><b>Make Skills: Joining. Finishing with colours.</b> Select from a wide range of tools to perform practical tasks. Select from a wide range of materials to make their design.</p> <p><b>Evaluate</b> Consider the views of others to improve their work.</p> <p><b>Technical knowledge</b> Incorporate electrical systems in their designs.</p> <p><b>Explore using electrical systems in their designs.</b></p>	<p><b>Design</b> Be supported to develop design criteria to help create a design for a particular group. Develop their ideas through discussion.</p> <p><b>Make Skills: Cutting, shaping and joining.</b> Select tools to perform practical tasks. Select materials to make their design.</p> <p><b>Evaluate</b> Follow advice to improve their work.</p> <p><b>Technical knowledge</b> Use a range of simple electrical systems to make things light up, move or make sounds.</p> <p><b>Use a range of products and toys with electrical systems to explore how they work.</b></p>	<p><b>Design</b> Contribute to a simple design for a particular group. Make choices to improve the presentation of their design</p> <p><b>Make Skills: Cutting, shaping and joining.</b> Use tools to perform simple practical tasks. Use materials to make simple designs</p> <p><b>Evaluate</b> Work with an alongside an adult to improve their work.</p> <p><b>Technical knowledge</b> Explore products that make sounds.</p> <p><b>Explore games, toys and products which use electrical systems to make sounds.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a machine to pick up litter – how could you incorporate an electrical system – look at robot vacuums</li> <li>- Design, make and evaluate a flag for a particular person – use an electrical system to make a pulley move.</li> <li>- Design, make and evaluate a light up superworm</li> <li>- Design, make and evaluate a torch or lantern for superworm to see for night-time rescues.</li> <li>- Design, make and evaluate an alarm to alert superworm that someone needs help</li> <li>- Design, make and evaluate a London bus using electrical systems</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and evaluate a flag for a particular person – use an electrical system to make a pulley move.</li> <li>- Design, make and evaluate a light up superworm</li> <li>- Design, make and evaluate a torch or lantern for superworm to see for night-time rescues.</li> <li>- Design, make and evaluate an alarm to alert superworm that someone needs help</li> <li>- Design, make and evaluate a London bus using electrical systems, with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Use push switches to explore sound toys</li> <li>- Design, make and begin to evaluate a van for postman bear to use – incorporate a horn with appropriate support.</li> <li>- Design, make and begin to evaluate a pop up sound story book.</li> <li>- Design and make a London bus using electrical systems to make a horn</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>

Use skills ladders for assessment

### DT medium term planning

electrical systems, gears, levers, pulleys, sound, light, battery, wires, connection	electrical systems, gears, levers, pulleys, sound, light,	sound, battery, push switch
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Use skills ladders for assessment

## DT medium term planning

### Cycle 5 Summer Term - Fighting fit (Card, paper and wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Begin to use research to develop design criteria to create a design for a particular individual. Create sketches of their design with simple annotations about key design features.</p> <p><b>Make Skills: Joining. Finishing with colours.</b> Select from a wide range of tools to perform practical tasks. Select from a wide range of materials to make their design.</p> <p><b>Evaluate</b> Understand how an important invention has helped our lives</p> <p><b>Technical knowledge</b> Develop an understanding of how computing systems can control products.</p> <p><b>Explore how computing systems can be used in products.</b></p>	<p><b>Design</b> Begin to find out about existing products to help develop their designs for a product for a particular group. Create simple stretches of their design.</p> <p><b>Make Skills: Joining. Finishing with colours.</b> Select from a wider range of tools to perform practical tasks. Select from a wider range of materials to make their design.</p> <p><b>Evaluate</b> Identify important inventions we use in our lives.</p> <p><b>Technical knowledge</b> Use a simple computing systems to control products or objects.</p> <p><b>Explore how computing systems can be used to control products.</b></p>	<p><b>Design</b> Explore existing products. Make contributions to a designs for a product for a particular group.</p> <p><b>Make Skills: Joining. Finishing with colours.</b> Select from a wide range of tools to perform practical tasks. Select from a wide range of materials to make their design.</p> <p><b>Evaluate</b> Explore the different types of technology we use in our everyday lives.</p> <p><b>Technical knowledge</b> Explore a product which can be programmed.</p> <p><b>Explore a game, toy or product which use can be programmed</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Explore the inside of broken toys</li> <li>- Design, make and evaluate a game linked to sports e.g. table football.</li> <li>- Design, make and evaluate a new bee-bot</li> <li>- Design, make and evaluate moving mini exercise equipment or an outdoor gym</li> <li>- Design, make and evaluate an exercise class poster that lights up</li> <li>- Design, make and evaluate an exercise outfit</li> </ul>	<ul style="list-style-type: none"> <li>- Explore the inside of broken toys</li> <li>- Design, make and evaluate a game linked to sports e.g. table football.</li> <li>- Design, make and evaluate an exercise class poster that lights up</li> <li>- Design, make and evaluate an exercise outfit</li> <li>- Design and make a label for a healthy smoothie</li> </ul>	<ul style="list-style-type: none"> <li>- Explore bee-bots and robots</li> <li>- Design and make an outfit for a bee-bot or robot</li> <li>- Design and make a course for a bee bot or robot</li> <li>- Design and make a home for a bee-bot or robot</li> <li>- Design and make a label for a healthy smoothie</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
electrical systems, gears, levers, pulleys, sound, light, battery, wires, connection, rotate, forces	gears, levers, pulleys, sound, light, battery, wires	programme, forwards, backward, left, right

**Use skills ladders for assessment**

## DT medium term planning

### Cycle 6 Autumn Term - Explorers (Card, paper and wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Begin to use research to develop design criteria to create a design for a particular group. Create sketches, cross sectional diagrams or prototypes of their design.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wide range of equipment to perform practical tasks.</p> <p>Select from a wide range of components to make their design.</p> <p><b>Evaluate</b> Understand how an inventor or designer has helped our lives.</p> <p><b>Technical knowledge</b></p> <p>Develop an understanding of how computing systems can control products.</p> <p><b>Explore how computing systems can be used in products.</b></p>	<p><b>Design</b> Begin to find out about existing products to help develop their designs for a product for a particular group. Create simple sketches of their design.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wider range of tools to perform practical tasks.</p> <p>Select from a wider range of materials to make their design.</p> <p><b>Evaluate</b> Identify the inventions or designs of an important inventor / designer.</p> <p><b>Technical knowledge</b></p> <p>Use a simple computing systems to control products or objects.</p> <p><b>Explore how computing systems can be used to control products.</b></p>	<p><b>Design</b> Explore existing products. Make contributions to a designs for a product for a particular group.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wide range of tools to perform practical tasks.</p> <p>Select from a wide range of materials to make their design.</p> <p><b>Evaluate</b> Explore important inventions we use in our lives.</p> <p><b>Technical knowledge</b></p> <p>Explore a product which can be programmed.</p> <p><b>Explore a game, toy or product which use can be programmed</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a junk model with an added electrical system</li> <li>- Design, make and evaluate a pop up habitat with an added electrical system</li> <li>- Design, make and evaluate a volcano with an added electrical system</li> <li>- Design and create a simon sock puppet</li> <li>- Design, make and evaluate a safe street with traffic lights.</li> <li>- Design, make and evaluate a safe house, fitted with lights and alarms</li> <li>- Design, make and evaluate a light up globe</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and evaluate a junk model with an added electrical system with appropriate support</li> <li>- Design, make and evaluate a pop up habitat with an added electrical system with appropriate support</li> <li>- Design, make and evaluate a volcano with an added electrical system with appropriate support</li> <li>- Design and create a Simon sock puppet with appropriate support</li> <li>- Design, make and evaluate a safe house, fitted with lights and alarms with appropriate support</li> <li>- Design, make and evaluate a safe street with traffic lights with appropriate support</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a what the ladybird heard on holiday diorama using a range of materials and textures</li> <li>- Design and make a beebot story map from the key text</li> <li>- Design and make a moving ladybird</li> <li>- Design and make traffic lights.</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>

**Use skills ladders for assessment**

### DT medium term planning

electrical systems, gears, levers, pulleys, sound, light, battery, wires, connection, rotate, forces, joining, shaping	gears, levers, pulleys, sound, light, battery, wires, connection	programme, forwards, backward, left, right, turn
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Use skills ladders for assessment

## DT medium term planning

### Cycle 6 Spring Term - Chocolate (Card, paper and wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Use research to develop design criteria to create a design for a particular individual. Create sketches of their design with simple annotations about key design features.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wide range of equipment to perform practical tasks.</p> <p>Select from a wide range of components to make their design.</p> <p><b>Evaluate</b> Understand how key inventions has helped shape our world.</p> <p><b>Technical knowledge</b> Incorporate computing systems in their designs.</p> <p><b>Explore using computing systems in their designs.</b></p>	<p><b>Design</b> Begin to find out about existing products to help develop their designs for a product for a particular group.</p> <p>Create simple stretches of their design.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wider range of tools to perform practical tasks.</p> <p>Select from a wider range of materials to make their design.</p> <p><b>Evaluate</b> Identify how key invention has helped shape our world.</p> <p><b>Technical knowledge</b> Use a range of simple computing systems to control products or objects.</p> <p><b>Use a range of products and toys with computing systems that can control objects.</b></p>	<p><b>Design</b> Explore existing products.</p> <p>Make contributions to a designs for a product for a particular group.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wide range of tools to perform practical tasks.</p> <p>Select from a wide range of materials to make their design.</p> <p><b>Evaluate</b> Explore important inventions that help our lives.</p> <p><b>Technical knowledge</b> Explore a product that uses a computing system.</p> <p><b>Explore a game, toy or product that can be controlled.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a model of Willy Wonka’s Chocolate Factory with added electrical systems.</li> <li>- Design, create and make a self-opening chocolate box or tin.</li> <li>- Design, make and evaluate a chocolate themed steady hand game.</li> <li>- Design, make and evaluate a stuffed character toy with an added electrical system.</li> <li>- Design, make and evaluate a new waistcoat for Willy Wonka with an added electrical system</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and evaluate a model of Willy Wonka’s Chocolate Factory with added electrical systems, with appropriate support.</li> <li>- Design, create and make a self-opening chocolate box or tin with appropriate support.</li> <li>- Design, make and evaluate a stuffed character toy with an added electrical system with appropriate support</li> <li>- Design, make and evaluate a new waistcoat for Willy Wonka with an added electrical system</li> </ul>	<ul style="list-style-type: none"> <li>- Design and make a model of Mr Bunnie’s chocolate factory.</li> <li>- Design, make and evaluate a stuffed character toy</li> <li>- Explore inventions such as lightbulb, telephone.</li> <li>- Explore speech activated devices e.g. Alexa</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
electrical systems, gears, levers, pulleys, sound, light, battery, wires, connection, rotate, forces, joining, shaping, computing systems	gears, levers, pulleys, sound, light, battery, wires, connection, computing system	control, joining, shaping, computer, lightbulb, telephone

**Use skills ladders for assessment**

## DT medium term planning

### Cycle 6 Summer Term - Eco Warriors (card, paper and wood)

M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Use research to develop design criteria to create a design for a particular group. Create stretches, cross sectional diagrams or prototypes of their design.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wide range of equipment to perform practical tasks.</p> <p>Select from a wide range of components to make their design.</p> <p><b>Evaluate</b> Understand how a key designer or inventor has helped shape our world.</p> <p><b>Technical knowledge</b> Explore how computer systems can be used in products. Plan to use a computer system in their design.</p> <p><b>Computing systems (Program, monitor or control their product).</b></p>	<p><b>Design</b> Carry out simple research to develop help create a design for a particular group. Create simple stretches with labels.</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wider range of tools to perform practical tasks.</p> <p>Select from a wider range of materials to make their design.</p> <p><b>Evaluate</b> Identify how a key inventor or designer has helped shape our world.</p> <p><b>Technical knowledge</b> Use a computing system in their final product.</p> <p><b>Computing systems (Program, monitor or control their product).</b></p>	<p><b>Design</b> Explore existing products. Make contributions to a designs for a product for a particular group</p> <p><b>Make Skills: Joining and shaping. Finishing with colours.</b></p> <p>Select from a wide range of tools to perform practical tasks. Select from a wide range of materials to make their design.</p> <p><b>Evaluate</b> Explore how an important inventor or designer has helped our lives.</p> <p><b>Technical knowledge</b> Explore a range of products that use computing systems.</p> <p><b>Explore a range of games, toys or products that can be controlled.</b></p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<ul style="list-style-type: none"> <li>- Design, make and evaluate a robot using recyclable materials</li> <li>- Design, make and evaluate a classroom noise monitor using recyclable materials</li> <li>- Design, make and evaluate a remote control car using recyclable materials</li> </ul>	<ul style="list-style-type: none"> <li>- Design, make and evaluate a robot with appropriate support using recyclable materials</li> <li>- Design, make and evaluate a classroom noise monitor with appropriate support using recyclable materials</li> <li>- Design, make and evaluate a remote control car with appropriate support using recyclable materials</li> </ul>	<ul style="list-style-type: none"> <li>- Explore ipad games which includes programming e.g. bee bot game.</li> <li>- Explore remote control cars</li> <li>- Design and make a cover for a remote control car using recyclable materials</li> </ul>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
electrical systems, gears, levers, pulleys, sound, light, battery, wires, connection, rotate, forces, joining, shaping, computing systems, axels	gears, levers, pulleys, sound, light, battery, wires, connection, computing system, axels	control, computer, programming, button

**Use skills ladders for assessment**



## DT medium term planning

Cycle 7 Autumn		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Carry out simple research to identify user needs. Use research to help develop products for specific users.</p> <p><b>Make</b> Select and use specialist tools and equipment and machinery with increased precision. Select from and use a wider range of materials.</p> <p><b>Evaluate</b> Research the designs and inventions of an influential designer / inventor.</p> <p><b>Technical knowledge</b> Begin to select materials based on their properties to enable their products to be functional.</p>	<p><b>Design</b> Use simple research or information to identify a user need. Begin to design products for specific users.</p> <p><b>Make</b> Use some specialist tools and equipment and machinery with increased accuracy. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Explore images of the designs and inventions of an influential designer / inventor.</p> <p><b>Technical knowledge</b> Begin describe some properties of materials used in their products</p>	<p><b>Design</b> Explore existing designs to help to make simple design choices. Make contributions to improve the design of a product.</p> <p><b>Make</b> Use some specialist tools with support to create designs. Use a range of materials and components in products</p> <p><b>Evaluate</b> Explore the products and inventions of an influential designer / inventor.</p> <p><b>Technical knowledge</b> Explore the properties of materials used in their products.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to Picasso topic (Autumn 1)</b> Brief: Create a 3D relief cubist picture suitable for a living room. Use thick cardboard, balsa wood, doweling or acrylic to cut shapes and combine to create a 3D Cubist image. Use additional materials to add to the design to produce a 3D design. Use a saw to cut resistant materials. Use sand paper to finish.</p> <p><b>Links to Recycled Art topic (Autumn 2)</b> Brief: Create a product from recycled material for the garden which contains sails which move with the wind. Explore existing products available and explore designs of windmills and modern wind turbines. Use a saw to cut resistant materials. Use fixings to connect materials. Extension – explore using mechanisms to convert the rotary movement within the design.</p>	<p><b>Links to Picasso topic (Autumn 1)</b> Brief: Create a cubist picture suitable for a living room. Use thick cardboard to draw and cut shapes. Glue to combine the shapes to create a picture. Finish the design with paint.</p> <p><b>Links to Recycled Art topic (Autumn 2)</b> Brief: Create a product from recycled material for the garden which moves with the wind. Explore existing products available and explore designs of windmills.</p>	<p><b>Links to Picasso topic (Autumn 1)</b> Brief: Create picture suitable for a living room in a cubist style. Copy and cut shapes from card. Glue to combine the shapes to create a picture.</p> <p><b>Links to Recycled Art topic (Autumn 2)</b> Brief: Cut out and connect materials to create a simple functional windmill.</p>

**Use skills ladders for assessment**

## DT medium term planning

Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign
Saw, Sand, Finish, Join, Cut, Stick, Glue.	Cut, Stick, Glue, Shape, Finish.	Draw, Cut, Stick.

Cycle 7 Spring Term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Carry out simple research to identify and understand user needs. Use research to help develop products for specific users.</p> <p><b>Make</b> Select and use specialist tools and equipment and machinery with increased precision. Select from and use a wider range of materials</p> <p><b>Evaluate</b> Investigate new technologies and inventions that will influence our lives.</p> <p><b>Technical knowledge</b> Begin to select materials based on their properties to enable their products to be functional.</p>	<p><b>Design</b> Use simple research or information to understand a user need. Begin to design products for specific users</p> <p><b>Make</b> Use some specialist tools and equipment and machinery with increased accuracy. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Explore information about new technologies and inventions that will influence our lives.</p> <p><b>Technical knowledge</b> Begin describe some properties of materials used in their products.</p>	<p><b>Design</b> Explore existing designs to help to make simple design choices. Make contributions to improve the design of a product.</p> <p><b>Make</b> Use some specialist tools with support to create designs. Use a range of materials and components in products.</p> <p><b>Evaluate</b> Explore images of new technologies and inventions that will influence our lives.</p> <p><b>Technical knowledge</b> Explore the properties of materials used in their products.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to Haring topic (Spring 1)</b> Brief: Create a keyring or bag tag in the style of Haring’s human figures to be sold at an art gallery gift shop. Explore technology which can help us track our possessions like keys (e.g. Apple Air Tags). Be supported to use drills and electric saws to create shapes and make holes.</p> <p><b>Links to Drawing (Spring 2)</b> Brief: Create a picture frame to contain a small still life drawing which can sit on a shelf (frame no larger than 15x15cm). Explore technology which can improve our homes (e.g. Digital picture frames, automatic blinds,</p>	<p><b>Links to Haring topic (Spring 1)</b> Brief: Create a keyring or bag tag in the style of Haring’s human figures to be sold at a museum gift shop. Explore technology which can help us track our possessions like keys (e.g. Apple Air Tag). Use pre-cut shapes and explore using sand paper to finish them. Use a hand drill to be supported to make a hole.</p> <p><b>Links to Drawing (Spring 2)</b> Brief: Create a picture frame to contain a small still life drawing which can sit on a shelf (frame no larger than 15x15cm). Explore technology which can improve our homes (e.g. Digital picture frames, automatic blinds,</p>	<p><b>Links to Haring topic (Spring 1)</b> Brief: Create a keyring in the style of Haring’s human figures. Explore images of technology which we used in our daily lives (e.g. computers, iPads, TVs). Use pre-cut shapes made from balsa, acrylic and explore using paints or varnishes to finish them.</p> <p><b>Links to Drawing (Spring 2)</b> Brief: Create a picture frame to contain a drawing or painting which can sit on a shelf or wall. (Frame no larger than 15x15cm). Explore images of technology which we used in our daily lives (e.g. computers, iPads, TVs). Use pre-cut materials made from balsa, acrylic and explore using paints or varnishes to finish them.</p>

**Use skills ladders for assessment**

### DT medium term planning

voice assistants etc.) Be supported to use drills and electric saws to create shapes and make holes.	voice assistants etc.) Be supported to use a hand drill drills and tools to connect materials.	
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Drill, Safety, Saw, Fasten, Connect, Strength, Product.	Drill, Safety, Fix, Fasten, Product, Design.	Material, Wood, Plastic.

Use skills ladders for assessment

## DT medium term planning

Cycle 7 Summer Term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Carry out simple research to identify and understand user needs. Use research to help develop products to solve problems for specific users</p> <p><b>Make</b> Select and use specialist tools and equipment and machinery with increased precision. Select from and use a wider, range of materials</p> <p><b>Evaluate</b> Make simple evaluations about their products against the design specification</p> <p><b>Technical knowledge</b> Begin to select materials based on their properties to enable their products to be functional</p>	<p><b>Design</b> Use simple research or information to understand a user need. Begin to design products to solve a problem for specific users.</p> <p><b>Make</b> Use some specialist tools and equipment and machinery with increased accuracy. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Make simple judgements about their product / design.</p> <p><b>Technical knowledge</b> Begin describe some properties of materials used in their products</p>	<p><b>Design</b> Explore existing designs to help to make simple design choices. Make simple contributions to improve the design of a product.</p> <p><b>Make</b> Use some specialist tools with support to create designs. Use a range of materials and components in products.</p> <p><b>Evaluate</b> Work alongside an adult to suggest ways to improve their work.</p> <p><b>Technical knowledge</b> Explore the properties of materials used in their products.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to mosaic art topic (Summer 1)</b> Brief: Create a mug coaster with a mosaic pattern or style. Create a coaster for someone with a specific interest (allow children to choose). Test final and evaluate the final product – test against moisture and staining. Use a range of materials such as glass, wood, stone, and ceramics to create mosaic design. Explore using paint and varnishes to finish.</p> <p><b>Links to photography (Summer 2)</b> Brief: Create a holder which can hold a single typically sized photograph. Explore and research existing designs. Test and evaluate final design. Explore a range of materials including wire, metal, and wood to create a design. Explore a variety of fixing mechanisms to incorporate into the design.</p>	<p><b>Links to mosaic art topic (Summer 1)</b> Brief: Create a mug coaster with a mosaic pattern or style. Create a coaster for someone with a specific interest (allow children to choose). Use others’ opinions to evaluate the design. Use a range of materials such as glass, stone, and ceramics to create mosaic design.</p> <p><b>Links to photography (Summer 2)</b> Brief: Create a holder which can hold a single typically sized photograph. Explore and research existing designs. Test and evaluate final design. Explore a range of materials including wire and wood to create a design. Incorporate a fixing mechanism into the final design.</p>	<p><b>Links to mosaic art topic (Summer 1)</b> Brief: Create a mug coaster with a mosaic style pattern. Create a personalised coaster. Use a range of given materials and shapes to create a mosaic design.</p> <p><b>Links to photography (Summer 2)</b> Brief: Create a holder which can hold photograph. Explore a range of materials including wire and wood to create a design. Incorporate a fixing mechanism into the final design. Use a wooden base, be supported to use sand paper and paint to finish their design.</p>

**Use skills ladders for assessment**

### DT medium term planning

Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign
Evaluate, Design, Brief, Improve, Materials, Resistant.	Evaluate, Design, Improve, Materials.	Wood, Paint, Fix/Stick.

Use skills ladders for assessment

## DT medium term planning

Cycle 8 Autumn Term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Identify their own design problems. Create designs and ideas to solve their design problem.</p> <p><b>Make</b> Use an increasing range of specialist techniques and processes with increasing precision. Select from a wider range of more complex components.</p> <p><b>Evaluate</b> Analyse the work of present designers or inventors.</p> <p><b>Technical knowledge</b> Select materials based on their properties to enable their products to be functional.</p>	<p><b>Design</b> Select a design problem to try to overcome. Contribute to designs to solve simple design problems.</p> <p><b>Make</b> Use specialist tools and equipment and machinery with increased accuracy. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Explore information about new technologies and inventions that will influence the world.</p> <p><b>Technical knowledge</b> Describe some properties of materials used in their products</p>	<p><b>Design</b> Make simple contributions to the design of a product. Help create a product to solve a simple problem.</p> <p><b>Make</b> Use some specialist tools and equipment with support to create designs. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Explore images of new technologies and inventions that will influence the world.</p> <p><b>Technical knowledge</b> Explore the properties of an increasing range of materials.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to the Green Man topic (Autumn 1)</b> Brief: Create a bug hotel which can placed into the ground or fixed to a wall / fence. Explore existing products which are designed to scare away animals within the garden (Ultrasonic repellent, bird spikes, electric fences etc.). Use a range of natural and man-made materials. Explore using screws and nails to fix materials together. Evaluate the function / durability of the design / product.</p> <p><b>Links to Material Monsters topic (Autumn 2)</b> Brief: Create a small monster fabric toy for a child. Explore products in the existing soft toy market and how products are made on a large scale. Practice threading a needle, sewing along a line, tying off. Extension: Use sewing machines.</p>	<p><b>Links to the Green Man topic (Autumn 1)</b> Brief: Create a bug hotel for the garden. Explore existing products which are designed to scare away animals within the garden (Ultrasonic repellent, bird spikes, electric fences etc.). Use a range of natural and man-made materials. Explore ensuring the design is suitable for different weather conditions.</p> <p><b>Links to Material Monsters topic (Autumn 2)</b> Brief: Create a small monster fabric toy for a child. Explore products in the existing soft toy market and how products are made on a large scale. Practice threading a needle and sewing along a line.</p>	<p><b>Links to the Green Man topic (Autumn 1)</b> Brief: Construct a bug hotel for the garden with given materials. Use a range of natural and man-made materials within the design.</p> <p><b>Links to Material Monsters topic (Autumn 2)</b> Brief: Create a small monster fabric toy. Explore products in the existing soft toy market. Practice sewing / threading skills.</p>

**Use skills ladders for assessment**

### DT medium term planning

Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign
Man-Made, Natural, Function, Durability, Brief.	Man-Made, Natural, Durability.	Man-Made, Natural.

Use skills ladders for assessment

## DT medium term planning

Cycle 8 Spring Term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop functional, appealing designs and products that respond to needs of individuals.</p> <p><b>Make</b> Use specialist techniques and processes with increasing precision. Select from a wider range of more complex components.</p> <p><b>Evaluate</b> Make a range of evaluations about their products against the design specification.</p> <p><b>Technical knowledge</b> Select more complex materials based on their properties to enable their products to be functional.</p>	<p><b>Design</b> Contribute to designs that are designed to meet the needs of a specific individual</p> <p><b>Make</b> Use specialist tools and equipment and machinery with increased accuracy. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Make judgements about their final product / design.</p> <p><b>Technical knowledge</b> Describe some properties of an increasing range of materials used in their products.</p>	<p><b>Design</b> Make simple contributions to the design of a product. Help create a product to meet the needs of a specific individual.</p> <p><b>Make</b> Use some specialist tools and equipment with support to create designs. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Work alongside an adult to suggest ways to improve their design.</p> <p><b>Technical knowledge</b> Explore and begin to describe the properties of an increasing range of materials.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to Hunderwasser topic (Spring 1)</b> Brief: Create a 3D building model in the style of Hunderwasser. Use cardboard and card to construct the design. Use pulleys to design a simple lift for the building prototype. Within the design explore and plan how to make the building more sustainable (solar energy, insulation, natural building materials etc.)</p> <p><b>Links to Manga Art topic (Spring 2)</b> Brief: Create a fabric Manga style character to hang in the rear view mirror of a car. Test the product design with customer feedback. Practice threading a needle, sewing along a line, tying off. Extension: Use sewing machines.</p>	<p><b>Links to Hunderwasser topic (Spring 1)</b> Brief: Create a 3D building model in the style of Hunderwasser. Use cardboard and card to construct the design. Use pulleys to design a simple lift for the building prototype.</p> <p><b>Links to Manga Art topic (Spring 2)</b> Brief: Create a fabric Manga style character to hang in the rear view mirror of a car. Test the product design with customer feedback. Practice threading a needle and sewing along a line.</p>	<p><b>Links to Hunderwasser topic (Spring 1)</b> Brief: Create a 3D building. Use cardboard and card to construct the design. Use a range of ways to fix the card and make the design strong (glue, Sellotape, duct tape etc.). Use scissors to cut a range of materials. Use different materials within the design (straws etc.).</p> <p><b>Links to Manga Art topic (Spring 2)</b> Brief: Create a fabric Manga style character to hang. Practice sewing along a line.</p>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Sustainability, Pulley, Machine, Prototype, Design.	Pulley, Machine, Prototype, Design.	Cut, Stick, Build, Strong.

**Use skills ladders for assessment**



## DT medium term planning

Cycle 8 Summer Term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop functional, appealing products that respond to needs of specific groups.</p> <p><b>Make</b> Use specialist techniques and processes with increasing precision. Select from a wider range of more complex components.</p> <p><b>Evaluate</b> Make and test evaluations about their products against the design specification.</p> <p><b>Technical knowledge</b> Understand how to use more advanced mechanical systems in their products.</p>	<p><b>Design</b> Contribute to designs that are designed to meet the needs of a specific group.</p> <p><b>Make</b> Use specialist tools and equipment and machinery with increased accuracy. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Make judgements about their product / design.</p> <p><b>Technical knowledge</b> Explore how more advanced mechanical can be used in products</p>	<p><b>Design</b> Make simple contributions to the design of a product. Help create a product to meet the needs of a specific group</p> <p><b>Make</b> Use some specialist tools and equipment with support to create designs. Use a wider range of materials and components in products.</p> <p><b>Evaluate</b> Work alongside an adult to suggest ways to improve their designs.</p> <p><b>Technical knowledge</b> Explore and use products and toys with more advanced mechanical systems.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to The Deep topic (Summer 1)</b> Brief: Create a playable game for children which the product art / design is linked to the sea (pinball, marble maze, ring toss, bowling etc.). Incorporate a range of mechanisms within the design.</p> <p><b>Links to Egyptian Art topic (Summer 2)</b> Brief: Create an Egyptian bracelet using hand weaving.</p>	<p><b>Links to The Deep topic (Summer 1)</b> Brief: Create a playable game for children which the product art / design is linked to the sea (pinball, marble maze, ring toss, bowling etc.). Incorporate simple mechanisms within the design.</p> <p><b>Links to Egyptian Art topic (Summer 2)</b> Brief: Create an Egyptian bracelet using hand weaving.</p>	<p><b>Links to The Deep topic (Summer 1)</b> Brief: Create a game for children (marble maze, ring toss, bowling etc.). Explore using and evaluating he design.</p> <p><b>Links to Egyptian Art topic (Summer 2)</b> Brief: Create an Egyptian bracelet using hand weaving.</p>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Mechanism, Appeal, Functional, Product, Precision, Evaluation, Design Specification.	Mechanism, Functional, Product, Evaluation.	Game, Improve.

**Use skills ladders for assessment**

## DT medium term planning

Cycle 9 Autumn term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop and communicate design ideas. Begin to use annotated sketches and detailed plans</p> <p><b>Make</b> Select and use specialist tools, techniques, processes, equipment and machinery with increasing precision. Select from a wider range of more complex materials, components, taking into account their properties</p> <p><b>Evaluate</b> Understand developments in design and technology over the last 200 years and the impact this has had on the world</p> <p><b>Technical knowledge</b> Understand and evaluate the properties of materials to achieve functional solutions.</p>	<p><b>Design</b> Begin to develop and communicate simple design ideas. Begin to make simple annotations to diagrams and sketches.</p> <p><b>Make</b> Use specialist tools, equipment, machinery and techniques with increased accuracy. Use an increasingly wider range of materials and components in products.</p> <p><b>Evaluate</b> Explore the developments in design and technology in a specific area over the last 200 years and the impact this has had on the world.</p> <p><b>Technical knowledge</b> Describe the key properties of an increasing range of materials used in their products.</p>	<p><b>Design</b> Begin to develop simple design ideas with support. Contribute to simple to sketches to help plan their design.</p> <p><b>Make</b> Use specialist tools and equipment with support to create designs. Use an increasing wider range of materials and components in products.</p> <p><b>Evaluate</b> Explore how technologies have changed over time.</p> <p><b>Technical knowledge</b> Explore and describe simple properties using a range of materials.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to abstract sculptures topic (Autumn 1)</b> Brief: Design an abstract clock design for an office wall. Explore how technology of time has changed over time (sundials, water clocks, pendulum clocks, marine chronometer, watches, and digital watches). Extension: Explore using gears to move the hands of the clock.</p> <p><b>Links to comic strip project (Autumn 2)</b> Brief: Create a pen holder / desk tidy to hold at least 3 pens and have a holder. Create a final design influenced by comic strips. Explore how technology of the office has changed over time (Telephones, Typing, Filling, Posting, Word Processors, Fax Machines, Photocopiers, Modern Computers, Internet, Video Calling). Explore new finishing techniques such as comic strip paper mâché.</p>	<p><b>Links to abstract sculptures topic (Autumn 1)</b> Brief: Design an abstract clock design for an office wall. Explore how technology of time has changed over time (sundials, water clocks, pendulum clocks, marine chronometer, watches, and digital watches).</p> <p><b>Links to comic strip project (Autumn 2)</b> Brief: Create a pen holder / desk tidy to hold at least 3 pens and have a holder. Create a final design that is influenced by comic strips. Explore how technology of the office has changed over time (Telephones, Typing, Filling, Posting, Word Processors, Fax Machines, Photocopiers, Modern Computers, Internet, Video Calling). Explore new finishing techniques such as comic strip paper mâché.</p>	<p><b>Links to abstract sculptures topic (Autumn 1)</b> Brief: Make a sundials or simple wall clock. Explore how clocks have changed over time.</p> <p><b>Links to comic strip project (Autumn 2)</b> Brief: Create a pen holder for a desk. Use a range of materials to complete the design. Explore how technology we use daily has changed over time (Telephones, watches, TVs etc.). Explore new finishing techniques such as coloured paper mâché.</p>

**Use skills ladders for assessment**

### DT medium term planning

Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign
Sketch, Annotation, Design Plan, Solution, Precision, Component.	Sketch, Annotation, Solution, Component.	Design, Create.

Use skills ladders for assessment

## DT medium term planning

Cycle 9 Spring term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop and communicate design ideas. Communicate design plans with oral and digital presentations.</p> <p><b>Make</b> Select and use specialist tools, techniques, processes, equipment and machinery with increasing precision. Select from a wider range of more complex materials, components, taking into account their properties.</p> <p><b>Evaluate</b> Test, evaluate and refine their ideas and products.</p> <p><b>Technical knowledge</b> Understand how to use more advanced mechanical systems in their products.</p>	<p><b>Design</b> Begin to develop and communicate design ideas. Begin to make annotations to diagrams and sketches.</p> <p><b>Make</b> Use specialist tools, equipment, machinery and techniques with increased accuracy. Use an increasingly wider range of materials and components in products.</p> <p><b>Evaluate</b> Suggest ways to improve their ideas and final products.</p> <p><b>Technical knowledge</b> Explore how more advanced mechanical can be used in products.</p>	<p><b>Design</b> Begin to develop simple design ideas with support. Contribute to simple to sketches to help plan their design.</p> <p><b>Make</b> Use specialist tools and equipment with support to create designs. Use an increasing wider range of materials and components in products.</p> <p><b>Evaluate</b> Suggest ways to Improve their ideas and products in collaboration with an adult.</p> <p><b>Technical knowledge</b> Explore and use products and toys with more advanced mechanical systems.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to Kandinsky topic (Spring 1)</b> Brief: Use textiles and other fabric materials to create wall art in the style of Kandinsky's circles. Design a frame to be able to hang the design. Create a presentation of the design sharing justifications of the design. Develop sewing skills of threading a needle, sewing along a line, tying off. Extension: Use sewing machines to explore different types of stitching.</p> <p><b>Links to tessellation topic (Spring 2)</b> Brief: Create a garden mobile which will move in the wind which includes tessellated designs and patterns. Create a presentation of the design sharing justifications of the design. Extension: Explore mechanisms to independently move the mobile or its components.</p>	<p><b>Links to Kandinsky topic (Spring 1)</b> Brief: Use textiles and other fabric materials to create wall art in the style of Kandinsky's circles. Create a presentation of the design sharing justifications of the design. Practice sewing skills of threading a needle, sewing along a line, tying off. Extension: Use hand held sewing machines.</p> <p><b>Links to tessellation topic (Spring 2)</b> Brief: Create a garden mobile which will move in the wind which includes tessellated designs and patterns. Create a presentation of the design sharing justifications of the design. Extension: explore how to increase movement within the design.</p>	<p><b>Links to Kandinsky topic (Spring 1)</b> Brief: Use fabric materials to create wall art in the style of Kandinsky's circles. Practice sewing skills of threading a needle and sewing along a line.</p> <p><b>Links to tessellation topic (Spring 2)</b> Brief: Create a garden mobile which will move in the wind which includes colourful patterns. Explore how the design could be improved.</p>

**Use skills ladders for assessment**

### DT medium term planning

Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign	Key Vocab / symbols/ Sign
Communicate, Presentation, Precision, Properties, Refine, Develop, Mechanical Systems.	Communicate, Presentation, Properties, Develop.	Fabric, Sew, Needle, Design, Pattern.

Use skills ladders for assessment

## DT medium term planning

Cycle 9 Summer term		
M - Pathway	M/E - Pathway	E Pathway
<b>Key Knowledge.</b>	<b>Key Knowledge.</b>	<b>Key Knowledge.</b>
<p><b>Design</b> Develop and communicate design ideas using computer based tools.</p> <p><b>Make</b> Select and use specialist tools, techniques, processes, equipment and machinery with increasing precision. Select from a wider range of more complex materials, components, taking into account their properties.</p> <p><b>Evaluate</b> Test, evaluate and refine their ideas and products, taking into account the views of users and other interested groups.</p> <p><b>Technical knowledge</b> Understand how to use more advanced electrical and electronic systems in their products.</p>	<p><b>Design</b> Begin to develop and communicate design ideas. Use ICT to help design or communicate their design</p> <p><b>Make</b> Use specialist tools, equipment, machinery and techniques with increased accuracy. Use an increasingly wider range of materials and components in products.</p> <p><b>Evaluate</b> Improve their ideas and products by taking into account the views of others.</p> <p><b>Technical knowledge</b> Explore how more advanced electric and electronic systems can be used in products.</p>	<p><b>Design</b> Begin to develop simple design ideas with support. Use ICT to communicate their design</p> <p><b>Make</b> Use specialist tools and equipment with support to create designs. Use an increasing wider range of materials and components in products.</p> <p><b>Evaluate</b> Suggest ways to improve their ideas and final products.</p> <p><b>Technical knowledge</b> Explore and use products and toys with more advanced electric and electronic systems.</p>
<b>Lesson Ideas</b>	<b>Lesson Ideas</b>	<b>Lesson Ideas</b>
<p><b>Links to Post-Impressionism topic (Summer 1)</b> Brief: Create a design for an artist's easel to hold a small canvas / mobile phone holder to enable someone to use it to draw. Extension: Design how to change the height or position of the canvas / phone.</p> <p><b>Links to semi abstract sculpture topic (Summer 2)</b> Brief: Create a child's toy for a 3-4 year old which contains moving parts. Extension: Use advanced mechanics or electrical systems in the design or prototype. Use a computer to design a prototype.</p>	<p><b>Links to Post-Impressionism topic (Summer 1)</b> Brief: Create a design for an artist's easel to hold a small canvas / mobile phone holder to enable someone to use it to draw. Extension: Design how the angle of the canvas / phone could be changed.</p> <p><b>Links to semi abstract sculpture topic (Summer 2)</b> Brief: Create a child's toy for a 3-4 year old which contains moving parts. Extension: Use mechanics or electrical systems in the design. Use a computer to design a prototype.</p>	<p><b>Links to Post-Impressionism topic (Summer 1)</b> Brief: Build a product that will hold a small canvas or mobile phone. Use a range of materials to build the design.</p> <p><b>Links to semi abstract sculpture topic (Summer 2)</b> Brief: Create a child's toy for a 3-4 year old which has wheels and can be pulled or pushed.</p>
<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>	<b>Key Vocab / symbols/ Sign</b>
Communicate, CAD (Computer Aided Design), Consolation, Focus Group, Refine, Develop, Advanced Mechanical Systems, Advanced Electrical Systems.	Communicate, Computer Design, Focus Group, Develop, Mechanical Systems, Electrical Systems.	Improve, Tools, Materials, Electronic.

**Use skills ladders for assessment**