<table>
<tr><td colspan="4">Year 1 – Autumn</td></tr>
<tr><td colspan="2">DT: Textiles - Puppets</td><td colspan="2">Big question: How can we join fabric to make a puppet that looks like our design?</td></tr>
<tr><td>Prior learning:
Structures in EYFS
Future learning:
Year 2 – Pouches
Year 3 – Cushions
Year 4 – Fastenings
Year 5 – Stuffed toys
Year 6 – Bags</td><td>Knowledge:
To know that ‘joining technique’ means connecting two pieces of material together.
To know that there are various temporary methods of joining fabric by using staples, glue or pins.
To understand that different techniques for joining materials can be used for different purposes.
To understand that a template (or fabric pattern) is used to cut out the same shape multiple times.
To know that drawing a design idea is useful to see how an idea will look.</td><td>Skills:
Using a template to create a design for a puppet.
Cutting fabric neatly with scissors.
Using joining methods to decorate a puppet.
Sequencing steps for construction.
Reflecting on a finished product, explaining likes and dislikes.</td><td>Vocabulary:
decorate
design
fabric
glue
model
hand puppet
safety pin
staple
stencil
template</td></tr>
<tr><td colspan="2">Critical Content Statements:</td><td colspan="2">Common Misconceptions Pupils May Have:</td></tr>
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• Joining means connecting two pieces of material together. • Templates help cut the same shape accurately more than once. • Glue, staples, and pins are temporary joining methods for fabric. • Different joining techniques are chosen for different purposes. • A design drawing shows what the puppet will look like before making it. • Cutting fabric neatly helps the puppet look like the design. • Decorating should match the original design idea. • Sequencing steps ensures the puppet is made correctly.	• Thinking glue, staples, or pins will hold fabric permanently. • Believing templates are only for decoration, not accurate cutting. • Assuming drawing a design means the puppet is already finished. • Thinking any scissors will cut fabric neatly. • Believing all joining methods work equally well for every material. • Assuming steps can be done in any order without problems.

Year 1 – Spring 1			
DT: Mechanisms - Moving story books Big question: How can we make a picture move in a storybook?			
Prior learning: • Year 1- Wheels and axles	**Knowledge:** • Explaining how to adapt	**Skills:** • A mechanism is the parts of an object that move together.	**Vocabulary:** adapt

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- Year 1 - Windmill

Future learning:

- Year 2 – Moving Monster
- Year 2 – Fairground wheel
- Year 3 – Pneumatic toys
- Year 4 – Slingshot car
- Year 5 – Pop up book
- Year 6 – Automata toys

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- mechanisms, using bridges or guides to control the movement.
- Designing a moving storybook for a given audience.
- Following a design to create moving models that use levers and sliders.
- Testing a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed.
- Reviewing the success of a product by testing it with its intended audience.

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- A slider mechanism moves an object from side to side or up and down.
- A slider mechanism has a slider, slots, guides and an object.
- Bridges and guides are bits of card that purposefully restrict the movement of the slider.

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assemble

design

design criteria

input

mechanism

model

sliders

test

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Critical Content Statements:

- A mechanism is made of parts that move together.
- A slider moves an object side-to-side or up-and-down.
- A slider mechanism includes a slider, slots, guides, and an object.
- Bridges and guides control the movement of the slider.
- Mechanisms can be adapted using bridges or guides.

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Common Misconceptions Pupils May Have:

- Thinking the slider moves by itself without pushing or pulling.
- Confusing levers and sliders because both make things move.
- Believing bridges and guides are just for decoration.
- Assuming slots can be any size or shape.

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• Drawings should show which parts move and in which direction. • Testing checks if the mechanism works as planned. • Evaluating helps improve the design for the audience.	• Thinking the object will move without being attached to the slider. • Believing testing and fixing are not part of the design process.

Year 1 - Spring			
Topic title: Toy Time Travellers **DT: Mechanisms – Wheel and Axles** Big question: Why do wheels need an axle to work properly?			
Prior learning: • Mechanisms – Moving Story Books (Weather) **Future learning:** • Mechanisms – Constructing a windmill Year 1	**Knowledge:** • Recognising and exploring everyday objects that have mechanisms. • Many things that move have parts inside to help them work. • Mechanisms usually limit unwanted movement. • An axle allows the wheel to turn without falling off	**Skills:** • Thinking about what others might want from a design. • Beginning to recognise how products and designs in the world around us solve certain needs. • Considering who they are designing for - by identifying the user.	**Vocabulary:** axle axle holder better careful choose compare

• Fairground wheel in Year 2 • Pneumatic toys in Year 3 • Slingshot car in Year 4 • Pop-up book in Year 5 • Automata toys in Year 6	• To know that the 'user' is the person who will use the product. • To know that different users may want different things from a design. • To know that designers usually design and make something to solve a problem. • To know that who they are designing for makes a difference to what they design. • To know that the purpose is what something is for. • To know that existing products can help when deciding what to design. • To know that drawings are a way to explain ideas. • To know that a plan is deciding what to do first and next. • To know that choosing different materials or components will have an effect on what their product does or looks like.	• Stating what they intend to make and why - by identifying the purpose. • Talking about ideas with purpose and user in mind. • Talking about existing products when generating ideas. • Using basic drawing skills to communicate ideas. • Planning more than one step ahead. • Choosing between a small number of materials, ingredients or components. • Explaining their choices based on personal experiences. • Requesting equipment appropriate to the purpose (e.g. scissors for cutting and glue for joining). • Explaining in simple terms why certain tools must be handled carefully. • Following and recalling simple safety instructions. • Finding the middle of an object.	design dislike like mechanism movement product straight line tool turn user wheel worse

	• To know that different equipment does different things. • To know the names of common pieces of equipment. • To know that some tools are sharp like scissors and knives. • To know that following instructions helps with safety. • To know that cutting in a straight line can be helpful when making. • To know that tools can be used to shape objects. • To know that different materials can be shaped by different tools. • To know that some products will be better than others. • To know that their ideas or products can be made better. • To know that their final product might be different to their original idea.	• Refining their grip to cut competently and confidently. • Cutting straight lines and evenly spaced lines. • Beginning to cut large shapes and thicker materials like card. • Puncturing holes. • Recognising the edges of paper and card need to be stuck firmly using a glue stick. • Using tools, like scissors, to create shapes. • Beginning to cut large shapes and thicker materials like card. • Beginning to use controlled painting or colouring techniques to finish a product. • Adding texture to create visual interest. • Discussing existing products, saying what they like about them. • Comparing two products and discussing which is better for a specific purpose. • Discussing how their products could be improved based on personal preferences.	

	• To know that their ideas can make someone else's work better. • To know that other people's ideas can help make their work better.	• Comparing their finished products with their original designs. • Saying what they like about their peers' designs and products. • Accepting feedback and understanding it is meant to improve their work.	
Critical Content Statements: • Wheels turn because they are attached to an axle. • An axle allows wheels to rotate without falling off. • Mechanisms help objects move and limit unwanted movement. • Designers make products to solve problems for users. • The user and purpose affect the design choices. • Existing products give ideas for new designs. • Plans and drawings help explain ideas before making. • Choosing suitable materials and tools affects how the product works		**Common Misconceptions Pupils May Have:** • Thinking wheels can turn without an axle. • Believing all wheels and axles are the same size and shape. • Assuming the design doesn't need to match the user's needs. • Thinking safety rules are optional when using tools. • Believing the final product will always look exactly like the first idea. • Assuming any material will work for wheels and axles.	

Year 1 – Summer 1			
DT: Mechanisms - Windmill Big question: What makes a windmill strong and able to turn in the wind?			
Prior learning: • Year 1 – Moving story book • Year 1 – Wheels and axles **Future learning:** • Fairground wheel in Year 2 • Moving Monster in Year 2 • Pneumatic toys in Year 3 • Slingshot car in Year 4	**Knowledge:** • That the sails or blades of a windmill are moved by the wind. • That windmills are used to generate power and were used for grinding flour. • That a structure is something built for a reason. • That stable structures do not topple. • That adding weight to the base of a structure can make it more stable.	**Skills:** • Finding the middle of an object. • Puncturing holes. • Adding weight to a structure. • Creating supporting structures. • Cutting evenly and carefully. • Evaluating and improving a product.	**Vocabulary:** base centre design equal evaluate middle rotate rotor rotor blades sails same stable strong structure test

• Pop-up book in Year 5 • Automata toys in Year 6			weak wind windmill

Critical Content Statements:	**Common Misconceptions Pupils May Have:**
• Wind moves the sails or blades of a windmill. • Windmills were used for grinding flour and now generate power. • A structure is something built for a purpose. • Stable structures do not topple easily. • Adding weight to the base makes a structure more stable. • The centre of the windmill is where the blades rotate. • Supporting structures hold the blades in place. • Testing and improving makes the windmill stronger and better.	• Thinking adding weight makes a windmill weaker. • Believing the blades move without wind. • Assuming any shape will make a stable structure. • Thinking the windmill will stand without a strong base. • Believing the blades can be attached anywhere and still rotate. • Assuming testing is not needed once the windmill is built.

Year 1 – Summer 2

DT: Cooking and Nutrition - Smoothies Big question: How can we make a healthy smoothie using fruits and vegetables?			
Prior learning: • Baking in EYFS **Future learning:** • Year 2 – Eating seasonally • Year 4 – Adapt a recipe • Year 5 – Develop a recipe • Year 6 – Come dine with me	**Knowledge:** • That a blender is a machine which mixes ingredients together into a smooth liquid. • That a fruit has seeds and a vegetable does not. • That fruits grow on trees or vines. • That vegetables can grow either above or below ground. • That vegetables are any edible part of a plant.	**Skills:** • Designing smoothie carton packaging by hand. • Chopping fruit and vegetables safely to make a smoothie. • Juicing fruits to make a smoothie. • Identifying if a food is a fruit. • Learning where and how fruits and vegetables grow. • Tasting and evaluating different foods. • Describing appearance, smell and taste. • Suggesting information to be included on packaging.	**Vocabulary:** compare cut design evaluate flavour fork fruit healthy ingredients juice juicer leaf plant recipe root seed

			select smoothie stem table knife taste tree vegetable vine
Critical Content Statements: • A blender mixes ingredients into a smooth liquid. • Fruits have seeds; vegetables do not. • Fruits grow on trees or vines; vegetables grow above or below ground. • Vegetables are edible parts of plants. • Safe chopping and juicing prepare ingredients for smoothies. • Packaging design shows what the smoothie is and who it is for. • Tasting helps decide which flavours work well together. • Evaluating appearance, smell, and taste improves the product.		**Common Misconceptions Pupils May Have:** • Thinking the more fruit or veg used, the tastier it will be. • Believing all fruits and vegetables grow in the same way. • Assuming seeds mean something is not edible. • Thinking any knife can be used safely without care. • Believing smoothies are healthy no matter what ingredients are added. • Assuming packaging design is just for decoration, not information.	
