



**Design and technology
Medium-term Plan (year 2)**

Equipping Children for a World of Possibilities

<u>Year Group</u> 2	<u>Term</u> Autumn 1	<u>Unit of Learning</u> construction (hinge)
<u>About the unit</u> Children will learn what a hinge is, where to find a hinge. They will investigate different hinges Then use their learning to make a time traveling device who has been hurt and it will need a hinge.		<u>Where the unit fits in</u> Theme- Dragons Time traveling device
<u>Prior Learning</u> In Reception Use simple tools and techniques competently and appropriately (40-60) Use simple tools and techniques competently and appropriately (40-60)	<u>Vocabulary</u> Open, close, hinge, join, simple, technique, strong, flexible, light, waterproof, structure, attaches.	<u>Resources</u> Hole puncher, split pins, pipe cleaners, elastic bands, paper, card, cellophane
<u>Assessment</u> (By the end of this unit the children will be able to...) <p><i>Key stage 1 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</i></p> <p><i>When designing and making, pupils should be taught to:</i></p> <p>Design- design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Evaluate- explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria Technical knowledge. Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p> <p>Be able to understand and make a simple hinge.</p>		
Learning Objective	Possible teaching Activities	Learning Outcomes
Understand what a hinge is Where to find a hinge	Children will bring in items from home that they think contain a hinge. They will share and show their hinges. PowerPoint discussing what a hinge is and then children will see where they can find more hinges around the classroom . Children will then experiment with different types of ways to make hinges joining 2 pieces of paper together using elastic bands, etc	Children will be able to make a simple hinge

To design and plan their hinge	Children will talk with their partners about which hinge they thought worked best and why, which they didn't like. They will then design their time traveling device. They will choose what material they would like to make their wing from. Thinking back to their learning in year 1.	Children will have designed their device- purpose to have a hinge and to be able to transport them in time.
To make their hinge	Children will make their hinge using their design. They will be given a template which they will cut out and attach their device using their chosen method.	Children will have created their hinge.
To be able to evaluate their product	Children will evaluate their design saying what worked well and what they need to improve on.	Children will be able to say what worked well and what they would improve on.

<u>Year Group</u> Year 2	<u>Term</u> Autumn 2	<u>Unit of Learning</u> Construction- Wood
<u>Prior Learning</u> Assessment (By the end of this unit the children will be able to...) <p><i>Key stage 1: Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</i></p> <p><i>When designing and making, pupils should be taught to:</i></p> <p>Design- design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Evaluate- explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria Technical knowledge. Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>		
<u>Vocabulary</u> Hacksaw, forwards, backwards, sharp, jagged, sharp, measure, accurate, safely, g clamp, log cookies, thin.	<u>Resources</u> Hacksaw, g clamp, doweling, string, wood, hand drill, glue, natural leaves, scissors.	
<u>Assessment</u> (By the end of this unit the children will be able to...) <p>They can independently cut wood/ dowelling using a hacksaw and bench hook (make)</p>		
<u>Learning Objective</u>	<u>Possible teaching Activities</u>	<u>Learning Outcomes</u>
They can tell someone about their design ideas. (Design)	Children create a drawing of their idea and label the fixed or moving joins and how the join is going to be made. Children talk with their talk partner about their ideas or in small groups.	Children will design their own Christmas decorations.
To be taught how to safely saw wood using a hacksaw. Forest school session	Children will be shown or to use a hacksaw safely. This includes using a G clamp to hold the wood in	Children will understand how to use a hacksaw safely and have had a chance to use one under close adult supervision.

	<p>position. They will pull the hacksaw backwards only (they don't pull it forwards and backwards like a usual saw) Ensuring their fingers are out of the way.</p> <p>Under close adult supervision children will have a turn using a hacksaw to saw wood.</p>	
They can independently drill holes using a hand drill and bench hook.(make)	<p>Children will use their design to create their own christmas tree decoration using a hacksaw to cut the wood.</p> <p>Use natural leaves to cut and decorate their wooden cookie slices.</p>	Children will independently have sawn the wood to make their bug hotels.
They can independently drill using a handsaw. (make)	Children will use their design to create their own christmas decoration using a hand drill to make holes in the wood.	Children will independently drill a hole to make their christmas decoration and thread string through the hole so it can be hung up.
Evaluate They can say what they like and don't like about existing products (evaluate)	Evaluate a friends model	<p>Complete an evaluation sheet based on their friend's model.</p> <p>Was it stable?</p> <p>Was the structure strong?</p> <p>Did the moving parts move?</p> <p>What do they like about the model?</p> <p>What could be improved?</p>

<u>Year Group-</u> 2	<u>Term</u> Spring 1/2	<u>Unit of Learning</u> Construction (axels etc) fir e of houses.
<u>About the unit</u> The will make fire engines and look at how to make them move.	<u>Where the unit fits in</u> Theme- Great fire of London Children will learn about life in London and the spread of the fire.	
<u>Prior Learning</u> Reception- <ul style="list-style-type: none"> • Safely uses and explores a variety of materials, tools and techniques, experimenting with colour, design, texture, form a function. ELG Year 1- <ul style="list-style-type: none"> • They can use tape and glue to create temporary joins, fixed joins and moving joins.(Make) • They can create a drawing of their idea and templates for their design. (Design) • They can independently cut wood/ dowelling using a hacksaw and bench hook.(make) 	<u>Vocabulary</u> Hacksaw, forwards, backwards, sharp, jagged, circuit, electricity, sharp, measure, centimetres, millimetres, accurate,	<u>Resources</u> Hack saws,wood, rulers, cereal boxes, Ipad, computers, strips of paper, paper, G clamps, evaluation sheets, bulbs, batteries, wires, crocodile clips
<u>Assessment</u> (By the end of this unit the children will be able to...) <p><i>Key stage 1 Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].</i></p> <p><i>When designing and making, pupils should be taught to:</i></p> <p>Design- design purposeful, functional, appealing products for themselves and other users based on design criteria. Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.</p> <p>Make- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]. Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p> <p>Evaluate- explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria Technical knowledge. Build structures, exploring how they can be made stronger, stiffer and more stable. Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</p>		
Learning Objective	Possible teaching Activities	Learning Outcomes
They can use ICT to explore their design ideas. E.g Use the internet to research design ideas or use a basic paint program to draw their design. (Design)	Children to research I pads pictures on Tudor fire engines. Use paint to draw their design- decide what they would like it to look like	Children will have used ICT to research and draw their design of the Tudor house they are going to make.

	Did they want the second floor sticking out?	
They can make a mock-up of their design and discuss it (design)	Children to use their Maths learning knowledge using scales to measure and their box and then wood to outline their box (wood need to show how quickly the fire spread) linking to science work of materials	Children will make their
They can use a simple circuit in a model. E.g A closed circuit with a bulb. (make)	Children make a simple circuit using bulbs and wires to show how electricity has progressed in fire engines these days.	Make a light bulb work using a simple circuit
They can say how well their design and product met the given design criteria. (design)	Evaluate finished Tudor Fire engines . Does it look like a Tudor fire engine? Talk about how your artwork is similar / different to the fire engines you researched?	Complete an evaluation-Did it look like a Tudor fire engine? The fire engines they build will be used to create a mini London to burn in the fire to link in with the theme.
Evaluate They can say what they like and don't like about existing products (evaluate)	Evaluate a friends model	Complete an evaluation sheet based on their friend's model. Was it stable? Was the structure strong? Did the moving parts move? What do they like about the model? What could be improved?

<u>Year Group</u> 2	<u>Term</u> Spring 2	<u>Unit of Learning</u> Cookery- Bread
<u>About the unit</u> They can name food from each section of the EatWell plate and understand that they should eat at least 5 portions of fruit and veg a day. (Food)	Where the unit fits in Children will have learnt in science about keeping our bodies healthy and the importance of exercise which will then link into healthy eating.	
<u>Prior Learning</u> In Reception- trying different foods in other years. In Year 1 The children will have learnt to use the right tools to peel, grate and chop (food). They will have tested different fruits and made a salad.	<u>Vocabulary</u> Eat well, healthy, food group, carbohydrates, protein, vitamins, minerals, range, variety, oils, spreads, saturated, fats, unhealthy, meats, 5 food groups, important, fruit, vegetables, essential, grown, planted, Eatwell, kneading, and proving	<u>Resources</u> Eatwell plate template, pictures of a range of food, PowerPoint on food groups, paper plates, flour, yeast, water, oil, tins, cases, bowls, spoons
<u>Assessment</u> (By the end of this unit the children will be able to...) <p>They can name food from each section of the EatWell plate and understand that they should eat at least 5 portions of fruit and veg a day. (Food)</p> <p>They understand that food comes from plants and animals and has to be farmed, grown or caught. (food)</p> <p>They can say how well their design and product met the given design criteria. (design)</p>		
Learning Objective	Possible teaching Activities	Learning Outcomes
They understand that food comes from plants and animals and has to be farmed, grown or caught. (food)	Have different food on a table and get children to work in a group to decide whether the food comes from plants, is farmed, grown or caught. Get each table to discuss and then have a class discussion. Discuss throughout	Children will have a good understanding of where a variety of food comes from. They will correctly have sorted food.
Understand the 5 food groups	Have different food around the room and get children to come and put it on a big plate with the headings of the food groups Discuss what do children notice? Discuss what each type of food is for?	Children will be able to talk about their knowledge of fruits and 5 a day.

<p>They can name food from each section of the EatWell plate and understand that they should eat at least 5 portions of fruit and veg a day. (Food)</p>	<p>Children will have discussions to reason showing their knowledge of where food comes from to discuss which food group.</p> <p>Children in groups with a range of food create their own Eatwell plate on a large piece of paper.</p>	<p>Large Eatwell plate sorted into the correct food groups.</p>
<p>They can name food from each section of the EatWell plate and understand that they should eat at least 5 portions of fruit and veg a day. (Food)</p>	<p>Children use their knowledge of the eat well plate to create a healthy lunchbox/ evening meal on a paper plate.</p>	<p>A healthy meal containing the different food groups and using their knowledge of portion sizes.</p>
<p>They can say how well their design and product met the given design criteria. (design)</p>	<p>They will then evaluate their meal based on the given criteria- How many fruits and vegetables? portion sizes etc.</p>	<p>Children will be able to evaluate their design to state whether it bet the guidance of the Eat well plate and why/why not?</p>
<p>Learning the correct techniques and tools for mixing, kneading, and proving.</p>	<p>Children will learn how to knead dough to make bread. Mixing/ beating ingredients using a spoon. needing to use their hands to turn the bread dough over to get air into rise. Proving- leaving bread to rise by giving it time.</p>	<p>Children will know how to use the different techniques to peel, grate, chop, blend etc.</p>
<p>Evaluate their design and creation</p>	<p>Children will discuss what they liked about their product, What do they dislike? What would they change next time?</p>	<p>Complete their evaluation sheets.</p>

<u>Year Group</u> 2	<u>Term</u> Summer 2	<u>Unit of Learning</u> Textiles
<u>About the unit</u> The children will be finishing their last year at HHIS so this will be their chance to make something to remind them of their time here.	<u>Where the unit fits in</u> End of Year gifts- The children will design and make something that they can use at the junior school using fabric to remind them of their time at Henry Hinde Infant School Pencil Case, Bag, Small Cushion, Fabric card, keyrings	
<u>Prior Learning</u> Reception- <ul style="list-style-type: none"> • Safely uses and explores a variety of materials, tools and techniques, experimenting with colour, design, texture, and form a function. ELG Year 1- <ul style="list-style-type: none"> • They can use tape and glue to create temporary joins, fixed joins and moving joins.(Make) • They can create a drawing of their idea and templates for their design. (Design) • They can say what they like and don't like about existing products (evaluate) • They decorate textiles using buttons and beads, sequins, braids, ribbons. (make They can cut along straight lines, curved lines and shapes marked out by a template. (Make) 	<u>Vocabulary</u> Running stitch, needle, sew, sewing, stitching, sharp, eye of a needle, thread, pull, knot, gather, join, technique,	<u>Resources</u> Fabric, Thread, needles, practise material, fabric paints, printing resources,
<u>Assessment</u> (By the end of this unit the children will be able to...) <p>Join 2 pieces of material together using a basic stitch (runner stitch) They can colour fabrics using paints to print and paint. (make)</p>		
<u>Learning Objective</u>	<u>Possible teaching Activities</u>	<u>Learning Outcomes</u>
Learn how to thread a needle, learn how to do a basic stitch. Tying a knot at the end of the thread	Children to practise how to use a needle and thread to create a running stitch.	Children will have practised on a sewing piece of material (the ones with the holes)
Practise joining 2 pieces of fabric together	Children practice joining 2 pieces of fabric together using the stitch that they learn last lesson.	Children will have joined 2 pieces of fabric together
They can use ICT to explore their design ideas. E.g Use the internet to research design ideas or use a basic paint program to draw their design. (Design)	Children can research on the internet pencil cases, bags, fabric cards. They should then use this research to design their own using the paint program (something they can keep to remember their tie with us) Design the product type and	Planned their design- Labelled where the joins will be to join the pieces of fabric. They can also build on from their year 1 learning by decorating the textiles using ribbons, buttons, braids, sequins etc.

They can join fabrics using staples and a running stitch. (make)		
They can use ICT to explore their design ideas. E.g Use the internet to research design ideas or use a basic paint program to draw their design. (Design)	Design their fabric design for their product using the paint program-	They can also build on from their year 1 learning by decorating the textiles using ribbons, buttons, braids, sequins etc.
Experiment with different ways to apply paint onto fabric	Experiment with different ways Using a paint brush, Using tiles to print etc They may wish to adapt their design following this research.	A variety of ways on different pieces of fabric to apply the paint
They can colour fabrics using paints to print and paint. (make)	Following their design add the paint design onto their fabric	Their product has been decorated using paints to print They can also build on from their year 1 learning by decorating the textiles using ribbons, buttons, braids, sequins etc.
They can say how well their design and product met the given design criteria. (design)	Children to complete their evaluation on their final product	Evaluation