

Design and Technology

Reviewed July 2022

The D&T curriculum at Horndale has been structured so that pupils develop their skills of exploring the resources around them using a wide range of materials and techniques to join, design and make. They will improve their key knowledge from the EYFS into the Key Stage One curriculum by building on using tools with increasing independence and safety. Pupils technical knowledge is developed as they begin to express themselves through their chosen designs and they can evaluate their skills throughout a project, learning how to improve their work next time. Pupils are exposed to increasingly challenging vocabulary as their skills and knowledge throughout the key stage preparing them for Key Stage 2.

Nursery

Key Knowledge & Skills	Vocab	Opportunities and Experiences	Development Matters /ELG Links
<p>To explore working on different scales.</p> <p>Have own ideas of what they would like to create.</p> <p>Learn and gain ideas from local artists and crafts people.</p> <p>To know how to join different materials together.</p> <p>To use loose parts for transient art.</p>	<p>Big</p> <p>Small</p> <p>Build</p> <p>Construct</p> <p>Join</p> <p>Make</p> <p>Model</p>	<p>To use long strips of wallpaper, child sized boxes, and work on different surfaces, eg Paving, floor, table top and easel.</p> <p>Teachers to listen to and understand children’s ideas and offer suggest how they can support.</p> <p>Invite local artists/crafts people to widen the range of ideas and experiences of the children.</p> <p>Provide glue, masking, tape, hammers, paper clips and fasteners.</p> <p>Provide a wide range of construction materials and lose parts for pupils to build, join and explore.</p>	<p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Join different materials and explore different textures.</p>

Reception

Key Knowledge & Skills	Vocab	Opportunities and experience	Development Matters /ELG Links
<p>Use a range of recycled materials to creative and make with.</p> <p>Be able to use different joining techniques.</p> <p>Use tools carefully and safely and with precision.</p> <p>To work independently and collaboratively, sharing ideas, resources and skills.</p>	<p>Build on Nursery vocabulary.</p> <p>Cut</p> <p>Stick</p> <p>Tape</p> <p>Glue</p> <p>Texture</p>	<p>Provide a range of materials to make models and encourage problem solving.</p> <p>Use different tapes and glue to achieve desired results.</p> <p>Provide a range of tools in the provision to use safely, independently and with control.</p> <p>inc.</p> <ul style="list-style-type: none"> - Hammer & nails - Needle and thread <p>Construction element</p> <p>Curriculum enrichment: Visit the Botanical gardens Durham</p>	<p>ELG: Creating with Materials</p> <ul style="list-style-type: none"> ● Safely use and explore a variety of materials, tools, and techniques, experimenting with colour, design, texture, form and function.

Year One

Topic/Unit of Work	Key Vocabulary	Key Knowledge/ Skills
<p>Autumn Term: Schools</p> <p>Builds on: EYFS using tools safely, independently and with control</p> <p>Prepares for: Y2 Trains</p> <p>Key Questions</p> <ol style="list-style-type: none"> 1. What makes a building a building? (Explore) 2. Design Criteria 3. Design 4. Make 5. Evaluate 6. Improve 	<p>purpose, design, make, evaluate, structure, building, construction</p>	<p>NC Objective/s:</p> <p>Design</p> <ul style="list-style-type: none"> - Generate ideas and explain what they are going to do. - Identify who they intend to design and make a product for. - Model ideas in card and paper. - Build on ideas from research. <p>Make</p> <ul style="list-style-type: none"> - With help, measure, mark out, cut and shape a range of materials. - Use tools (scissors, saw, ruler) and a hole punch safely. - Assemble, join and combine materials and components together using a variety of methods (glues or tape) - Improve the appearance of the product by using finishing techniques <p>Evaluate</p> <ul style="list-style-type: none"> - Evaluate by discussing how well the product works (does it have the desired purpose?) - Evaluate by asking questions about what they have made and how they have made it. <p>Technical Knowledge</p> <ul style="list-style-type: none"> - Know about the simple working characteristics of materials and components - Know about the movement of simple mechanisms such as levers and sliders

<p>Spring Term: Easter cards</p> <p>Builds on: EYFS- Making models and using problem solving skills Prepares for: Y2 Moving Vehicles- designing and using a range of materials to create a purposeful product</p> <p>Key Questions: 1. How do pictures move? (Explore) 2. Design Criteria 3. Design 4. Make 5. Evaluate 6. Improve</p> <p>Enrichment Activities:</p>	<p>Plan, materials, ideas, model, attach, lever, slider, cut, join, mechanism, tool, attach</p>	<p>NC Objective/s:</p> <p>Design</p> <ul style="list-style-type: none"> - Generate ideas and explain what they are going to do. - Build on ideas from research. <p>Make</p> <ul style="list-style-type: none"> -With help, measure, mark out, cut and shape a range of materials. -Use tools (scissors) safely. -Assemble, join and combine materials and components together using a variety of methods (glues or tape) -Improve the appearance of the product by using finishing techniques <p>Evaluate</p> <ul style="list-style-type: none"> - Evaluate by discussing possible improvements and changes - Evaluate by asking questions about what they have made and how they have made it.
<p>Summer Term: Crowns</p> <p>Builds on: EYFS- using different joining techniques Prepares for: Y2 My Own Puppet Show</p> <p>Key Questions: 1. What is a crown? (explore) 2. Design Criteria 3. Design 4. Make 5. Evaluate 6. Improve</p> <p>Enrichment Activities:</p>	<p>join, cut, attach, template, mock up, tools, equipment</p>	<p>NC Objective/s:</p> <p>Design</p> <ul style="list-style-type: none"> - Generate ideas and explain what they are going to do. - Identify who they intend to design and make a product for. - Model ideas in card and paper. - Build on ideas from research. <p>Make</p> <ul style="list-style-type: none"> - With help, measure, mark out, cut and shape a range of materials. - Use tools (scissors, saw, ruler) and a hole punch safely. - Assemble, join and combine materials and components together using a variety of methods (glues or tape) - Improve the appearance of the product by using finishing techniques <p>Evaluate</p> <ul style="list-style-type: none"> - Evaluate by discussing how well the product works (does it have the desired purpose?) - Evaluate by asking questions about what they have made and how they have made it. <p>Technical Knowledge</p> <ul style="list-style-type: none"> -Know about the simple working characteristics of materials and components -Know about the movement of simple mechanisms such as levers and sliders

Year Two

Topic/Unit of Work	Key Vocabulary	Key Knowledge/ Skills
<p>Autumn Term: My Balanced Meal</p> <p>Builds on: EYFS- using tools safely Prepares for: KS2 work on understanding and using the principles of a healthy diet</p>	<p>Root vegetables, food groups, hygiene, peeling, recipe, nutrients, weight, diet</p>	<p>Cooking and Nutrition</p> <ul style="list-style-type: none"> - Know that all food comes from plants or animals. - Know that food has to be farmed, grown elsewhere (home) or caught. - Name and sort foods into the five groups in The eat-well plate. - Know that everyone should eat at least five portions of fruit and vegetables every day.

<p>Key Questions:</p> <ol style="list-style-type: none"> 1. How can I eat a balanced diet? 2. Where do the different food groups come from? 3. How can I safely prepare food? (Germ experiment/Hygiene) <p>4.. Design Criteria</p> <ol style="list-style-type: none"> 5. Design 6. Make 7. Evaluate 8. Improve 		<ul style="list-style-type: none"> - Prepare simple dishes safely and hygienically, without using a heat source - Safely use techniques such as cutting, peeling and grating <p>Design</p> <ul style="list-style-type: none"> - Generate ideas and explain a plan <p>Make</p> <ul style="list-style-type: none"> - Select from a range of prepared ingredients
<p>Summer Term 2: Trains</p> <p>Builds on: Y1 Easter Cards- using sliders and levers Prepares for: Y2 with puppet shows by helping them know why a product is fit for purpose and considering different materials. It will also support into KS2 as the children move onto mechanisms including gears and linkages.</p> <ol style="list-style-type: none"> 1. How do wheeled vehicles move? 2. Design Criteria 3. Design 4. Make 5. Evaluate 6. Improve 	<p>Wheel, axle, mechanism, purpose, evaluate, join, assemble, tram, bus, car, chassis</p>	<p>NC Objective/s:</p> <p>Design</p> <ul style="list-style-type: none"> - Generate and develop ideas through discussion, observation, drawing and modelling. - Identify a purpose for what they intend to design and make. - Create a design checklist - Draw a design and label parts. <p>Make</p> <ul style="list-style-type: none"> - Begin to select tools and materials and use the vocabulary to describe and name them. - Measure, cut and score with some accuracy. - Use hand tools safely. - Assemble, join and combine materials and components together using a variety of materials and making changes to improve as they go along. <p>Evaluate</p> <ul style="list-style-type: none"> -Evaluate by discussing how well the product works (does it have the desired purpose?) -Identify the products as they are developed for possible improvements and changes. <p>Technical knowledge</p> <ul style="list-style-type: none"> -Know about the movement of simple mechanisms such as levers, sliders, wheels and axles.
<p>Spring Term : My own Puppet Show</p> <p>Builds on: Spring Term Moving Vehicles- joining and assembling a range of materials Prepares for: KS2- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</p> <p>Key Questions:</p> <ol style="list-style-type: none"> 1. What is the purpose of a puppet? (design checklist) 2. How can I design a purposeful sock puppet? (Design) 3. What tools and materials do I need to make a sock puppet? (glue – make) 4. How purposeful is my sock puppet? (Evaluate) 5. How can I design a purposeful finger/glove puppet? (Design) 	<p>Shaping, joining, sewing, textile, purpose, design, measure, purposeful, safely, puppet, cut, improvement, label</p>	<p>NC Objective/s:</p> <p>Design</p> <ul style="list-style-type: none"> - Generate and develop ideas through discussion, observation and modelling - Identify a purpose for what they intend to design and make - Create a design checklist - Draw a design and label parts <p>Make</p> <ul style="list-style-type: none"> -Begin to select tools and materials and use the vocabulary to describe and name them. - Measure, cut and score with some accuracy. - Use hand tools safely. - Assemble, join and combine materials and components together using a variety of materials and making changes to improve as they go along. - Use basic sewing techniques. Cut shape and join fabric to make a simple garment. <p>(Parental engagement – Parent are invited to come in and help make puppets with children.)</p> <p>Evaluate:</p> <ul style="list-style-type: none"> -Identify the products as they are developed for possible improvements and changes.

6. What tools and materials do I need to make a finger/glove puppet? (Sewing – Make) 7. How purposeful is my glove puppet? (Evaluate)		- Evaluate by discussing how well the product works (does it have the desired purpose?)
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Design & Technology Objectives | KS1

Objective	Year 1			Year 2		
	Schools	Easter Cards	Crowns	My Balanced Meal	Trains	Puppet Show
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						
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						
explore and evaluate a range of existing products						
evaluate their ideas and products against design criteria						
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						
use the basic principles of a healthy and varied diet to prepare dishes						
understand where food comes from						

