Mudeford Community Infants School

LONG TERM SUBJECT MAP – DESIGN & TECHNOLOGY

Aims of a Designer leaving our school

- Be confident to use their technical knowledge in designing and making products
- Be able to evaluate their products and those of others against set design criteria
- Have a basic understanding of a healthy diet and be able to apply this in menu planning
- Have basic skills for food preparation

The National Curriculum says:

Early Learning Goal

- Use a range of small tools, including scissors, paint brushes and cutlery;
- Safely use and explore a variety of materials, tools and techniques, experimenting with design and function;
- Share their creations, explaining the process they have used;

KS1

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

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

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.

Cooking and Nutrition:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from

Sequence of Learning – When and how do we facilitate this learning for Designers in our school?			
It is assumed that all children will have acquired the essential knowledge stated for each year group before progressing to the next phase of learning in year groups and term by term.			
Themes	**Reception** **Key learning**	**Year 1** **Key learning** ***Prior learning***	**Year 2** **Key learning** ***Prior learning***
Design	Show accuracy and care when drawing simple diagrams Create simple **plans** and **models** to develop their own products Select and use appropriate materials for **design** criteria	Describe what the **products** are, what and who they are for and what **mechanisms** they are using Use simple ***design*** criteria to help develop their ideas Use knowledge of existing **products** to help come up with ideas Develop and communicate ideas by talking and drawing Model ideas by exploring **materials**, components **(parts)** and by making templates and mock ups *(Troll – construction resources for making bridges)* ***Design*** models using 2Design and Make (Toys to go! – car design)	Say how their ***products*** will work Say how they will make their ***products*** suitable for their intended **users** Describe what the ***products*** are for and what different ***mechanisms*** they are using Use simple ***design*** **criteria** to help develop their ideas Use knowledge of existing ***products*** and their own experiences to help come up with ideas Develop and communicate ideas by talking and drawing with simple labels and captions Model ideas by exploring ***materials***, components and **construction** kits and by making templates and mock ups Design ***models*** using 2Design and Make
Make	Use a dominant hand for mark making and use of **tools: scissors, hole punches, glue sticks, treasury tags, staplers** Use a tripod grip with good pressure and control when using **pencils, pens** and **crayons** Use scissors in their dominant hand to cut **straight, wavy** and **zig-zag** lines on paper and card	With support follow a simple plan to make the product Select from a range of tools and equipment to construct the design (***glue stick***, **masking tape**, ***scissors, hole punches, treasury tags***, **split pins, needles**) Choose from a range of construction **materials** and components (**parts**) including **axels, wheels & boxes** according to their characteristics	Independently follow a plan with step by step instructions and images Select from a range of tools and equipment (**saw, glue gun**, ***masking tape, Sellotape, scissors, hole punches, split pins, treasury tags, needles***) and explain their choices Select from a range of ***materials*** and components according to their characteristics and explain their choices

	Use a **glue stick** and **junk modelling** materials for an identified **purpose** Use scissors in their dominant hand to cut regular and irregular shapes on paper and card for an identified **purpose**	Cut, shape, assemble and **join** materials and components including **stitching** textiles *(Autumn 2 – Textiles stitching: Christmas tree decorations)* Use finishing techniques (eg adding decoration) *(Autumn 2 - Toys to go! & Christmas)* Follow procedures for ***safety***	Follow procedures for ***safety*** Use a range of ***materials*** and components, including **construction** materials and kits, **textiles** and **mechanical** components including **sliders, levers, hinges, *wheels*** and ***axels*** Measure, mark out, cut and shape ***materials*** and components Join **textiles** using basic running **stitch** (Enhancement: Backstitch) **Assemble** and ***join*** materials and components Use finishing techniques (eg adding decoration or applying art and design skills)
Evaluate	Share their products explaining how they made it and what they used (using language **build, stick, cut, join, move, staple, hole punch**)	Give an opinion about their **products** against **design criteria** As they work, start to identify possible changes they might make to **improve** their ***design*** Evaluate existing **products** for what they are, what they are for, how they work, what **materials** they are made from	Talk about their ***design*** ideas, what they are making and why they are making it Make simple judgements about their products explaining how and where they are meeting **design criteria** As they work, start to identify possible changes they might make to refine their design and explain why Evaluate existing products for what they are, who they are for, how they work, how they are used, where they are used, what materials they are made from
Technical Knowledge	Explore using a **pencil, scissors** and small construction materials for **product design** including **wooden blocks, Duplo, junk modelling** Have a basic technical understanding of design in building **stable structures**	Understand how to use ***joining*** to build simple **structures** exploring how they can be made **stronger, stiffer** and more stable by using **L-braces** and **flanges** Talk about and start to understand the simple working characteristics of materials and components including **wheels** and **axles** Discuss how to use different ***tools safely***	Build simple ***structures*** exploring how they can be made ***stronger, stiffer and more stable***. Talk about and start to understand the simple working characteristics of ***materials*** and components. Explore and create products using mechanisms, such as **levers, sliders, hinges**, ***wheels and axels***.

	Safely use and explore a variety of materials, **tools** and techniques, experimenting with **design** and function	Use split pins to creating a turning mechanism	
Food Technology	Use a range of cutlery: **knife, fork** & **spoon** Use personal experiences to talk about food that they do and do not like and explain why Understand that some food is more **healthy** to eat than others	Know that food can come from plants Know that food can be **farmed** or **grown** With support follow a simple **recipe** Follow procedures for ***safety*** and hygiene How to use techniques such as **cutting, pouring, measuring** and **grating** Choose from a range of ***tools*** and equipment (**grater, knife, measuring jug, spoon, whisk**) Combine a range of food **ingredients** Use the basic principles of a ***healthy*** and varied **diet** to plan and prepare dishes	Know that all food comes from plants or animals Know that food has to be farmed, grown or caught Name and sort foods into the 5 food groups With support follow a simple **recipe** Select from a range of tools and equipment (***grater, knife, measuring jug, spoon, whisk***, **peeler, juicer**) and explain their choices Follow procedures for ***safety*** and **hygiene** Use a range of food **ingredients** ***Cut, peel, grate*** and measure ingredients Use the basic principles of a ***healthy*** and varied **diet** to plan and prepare dishes

EYFS	**Autumn 1** **Me and My Community**	**Autumn 2** **Celebrations**	**Spring 1** **Medieval Mayhem**	**Spring 2** **Around the World**	**Summer 1** **Animal Adventures**	**Summer 2** **Time for a Story**
Design	Create simple **plans** and **models** to develop their own products Select and use appropriate materials for **design** criteria Begin to show accuracy and **care** when drawing simple **diagrams**					Show accuracy and care when drawing simple diagrams
Make	Develop using a dominant hand for mark making and use of **tools** Explore using a **pencil, scissors** and small construction materials	Use a dominant hand for mark making and use of **tools** Confidently use a small construction **materials**	Use a dominant hand for mark making and use of **tools** Confidently use a **glue stick** and junk modelling	Consistently use a dominant hand for mark making and use of **tools**. Use a tripod grip to demonstrate good pressure and control	Use a dominant hand for mark making and use of tools: **scissors, hole punches, glue sticks**, treasury tags, **staplers** and cutlery	Use a dominant hand for mark making and use of tools: **scissors, hole punches, glue sticks**, treasury tags, staplers and cutlery safely and accurately for **purpose**

		Develop tripod grip and demonstrate good pressure and control when using **pencils** and **pens** Use **scissors** in their dominant hand to **cut straight lines, zig-zag lines** on **paper** and **card**	**materials** for making products Use a tripod grip and demonstrate good pressure and control when using **pencils, pens** and **crayons** Use **scissors** in their dominant hand to cut **curved lines, wavy lines** on **paper** and **card**	when using **pencils**, **pens** and **crayons** Use scissors in their dominant hand to cut regular and irregular **shapes** on **paper** and **card** for **purpose**		
Evaluate	Share their products explaining how they made it and what they used (using language **build, stick, cut, join, move, staple, hole punch**)					
Technical Knowledge	Explore using a **pencil, scissors** and small construction materials for **product design** including **wooden blocks, Duplo, junk modelling** Have a basic technical understanding of design in building **stable structures** **Safely** use and explore a variety of materials, **tools** and techniques, experimenting with **design** and function					
Food Technology				Talk about food they do and do not like and explain why (Handa' surprise food tasting) Understand that some food is healthier to eat than others Use a range of cutlery: **knife, fork** & **spoon**		

Year One	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	The Troll **(Make a model bridge)** **Autumn and Harvest**	**Toys to Go!** **(Make an Emergency services vehicle)** **Winter Wonderland** **(Make a Christmas tree decoration)**	**Dinosaur Rumpus**	**Destination Unknown** **Easter**	**Operation Planet Protectors**	**The Mudeford Bake Off** **(Make a healthy sweet or savoury pancake)** **Judaism** **(Challah Bread)**
Design	Describe what the **products** are, what and who they are for Use simple ***design*** criteria to help develop their ideas Use knowledge of existing **products** to help come up with ideas Develop and communicate ideas by talking and drawing Model ideas by exploring **materials**, components **(parts)** and by making templates and mock ups *(construction resources for making bridges)*	Describe what the **products** are, what and who they are for and what **mechanisms** they are using Use simple ***design*** criteria to help develop their ideas Use knowledge of existing **products** to help come up with ideas Develop and communicate ideas by talking and drawing ***Design*** models using 2Design and Make				
Make	With support follow a simple plan to make the product Select from a range of tools and equipment to construct the design (***glue stick***, **masking tape**, ***scissors, hole punches***) Choose from a range of construction **materials** and components (**parts**) according to their characteristics Follow procedures for ***safety***	With support follow a simple plan to make the product Cut, shape, assemble and **join** materials and components including **stitching** textiles *(Textiles stitching: Christmas tree decorations)* Select from a range of tools and equipment to construct the design (***glue stick***, **masking tape**, ***scissors, hole punches, treasury tags***, **split pins, needles**) Use finishing techniques (eg adding decoration) *(Toys to go! & Christmas)*				

		Choose from a range of construction **materials** and components (**parts**) including **axels, wheels & boxes** according to their characteristics Follow procedures for ***safety***				
Evaluate	Give an opinion about their **products** against ***design*** **criteria** As they work, start to identify possible changes they might make to **improve** their ***design*** Evaluate existing **products** for what they are, what they are for, how they work, what **materials** they are made from					
Technical Knowledge	Understand how to use ***joining*** to build simple **structures** exploring how they can be made **stronger, stiffer** and more stable by using **L-braces** and **flanges**	Talk about and start to understand the simple working characteristics of materials and components including **wheels** and **axles** Discuss how to use different ***tools safely*** Use split pins to creating a turning mechanism				
Food Technology (Mudeford Bake Off – Summer 2)	Know that food can come from plants Know that food can be **farmed** or **grown** With support follow a simple **recipe** Follow procedures for ***safety*** and hygiene How to use techniques such as **cutting, peeling, pouring, measuring** and **grating** Choose from a range of ***tools*** and equipment (**grater, knife, measuring jug, spoon, whisk**) Combine a range of food **ingredients** Use the basic principles of a ***healthy*** and varied **diet** to plan and prepare dishes					

Year Two	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
	Creepy Christchurch	**Pirate Island Christmas (Pirate Puppet show)**	**Food Glorious Food**	**Brilliant Britain & Easter (bridge across Thames, Tudor houses, modern fire engines)**	**Art Beat**	**Islam & Caring for Our Coast**
Design		Say how their ***products*** will work Say how they will make their ***products*** suitable for their intended **users**		Say how their ***products*** will work (*design wheels and axels through straws and bamboo skewers)* Describe what the ***products*** are for and what different ***mechanisms*** they are using		

		Describe what the ***products*** are for and what different ***mechanisms*** they are using Use simple **design criteria** to help develop their ideas (must have **hinge, slider** and **lever**) Use knowledge of existing ***products*** and their own experiences to help come up with ideas Develop and communicate ideas by talking and drawing with simple labels and captions Model ideas by exploring ***materials***, components and by making templates and mock ups		Use simple **design criteria** to help develop their ideas (must have **wheels, axels, flange, L Brace, hinge, winder**) Use knowledge of existing ***products*** and their own experiences to help come up with ideas Develop and communicate ideas by talking and drawing with simple labels and captions Design ***models*** using 2Design and Make (*fire engine*)		
Make		Independently follow a plan with step by step instructions and images (*hinge origami animal eg: crocodile, shark)* Select from a range of tools and equipment (**saw, glue gun**, ***masking tape, Sellotape, scissors, hole punches, split pins, treasury tags, needles***) and explain their choices Select from a range of ***materials*** and components according to their characteristics and explain their choices Use a range of ***materials*** and components, including **construction** materials and kits, **textiles** and **mechanical** components including **sliders, levers, hinges** Follow procedures for ***safety*** Join **textiles** using basic running **stitch** (Enhancement: Backstitch) **Assemble** and ***join*** materials and components Use finishing techniques (eg adding decoration or applying art and design skills)		Select from a range of tools and equipment (**saw, glue gun**, ***masking tape, Sellotape, scissors, hole punches, split pins, treasury tags, needles***) and explain their choices Select from a range of ***materials*** and components according to their characteristics and explain their choices Follow procedures for ***safety*** Use a range of ***materials*** and components, including **construction** materials and kits, **textiles** and **mechanical** components including **sliders, levers, hinges, *wheels*** and ***axels*** Measure, mark out, cut and shape ***materials*** and components (*fire engine)* Use finishing techniques (eg adding decoration or applying art and design skills) **Assemble** and ***join*** materials and components		

Evaluate		Talk about their ***design*** ideas, what they are making and why they are making it Make simple judgements about their products explaining how and where they are meeting **design criteria** As they work, start to identify possible changes they might make to refine their design and explain why Evaluate existing products for what they are, who they are for, how they work, how they are used, where they are used, what materials they are made from				
Technical Knowledge		Talk about and start to understand the simple working characteristics of ***materials*** and components. Explore and create products using mechanisms, such as **levers, sliders, hinges**		Build simple ***structures*** exploring how they can be made ***stronger, stiffer and more stable***. Talk about and start to understand the simple working characteristics of ***materials*** and components. Explore and create products using mechanisms, such as **levers, sliders, hinges**, ***wheels and axels***.		
Food Technology (Spring 1 – Food Glorious Food)	Know that all food comes from plants or animals Know that food has to be farmed, grown or caught Name and sort foods into the 5 food groups With support follow a simple **recipe** Select from a range of tools and equipment (***grater, knife, measuring jug, spoon, whisk***, **peeler, juicer**) and explain their choices Follow procedures for ***safety*** and **hygiene** Use a range of food **ingredients** ***Cut, peel, grate*** and measure ingredients Use the basic principles of a ***healthy*** and varied **diet** to plan and prepare dishes *(Children taste food and rate how much they liked it and then write which food group the food belongs to)*					