

POLICY FOR THE TEACHING OF DESIGN & TECHNOLOGY

Introduction

- This document is a statement of rationale, aims and attainment targets for the use of Design and Technology at the Pochin School.
- It was revised during the Summer Term 2014 in accordance with the new National Curriculum framework.
- It was approved by the Governing Body on 18 November 2014
- Every child in the school has an entitlement and equal right of access to Design & Technology regardless of ability, gender or race.
- It is the responsibility of all members of staff to implement this policy.

What is Design & Technology?

Design & Technology is an inspiring process using creativity and imagination to explore, design, make and evaluate products that solve real and relevant problems within a variety of contexts. Pupils acquire a broad range of subject knowledge of the principles of science, mathematics, engineering and computing to create and produce innovative and enterprising designs practical way.

Rationale

Design and Technology is important because:

- The designing and making of products can be a pleasurable activity, but also provides key skills, which are important to living and working in a modern society
- High quality design and technology education makes an essential contribution to the creativity, culture, wealth and well being of the nation.
- Pupils develop a critical understanding of the impact of design and technology on daily life and the wider world.

Aims

Our aims in teaching D & T are to ensure that all pupils will, to the best of their ability:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Build and apply a wealth of knowledge, understanding and skills in order to design and make high quality prototypes and products.
- Critique, evaluate and test their ideas and products and the work of others.
- Understand and apply the principles of nutrition and learn how to cook.

Attainment Targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Subject Content – Key Stage 1.

Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed in the process of designing and making.

When designing and making, pupils should be taught to:

Design

- Design purposeful and, 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 technology.

Make

- Select from and use a range of tools and equipment to perform practical tasks, e.g cutting, joining, shaping, folding and finishing.
- Select from and use a wide range of materials and components, including, card, paper, junk (cereal boxes, empty kitchen rolls etc) construction materials and kits, textiles, mouldables and ingredients, relevant to task.

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 e.g. levers, sliders, wheels, and axles, in their products.

Subject Content for Key Stage 2

Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed in the process of designing and making.

When designing and making, pupils should be taught to:

Design

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional diagrams, prototypes and computer aided design

Make

- Select from and use a wider range of tools and equipment to perform practical tasks, e.g cutting, joining, shaping, folding and finishing accurately.
- Select from and use a wider range of materials and components, including, card, paper, junk (cereal boxes, empty kitchen rolls etc) construction materials and kits, textiles, mouldables and ingredients, according to their functional properties and aesthetic qualities.

Evaluate

- Investigate and analyse a range of existing products
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.
- Understand how key events and individuals in design and technology have helped shape the world.

Technical Knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products e.g. gears, pulleys cams, levers etc.
- Understand the use of electrical systems in their products e.g circuits, switches, bulbs, buzzers and motors.
- Apply their understanding of computing to program, monitor and control products.

Cooking and Nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, later on in life.

Pupils should be taught:

Key stage 1

- Use the basic principles of a healthy and varied diet to prepare dishes
- Understand where food comes from.

Key Stage 2

- Understand and apply the principles of a healthy and varied diet
- Prepare and cook a variety of predominantly **savoury** dishes using a range of cooking techniques
- Understand seasonality and know where and how a variety of ingredients are grown, reared and processed.

Health and Safety Issues in Design and Technology – key stage 1&2

Working with tools and technical equipment

Pupils should be taught to follow safety procedures for:

- Food safety and hygiene in the kitchen
- Using cutting and joining tools correctly e.g glue guns, junior hacksaws etc These will be stored safely in a central location.

Central Resources

- A wider range of tools for cutting, shaping, joining combining and finishing e.g. Low Melt glue gun, junior hacksaw, wood bench hooks, small vice, hand drills.
- A range of rigid and flexible sheet materials e.g. plastics, corrugated and wood.
- Textiles
- Electrical and mechanical components.

SCHEME OF WORK FOR DESIGN AND TECHNOLOGY

TERM 1 CLASS 1 YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
	Mechanisms	Topic related work, using card and paper, joining and cutting Skills.	<ul style="list-style-type: none"> • Mathematics – position and direction, time. • Literacy – responding to stories and nursery rhymes.
	Textiles	Collage work using different Textures and materials. Apply simple finishing techniques e.g. crayons.	<ul style="list-style-type: none"> • Mathematics – shape • Literacy – responding to story telling.
	Mechanisms	Calendars and Christmas cards. Sheet material – cutting, joining and assembling.	<ul style="list-style-type: none"> • Mathematics Measuring, counting sequencing - months • Literacy- speaking and Listening.
	Food Technology	Food Technology TA to work with Class 1, making fruit salad. Christmas biscuits to decorate.	<ul style="list-style-type: none"> • Weighing

TERM 2 CLASS 1 YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1 A	Textiles	Topic related work.	<ul style="list-style-type: none"> • Mathematics – Counting. • Literacy – responding to nursery rhymes
1 D	Structures	Buildings. Design and make a building, using different materials joining, cutting and constructing.	<ul style="list-style-type: none"> • Mathematics – shape • Literacy – responding to story telling.
	Structures	Kits. Builds on experience of play with construction kits.	
	Mechanisms	Easter card and craft. Sheet material – cutting, joining and assembling – slit and tab.	<ul style="list-style-type: none"> • Mathematics – measurement • Literacy- speaking And listening.
	Food Technology	Food Technology TA to cook with Class 1	<ul style="list-style-type: none"> • Weighing

TERM 3

CLASS 1

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1B	Structures	Playgrounds. Design and make models for a new playground	<ul style="list-style-type: none"> Mathematics – number, handling data, measurement. I.C.T. Design a playground. Literacy – Labelling diagrams, instructions.
	Structures - Mouldable	Working imaginatively to design playground equipment and models, using Soff Mo	<ul style="list-style-type: none"> Mathematics – 2D shapes. Literacy – Speaking and listening, explanation.
	Mechanisms	Fathers Day cards. Sheet material – cutting, joining using slit and tab mechanism.	<ul style="list-style-type: none"> Mathematics – measurement.
	Food Technology	Food Technology TA to work with Class 1	<ul style="list-style-type: none"> Weighing

TERM 1

CLASS 2

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
3 D	Structures	1) Photograph frame. Use card mount frames and decorate with seashells or pasta shells. Children bring in a holiday photo. 2) Children decorate a box with seaside shells or pasta shells.	<ul style="list-style-type: none"> Literacy – Writing about their holiday memories.
	Mechanisms – Structures.	Winding up. Make a model with a wind up mechanism and winch.	<ul style="list-style-type: none"> Literacy – story telling and nursery rhymes.
2C	Mechanisms	Calendars and Christmas cards. Sheet material – cutting, joining and assembling.	<ul style="list-style-type: none"> Mathematics – Measuring, counting sequencing - months Literacy- speaking and listening.
	Food Technology	Food Technology TA programme.	<ul style="list-style-type: none"> Mathematics – Weighing.

TERM 2

CLASS 2

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
2A	Mechanisms	Simple vehicles. Using sandwich packaging and simple wheel axis, make a car that can be pushed or pulled.	<ul style="list-style-type: none"> Science - Forces. Literacy – Story telling.
	Mechanisms	Sheet material. Using split pins for articulated figure of “Flat Stanley.” Skills – cutting, joining. Make an envelope.	<ul style="list-style-type: none"> Literacy – responding to stories. Mathematics- Weighing.
	Food Technology	Food Technology TA programme	

TERM 3

CLASS 2

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1C	Structures	Simple bridge building. Design a bridge to go across a given width.	<ul style="list-style-type: none"> Mathematics – measurement P.S.H.C.E. Team building. Literacy – Story of “Three Billy Goats Gruff.” – Responding to a story.
	Structures – sheet material /mouldable.	“Eat More Fruit and Vegetables.” Design and make a meal out of tissue paper, Soff Mo (or equivalent) and put on to a paper plate.	<ul style="list-style-type: none"> Healthy Living - responding to a balanced diet. Literacy- speaking and listening.
	Food Technology	Food Technology TA programme.	<ul style="list-style-type: none"> Mathematics – Weighing.

TERM 1

CLASS 3

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
	Mechanisms	Topic related work. Sheet material and collage. Skills – cutting and curling.	<ul style="list-style-type: none"> Mathematics – Measuring Literacy – story writing.
	Food Technology	Calendars, Christmas cards and craft. Sheet material – cutting, joining and assembling. Skills – folding, cutting, joining and decorating. Food Technology TA programme.	<ul style="list-style-type: none"> Mathematics - Weighing.

TERM 2

CLASS 3

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
3B	Food Technology	“Sandwich Snacks.” Skills taught: Grating, slicing, mixing, chopping, blending. Healthy diet, evaluating food products.	<ul style="list-style-type: none"> P.S.H.C.E. Healthy Eating. Literacy – Explanation, instructions, labelled diagrams. Science – Ourselves, “Teeth and Eating,” “Health and Growth.” I.C.T. Collecting and presenting information.
	Mechanisms	Mother’s Day card and Easter Card. Sheet material – cutting, joining and assembling. Skills – folding, cutting, joining and decorating.	<ul style="list-style-type: none"> Mathematics - Measuring

TERM 3

CLASS 3

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
3C	Control Mechanisms.	Moving Monsters. Design and make a monster with a hydraulic mechanism. Pneumatics.	<ul style="list-style-type: none"> Science - Forces Mathematics – Measuring P.S.H.C.E. Working as a team.
	Food technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics - weighing

TERM 1

CLASS 4

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
5 A	Structures	Musical instruments. Design and make a musical instrument to accompany a performance.	<ul style="list-style-type: none"> Music. Science. Literacy – instructions, labelling diagrams.
	Mechanisms	Sheet Material. Christmas card /craft . Measure, mark out, cut and shape, assemble and join card with moving parts.	<ul style="list-style-type: none"> Mathematics – Measuring
	Food technology	Food Technology TA programme.	Mathematics – weighing

TERM 2

CLASS 4

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
3A	Structures	Packaging. Design and make a suitable package for biscuits.	<ul style="list-style-type: none"> Unit 5D Biscuits. Literacy – Instructions, explanation writing. Mathematics – measuring. Science – Forces.
5C	Mechanisms - Control.	Design and make a vehicle that moves – land buggy. Structures, sheet material, wood and components.	<ul style="list-style-type: none"> Mathematics – Measuring, angles. Science – Forces. Literacy- explanations, instructions, labelling diagrams.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics – Weighing.

TERM 3

CLASS 4

YEAR A

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
4 A	Structures Textiles	Containers. To design and make a purse to hold money. Textiles, materials, joining material, attaching decoration e.g. buttons, sequins etc.	<ul style="list-style-type: none"> Literacy explanations, instruction, labelled diagrams. Mathematics – Measurement, money problems.
	Food technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics – Weighing.

TERM 1

CLASS 5

YEAR A/B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
6C	Mechanisms - Control electrical	Design and make a fairground attraction, using gears and motors to turn the model.	<ul style="list-style-type: none"> Mathematics – measuring. I.C.T. – Cad Cam
6C	Construction	Calendars and Christmas cards. Sheet material – cutting, joining and assembling.	<ul style="list-style-type: none"> Mathematics – sequences
	Food technology	Food Technology TA programme Christmas chocolate log	<ul style="list-style-type: none"> Mathematics – 3D Shape. Mathematics – weighing.

TERM 2

CLASS 5

YEAR A/B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
5C	Control Mechanisms	Moving Toys. 1) Pull-a-long toy using a cam. 2) Jack-in-the-box using a cam.	<ul style="list-style-type: none"> Mathematics – Measuring.
6A	Structures	“Shelters.” Design and make a model of a shelter. Materials, wood, plastic sheet e.g. carrier bags, paper straws, glue gun etc. Show different ways of joining materials.	<ul style="list-style-type: none"> Mathematics – strongest shape. Science – materials.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics - Weighing

TERM 3

CLASS 5

YEAR A /B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
6B	Structures Textiles	Slippers - What a performance!	<ul style="list-style-type: none"> Mathematics – Enlarging and reducing scale. Literacy – instructions, explanation, linked with story writing.
5B	Control electrical	Using Cameras / I-Pad “Movie Maker.” The children can create their own films and videos.	<ul style="list-style-type: none"> Literacy – story board, writing a story for a younger audience.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics – weighing. Science

SCHEME OF WORK – DESIGN AND TECHNOLOGY

YEAR B

TERM I

YEAR B

CLASS 1

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1 A	Mechanisms	Topic related activities. Cutting, joining using split pins. Making models. Skills- using hinges, joining materials, cutting.	<ul style="list-style-type: none"> Geography – Seaside project –A different location.
1D	Structures	Simple pop – up card for Christmas. Using card, hinges, attaching decoration.	<ul style="list-style-type: none"> Geography – Seaside project A different location.

	Mechanisms	Calendar – skills as above.	<ul style="list-style-type: none"> Mathematics – Measuring. R.E.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics - weighing

TERM 2

YEAR B

CLASS 1

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1A	Mechanisms	Topic related activities. Skills – joining – split pins.	<ul style="list-style-type: none"> Mathematics – Time, counting, number sequence.
1A	Mechanisms	Moving pictures. Sheet material – slit and tab mechanism.	<ul style="list-style-type: none"> Literacy – story telling.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics – weighing.

TERM 3

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
2B/D	Textiles / Computer design	Topic related activity. Computer program.	<ul style="list-style-type: none"> I.C.T. Literacy – story writing.
	Mouldable	Design topic related activity using Soff Mo.	<ul style="list-style-type: none"> Mathematics – shape
	Structures	Experience of play with construction kits.	<ul style="list-style-type: none"> Mathematics – number, measurement, shape.
1D	Food Technology	Food Technology TA programme.	<ul style="list-style-type: none"> Mathematics – weighing Science - Healthy Living.

TERM 1

CLASS 2

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1A	Mechanisms	Moving Pictures. A seaside picture with moving slit and tab action – e. g fish swimming in the water, moving beach ball.	<ul style="list-style-type: none"> Geography topic – Seaside.
2C	Mechanisms – Structures	Winding up Mechanism. Topic related activity.	<ul style="list-style-type: none"> Science – magnets Literacy – Speaking and listening – telling a story.
	Mechanisms	Pop up Christmas cards. Calendars – joining materials.	<ul style="list-style-type: none"> R.E. Mathematics – measuring.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> Mathematics - weighing

TERM 2

CLASS 2

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1A	Mechanisms / structures	Topic related activity. Sheet material, with moving hand mechanism. Skills – joining materials, hinges, attaching decorations.	<ul style="list-style-type: none"> Mathematics – measuring, counting, time. Music

2B	Textiles	Puppets. To join textiles and decorations to make simple puppets.	<ul style="list-style-type: none"> • Literacy – Speaking and listening – Telling a story through the puppet.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> • Mathematics - Capacity

TERM 3

CLASS 2

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
1D	Structures	Use construction kits to make a building. Make models using sheet material and card.	<ul style="list-style-type: none"> • Geography – • Mathematics – measuring. • Literacy – labelling pictures. • I.C.T
1B	Structures	Playgrounds. Using construction kits, models, plasticine or soff mo.	<ul style="list-style-type: none"> • Mathematics - weighing
	Food Technology	Food Technology TA programme.	

TERM 1

CLASS 3

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
3A	Structures	Packaging. Design a package for a purpose – i.e. Christmas gift. Sheet material. Skills – folding, curling, joining.	<ul style="list-style-type: none"> • Literacy – Instructions and adjectives to describe. • Mathematics – measuring. • P.S.H.C.E.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> • Mathematics - weighing

TERM 2

CLASS 3

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
3D	Structures	Photograph frames. To build on the work done in class 2. To construct a frame from wood. Skills taught – joining, attaching a stand.	<ul style="list-style-type: none"> • Mathematics – measuring.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> • Mathematics – weighing.

TERM 3

CLASS 3

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
4B	Control Mechanisms.	Storybooks. Design and make a story book with moving parts and levers, for a purpose.	<ul style="list-style-type: none"> • Literacy – story writing. Speaking and listening. • Mathematics – measuring. • Art – using visual elements e.g. colour, shape and texture.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> • Mathematics – weighing.

TERM 1

CLASS 4

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
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5A	Structures	Topic related construction using wood, etc.	<ul style="list-style-type: none"> • Mathematics – measuring • P.S.H.C.E • Literacy - Design brief – labelling diagrams and writing instructions.
4A	Structures	Money Containers – Piggy banks. Papier mache.	<ul style="list-style-type: none"> • Literacy – labelling diagrams.
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> • Mathematics - measuring

TERM 2

CLASS 4

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH...
5C	Mechanisms	Land Buggy 2. To build on and extend skills learned in Year A.	<ul style="list-style-type: none"> • Mathematics - measuring • Science – Forces
	Food Technology	Food Technology TA programme	<ul style="list-style-type: none"> • Mathematics – weighing.

TERM 3

CLASS 4

YEAR B

UNIT	SKILL FOCUS	ACTIVITY	LINKS WITH ...
4D	Control: electrical	Alarms. Design and make an alarm system, using electrical components, Flowol etc	<ul style="list-style-type: none"> • Science – circuits. • Literacy – Design Brief – instructions, labelling diagrams.
	Food Technology	4E “Lighting up” – Using Flowol to sequence lights. Food Technology TA programme	<ul style="list-style-type: none"> • Mathematics - weighing