Garvestone Design and Technology Policy

Design and Technology Aims

Design Technology gives pupils the opportunity to develop skills, knowledge and understanding of designing and making functional products.

Through design technology, pupils develop creative vision, technical vocabulary and practical skills.

In design technology, pupils learn to critique, evaluate and test their own ideas and products and the work of others.

Design Technology develops pupils' understanding of products and their intended users.

Why is Design Technology important?

Design Technology helps us to develop as reflective learners, as we work through the design process.

Through design technology, we are able to work collaboratively to solve problems and find solutions, teaching us to deal with uncertainty whilst developing communication, organisational and other practical life skills.

In design technology, we learn to appreciate the needs of others, the built environment and the likely impact of future technologies.

When is Design Technology taught?

Design Technology is taught both discretely (Focused Tasks / Design, Make, Evaluate Assignments) and through thematic units. The attached overview (Appendix 1) maps out which thematic units feature this subject. Focused tasks are planned in across each phase (Appendix 2).

How is Design Technology taught?

Design Technology is taught through a combination of subject knowledge, skill building and design and make projects. Food technology is also taught through thematic units and our 3D PSHE programme. Learning takes place both inside and outside the classroom.

What do we learn in Design Technology?

We learn about:-

Mechanisms

Sliders
Levers
Structures
Textiles
Food technology
Electronics

We also complete design technology projects in each phase for specified clients e.g. the pirate, the evil genius, allowing pupils the opportunity to both experiment and apply their knowledge and skills.

How do we assess and monitor design technology?

Assessment is an ongoing process in the classroom as teachers observe pupils' oral and written responses. Opportunities for assessment exist in medium term plans and are built into all activities. When a new unit is introduced the title and supporting materials are displayed to a class. Pupils use their existing knowledge to summarise what they already know about the topic and consider what will be taught. At the end of a unit pupils are encouraged to reflect on their learning against unit knowledge ladders. As a class a theme review sheet will be completed (Appendix 3)

The learning objectives and outcomes within each lesson offer teachers opportunities for checking progress. Consistency of judgment is ensured by using skills ladders (Appendix 4) and advice by the coordinator. The main method of assessing children's knowledge, skills and understanding is through the use of Assessment for Learning. Parents are informed of curriculum coverage in a curriculum newsletter sent out each term and the progress achieved by their child in the end of year report.

Appendix 1

CURRICULUM SUBJECTS OVERVIEW

DESIGN TECHNOLOGY

Learning Pathways								
Pathfinders	Unity in the Community	Land Ahoy!	Zero to Hero	Come Fly With Me! The Arctic Circle	Happily Ever After	Inter-Nation Media Station	Going Wild	Light Up the World
	Model of local area	The Pirate Design Project	Design a pair of trainers	Build a lego igloo	The Fairy Design Project	Design Nan's Outfit		Sun Protection
Adventurers	Athens v Sparta	Law and Order	A World of Difference	Come Fly With Me! Africa	That's All Folks!	Lightning Speed	Picture Our Planet	Under The Canopy
	Model Parthenon			Food Technology Benin Plaque		Evil Genius Design Project	Weaving Food Technology	Tribal Child Design Project
Navigators	Wars of the World	You're Not Invited	I Have a Dream...	Come Fly With Me! America	Mission Control	A World of Bright Ideas	Full of Beans	Global Warning
		Soldier Design Project	Paper Clip Jewellery	Dreamcatchers	Spaceman Design Project	Greetings Cards	Food Technology	Board Game

W Issues

Appendix 2 Focused Tasks

KS1

Mechanisms – Sliders and Levers 1	Design, make and evaluate a moving picture that shows the moon or the sun rising and falling
Mechanisms – Sliders and Levers 2	Design, make and evaluate a moving picture to be used by a teacher when reading a story with a nursery class
Mechanisms – Sliders and Levers 3	Design and make a greetings card
Structures	Experiment with joining materials together then design, make and test a model house for the three pigs
Textiles	Design and make finger puppets

LKS2

Mechanisms – Structures	Design, make and evaluate a siege weapon
Mechanisms – Levers and Linkages 1	Design, make and evaluate a celebration card that includes a mechanical system
Mechanisms – Levers and Linkages 2	Design, make and evaluate a 'picker-upper' to be sold in the gift shop at the Natural History Museum
Mechanisms – Levers and Linkages 3	Construct more complex mechanical systems
Textiles	Design and make a soft toy to sell in a zoo's souvenir shop.

UKS2

Electronics 1	Design, make and evaluate a device to send Morse code signals
Electronics 2	Design, make and evaluate a traffic control system
Mechanisms – Structures 1	Create frame structure
Mechanisms – Structures 2	Join up frames to create a bridge
Mechanisms – Structures 3	Design, make and evaluate a three wheeled 'racer'
Textiles	Make a cushion following a pattern

Appendix 3

THEME REVIEW

PRIMARY SCHOOL

COLLABORATIVE REVIEW

Teacher:	Year:	Class:
W/B:	Theme:	Term:

TEACHER	PUPILS				OTHER STAFF
	WHAT WE NOW KNOW...	WHAT WE NOW CAN DO...	WHAT WE NOW UNDERSTAND...	GENERAL COMMENTS	

Guidance notes:-
This form is to be used as an assessment tool to inform future planning and evaluation. Teachers, pupils and other staff are encouraged to reflect on the learning that has taken place during the half term and write comments above, matched against the success criteria. This is crucial to the successful monitoring of the effectiveness of the thematic approach. Future planning should demonstrate awareness of, and be based on, the feedback on the collaborative review sheet.

Appendix 4

Design Technology

Dimensions CURRICULUM

EYFS

EAD37
Manipulates materials to achieve a planned effect

EAD38
Constructs with a purpose in mind, using a variety of resources

EAD39
Uses simple tools and techniques competently and appropriately

EAD40
Selects appropriate resources and adapts work where necessary

EAD41
Selects tools and techniques needed to shape, assemble and join materials they are using

EAD43
Safely uses and explores a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function

EAD44
Creates simple representations of events, people and objects

EAD50
Uses what they have learned about media and materials in original ways, thinking about uses and purposes

EAD51
Represents their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories

Design Technology

Dimensions CURRICULUM

Skills Ladder

	YEAR ONE	YEAR TWO
INVESTIGATION	**Dt1** Explore the sensory qualities of materials **Dt2** Explore ways to construct models	**Dt9** Explore a range of existing products **Dt10** Discover where foods come from in choosing, preparing and tasting different dishes
OBSERVATION	**Dt3** Identify a target group for what they intend to design and make **Dt4** Recognise how structures can be made stronger, stiffer and more stable	**Dt11** Identify a purpose for what they intend to design and make **Dt12** Identify simple design criteria then plan what to do next, using a variety of methods **Dt13** Observe and take account of properties of materials when deciding how to cut, shape, combine and join them **Dt14** Identify what they could have done differently or how they could improve their work in the future
APPLICATION	**Dt5** Generate and talk about their own ideas **Dt6** Follow safe procedures **Dt7** Take account of simple properties of materials when deciding how to cut, shape, combine and join them **Dt8** Use tools and materials with help	**Dt15** Evaluate a range of existing products **Dt16** Communicate their ideas using a variety of methods e.g. drawing, making mock-ups, ICT **Dt17** Measure, mark, cut out and shape a range of materials **Dt18** Use mechanisms in their products e.g. wheels, sliders **Dt19** Use simple finishing techniques **Dt20** Talk about their ideas, saying what they like and dislike, and evaluate against their design criteria

	YEAR THREE	YEAR FOUR
INVESTIGATION	**Dt21** Generate, develop and explain ideas for products to meet a range of needs **Dt22** Explore ways of meeting design challenges with a food focus using a range of cooking techniques	**Dt28** Use research to inform their design **Dt29** Explore ways of meeting design challenges with a textile focus
OBSERVATION	**Dt23** Identify a purpose and establish criteria for a successful product **Dt24** Evaluate work, adapting and improving where appropriate	**Dt30** Evaluate work, adapting and improving through the views of others to improve their work
APPLICATION	**Dt25** Communicate design ideas in different ways e.g.discussion, annotated sketches, cross-sectional diagrams and prototypes **Dt26** Selecting appropriate tools and techniques, name and describe them **Dt27** Measure, mark, cut out and shape a range of materials and assemble, join and combine components and materials with some accuracy	**Dt31** Communicate design ideas in different ways e.g.discussion, annotated sketches, cross-sectional diagrams and prototypes **Dt32** Select from and use a range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities **Dt33** Join and combine materials and components accurately in temporary and permanent ways **Dt34** Measure, mark, cut out and shape a range of materials and assemble, join and combine components and materials with increasing accuracy

	YEAR FIVE	YEAR SIX
INVESTIGATION	**Dt35** Investigate ways of meeting design challenges with a construction focus **Dt36** Investigate how the work of individuals in design and technology has helped to shape the world	**Dt44** Explore alternative ways of making their product, if first attempts fail
OBSERVATION	**Dt37** Identify users' views and take these into account **Dt38** Analyse a range of existing products **Dt39** Estimate and measure using appropriate instruments and units	**Dt45** Check work as it develops and modify as necessary **Dt46** Evaluate their products, identifying strengths and areas for development, and make appropriate changes
APPLICATION	**Dt40** Plan what they have to do, including how to use materials, equipment and processes **Dt41** Communicate design ideas in different ways e.g.discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Dt42** Apply knowledge of mechanical and electrical control when designing and making functional products **Dt43** Refine sequences of instructions to control events or make things happen	**Dt47** Draw on and use various sources of information, including ICT sources **Dt48** Generate and clarify ideas for products, considering intended purpose **Dt49** Plan what they have to do, suggesting a sequence of actions and alternatives if needed **Dt50** Choose how to communicate design ideas as they develop, considering use and purpose **Dt51** Select from a wide range of tools and equipment to perform practical tasks accurately