DESIGN & TECHNOLOGY – Connected Curriculum Key Learning

From The National Curriculum in England – framework document 2013

Purpose of study

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Aims

The national curriculum for design and technology aims to ensure that all pupils:

- 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 repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- 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.

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].

When designing and making, pupils should be taught to:

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.

Key stage 2
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, school, leisure, culture, enterprise, industry and the wider environment].
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 and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make
- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- 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

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 [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their 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. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

KS1
- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

KS2
- 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, caught and processed.

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.

The teaching of D and T was effected by the January 2021 lockdown this year. Units intended to be taught in term 3 and 4 were taught in the summer term.

Long Term Map 2020-2021
(following missed learning in School Closure)
Please see each year groups Termly Learning Journey for more in depth information.

Year group	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
R	All about me. 7 weeks PSHE: Protective Behaviours. R.E: Christianity and religious beliefs in	CC= All about me.7 weeks PSHE: daily EYFS play-based activities, role-play areas, quality children's fiction and reflective discussion to begin to build pupils' knowledge and understanding, skills, attitudes and attributes related to PSHE. R.E: Christianity and religious beliefs in	CC= Animals. 8 weeks PSHE: daily EYFS play-based activities, role-play areas, quality children's fiction and reflective discussion to begin to build pupils' knowledge and understanding, skills, attitudes and attributes related to PSHE. R.E: Christianity and religious beliefs in class,	CC= Animals. 3 weeks PSHE: daily EYFS play-based activities, role-play areas, quality children's fiction and reflective discussion to begin to build pupils' knowledge and understanding, skills, attitudes and attributes related to PSHE. R.E: Christianity and religious beliefs in	CC= Journeys. 7 weeks PSHE: daily EYFS play-based activities, role-play areas, quality children's fiction and reflective discussion to begin to build pupils' knowledge and understanding, skills, attitudes and attributes related to PSHE. R.E: Christianity and religious beliefs in class, school and community.	CC= Journeys. 7 weeks PSHE: daily EYFS play-based activities, role-play areas, quality children's fiction and reflective discussion to begin to build pupils' knowledge and understanding, skills, attitudes and attributes related to PSHE. R.E: Christianity and religious beliefs in class, school and community.

class, school and community. Music = Me	class, school and community. Music = My Stories	school and community. Music = Everyone!	class, school and community. Music = Our World	Music = Big Bear Funk.	Music = Reflect, Rewind and replay
1 Why do we play with different toys? 7 weeks PSHE: Families and Friendships (4 weeks) Safe Relationships (2 weeks) R.E: The Christian family. Music = Hey You	CC = What can we learn about our world from stories? 8 weeks (Usually Sp1 but due to restrictions in using the school building for geography has been swapped.) PSHE: Safe Relationships (2 weeks) Respecting Ourselves and Others (4 weeks) RE: Celebrations. Music =Rhythm in the way we walk and banana rap.	CC = Hello I'm new here. 7 weeks. (Usually A2) PSHE: Belonging to a community (4 weeks) Media literacy and digital resilience (2 weeks) RE: The family in Islam Music =In the Groove Computing =We are painters	CC = Starry night 3 weeks PSHE: Media literacy and digital resilience (2 weeks) Money and work (4 weeks) RE: What makes a place special? Music =Round and Round	CC = Why is water so Precious? 7 weeks PSHE: Physical health and mental wellbeing (4 weeks) Growing and changing (2 weeks) RE: Books and Stories. Music =Your imagination Computing =We are story tellers	CC = Where will we go for a great day out? 7 weeks PSHE: Growing and changing (2weeks) Keeping safe (4 weeks) RE: Questions about God. Music =Reflect, Rewind and replay Computing =We are celebrating

	Computing = We are treasure hunters	Computing =We are TV chefs		Computing =We are collectors		
2	Can party food be healthy? 7 weeks PSHE: Families and Friendships (4 weeks) Safe Relationships (2 weeks) RE: Harvest and Thanksgiving. Music = Hands, Feet, Heart Computing =We are astronauts	CC = Pride in Place. 7 weeks PSHE: Safe Relationships (2 weeks) Respecting Ourselves and Others (4 weeks) RE: Christmas. Music =Ho, Ho, Ho Computing =We are games testers	CC = Mrs Armitage's Vehicle. 8 weeks PSHE: Belonging to a community (4 weeks) Media literacy and digital resilience (2 weeks) RE: Books and Stories. Music = I Wanna Play in a Band. Computing =We are photographers	CC = Where do Bong Trees Grow? 3 weeks PSHE: Media literacy and digital resilience (2 weeks) Money and work (4 weeks) RE: Who is Jesus? Music =Zoo time Computing =we are researchers	CC = What makes us like other animals? 7 weeks PSHE: Physical health and mental wellbeing (4 weeks) Growing and changing (2 weeks) RE: Places of Worship. Music =Friendship song. Computing =We are detectives	CC =How did families have fun in the past? 7 weeks PSHE: Growing and changing (2weeks) Keeping safe (4 weeks) RE: Special times. Music = Reflect, Rewind and replay Computing = we are zoologists
3	Bright Sparks 7 weeks PSHE: Families and Friendships (4 weeks) Safe Relationships (2 weeks)	CC = Who were the greatest builders in the world? 7 weeks PSHE: Safe Relationships (2 weeks) Respecting Ourselves and Others (4 weeks)	CC = Lets go on an adventure. 8 weeks PSHE: Belonging to a community (4 weeks) Media literacy and digital resilience (2 weeks)	CC = The games children play. 3 weeks PSHE: Media literacy and digital resilience (2 weeks) Money and work (4 weeks)	CC = Are bugs important? 7 weeks PSHE: Physical health and mental wellbeing (4 weeks) Growing and changing (2 weeks)	CC = How can we make living here better for everyone. 7 weeks PSHE: Growing and changing (2weeks) Keeping safe (4 weeks) RE: Sacred writings.

	RE: The Hindu community. Music =Let your Spirit Fly. Computing =We are programmers	RE: How is Christmas celebrated around the world? Music =Glockenspiel stage 1. Computing = We are bug fixers	RE: Family life and who are Jews. Music=Three Little Birds Computing = We are presenters	RE: How do people pray? Music =Dragon Song Computing = we are vloggers	RE: How can we make a difference in our world today? Music =Bring Us Together. Computing =We are communicators	Music = Reflect, Rewind and replay Computing = We are opinion pollsters
4	How do I see How do I hear? 7 weeks PSHE: Families and Friendships (4 weeks) Safe Relationships (2 weeks) RE: Sikhs in Britain. Music =Mamma Mia Computing =We are software developers	CC = Why do we speak English at school? 7 weeks PSHE: Safe Relationships (2 weeks) Respecting Ourselves and Others (4 weeks) RE: Different places of Christian worship. Music =Glockenspiel 2 Computing = We are toy designers	CC = Should we stop eating chocolate? 8 weeks PSHE: Belonging to a community (4 weeks) Media literacy and digital resilience (2 weeks) RE: Commitment and Belonging. Music =Stop Computing = We are musicians	CC = From a Railway carriage. 3 weeks PSHE: Media literacy and digital resilience (2 weeks) Money and work (4 weeks) RE: Is Easter the festival of new life or sacrifice? Music =Lean on Me Computing =We are HTML editors.	CC = What happens inside us? 7 weeks PSHE: Physical health and mental wellbeing (4 weeks) Growing and changing (2 weeks) RE: Good and evil. Music =Blackbird Computing = we are co-authors	CC = European regional study. 7 weeks PSHE: Growing and changing (2weeks) Keeping safe (4 weeks) RE: Peace Music = Reflect, Rewind and replay Computing = we are meteorologists

5	Mysterious materials. 7 weeks PSHE: Families and Friendships (4 weeks) Safe Relationships (2 weeks) RE: Words of Wisdom. Music =Livin' on a Prayer Computing =We are game developers	CC = European Regional Study 7 weeks PSHE: Safe Relationships (2 weeks) Respecting Ourselves and Others (4 weeks) RE: Good and evil. Music =Classroom Jazz 1 Computing =We are cryptographers	CC = Fairgrounds 8 weeks PSHE: Belonging to a community (4 weeks) Media literacy and digital resilience (2 weeks) RE: Art and music in religion. Music =Make you feel my love. Computing =we are artists	CC = The Highwayman. 3 weeks PSHE: Media literacy and digital resilience (2 weeks) Money and work (4 weeks) RE: The Easter story. Music =The Fresh Prince of Bel Air Computing = we are web developers	CC = Who are we and Why do we live here? North America Study 7 weeks PSHE: Physical health and mental wellbeing (4 weeks) Growing and changing (2 weeks) RE: What does it mean to be a person of faith today? Music =Dancing in the Street Computing = we are bloggers	CC = Castles 7 weeks PSHE: Growing and changing (2weeks) Keeping safe (4 weeks) RE: What is Islam? Music = Reflect, Rewind and replay Computing = we are architects

6	Out of this world. 7 weeks PSHE: Families and Friendships (4 weeks) Safe Relationships (2 weeks) RE: What is Islam? Music =Happy Computing =We are adventure gamers	CC = Has there ever been a better time to live here? 7 weeks PSHE: Safe Relationships (2 weeks) Respecting Ourselves and Others (4 weeks) RE: What does it mean to be a Christian/person of faith today? Music =Classroom Jazz 2 Computing = We are computational thinkers	CC = Why do some animals no longer exist? 8 weeks PSHE: Belonging to a community (4 weeks) Media literacy and digital resilience (2 weeks) RE: What is Buddhism? Music =A New Year Carol. Computing = We are advertisers	CC = The Lady of Shallott. 3 weeks PSHE: Media literacy and digital resilience (2 weeks) Money and work (4 weeks) RE: What is Buddhism? Music =You've got a Friend Computing = We are network technicians	CC = Who are we and Why do we live here? North America Study 7 weeks PSHE: Physical health and mental wellbeing (4 weeks) Growing and changing (2 weeks) RE: What happens when we die? Music =Music and me. Computing =We are travel writers	CC = The Great Geographical challenge. 7 weeks Link to: Do we make the most of what is on our doorstep? PSHE: Growing and changing (2weeks) Keeping safe (4 weeks) RE: People of faith, courage and commitment. Music = Reflect, Rewind and replay Computing = WE are publishers