

Identify and solve their own design problems and understand problems given to them

Understand and

use the properties

of materials and the

elements to achieve

functioning solutions

performance of structural

Test, evaluate and refine

against a specification,

taking into account the

views of intended

users and other

Understand how more advanced electrical

and electronic systems can be powered

and used in their products [for example,

circuits with heat, light, sound and move-

ment as inputs and outputs]

Select from and use a wider, more complex range

of materials, components and ingredients, taking

into account their properties

Identify and solve their own

design problems and

understand how to reformulate

problems given to them

Understand and use the

properties of materials and the

performance of structural

elements to achieve

functioning solutions

Test, evaluate and refine their ideas and products

2026

against a specification, taking into account the views of intended users and other interested groups Select from and use specialist tools

important for survival? techniques, processes, Develop specifications to inform equipment and the design of innovative machinery precisely, functional, appealing products including computerthat respond to needs in a variety of situations aided manufacture

What was life like in medieval times?

Analyse the work of past and present professionals and others to develop and broaden their understanding

> Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

How did the Romans change our world?

Apply computing and use electronics to embed intelligence in products that respond to inputs [for

example, sensors], and control outputs [for example,

actuators], using programmable components [for example,

What was life like during

the turn of BC to AD?

Select from and use specialist

tools, techniques, processes,

equipment and machinery

precisely, including

computer-aided manufacture

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

How have

significant people

changed our

Analyse the work of past and present professionals and movement and force broaden their understanding

Use research and

exploration, such as

the study of different

cultures, to identify

Understand how more advanced mechanical systems used in their products enable changes in

Could you survive in a rainforest?

Use a variety of approaches [for

example, biomimicry and user-centred

avoid stereotypical responses

Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, ioining and finishing

How has history changed the way we celebrate?

Investigate and understanding of how analyse a range of existing products

Where in the world are

you?

to strengthen, stiffen and reinforce more

functional, appealing products for themselves Apply their understanding of how and other users based on to strengthen, stiffen and reinforce design criteria more complex structures

How has history changed the way we celebrate?

practical tasks [for example, cutting, shaping, joining and

Apply computing and use electronics to embed intelligence in products Select from and use a that respond to inputs [for example wider, more complex sensors], and control outputs [for example, actuators], using

programmable components [for

example, microcontrollers].

2025

Solve addition and subtraction one

and/or multi-step problems in

contexts, deciding which operations

and methods to use and why

KS 1/2

identify and solve their

own design problems

and understand how to

reformulate problems

given to them

Test, evaluate

and refine their

products against

a specification,

taking into

account the

intended users

and other

interested

groups

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4

more advanced

electronic systems

can be powered and

used in their products

[for example, circuits

with heat, light, sound and movement as inputs

Explore and evaluate a range of

existing products and evaluate

their ideas and products against

design criteria

changed c

Select from and use a

components, including

wide range of

materials and

textiles and

according to their

develop, model

their ideas through

sketches, cross-

discussion, annotated

sectional and exploded

diagrams, prototypes,

computer-aided design

pattern pieces and

characteristics

electrical and

and outputs

How are skills from the iron/ stone age still used today?

components and

ingredients, taking

into account their

properties

Design Technology

Learning Journey

Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

Select from and use specialist tools, techniques, processes, Develop specifications to inform the equipment and machinery design of innovative, functional, appealing products that respond to

computer-aided manufacture needs in a variety of situations Are the Pyramids of Giza

an important part of world history?

Analyse the work of past and present professionals and others to develop

and broaden their understanding

Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example

How does it feel to be

Did the Vikings change our world?

design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling oral and digital presentations and

computer-based tools

Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and

Why was the year 1666

important to London?

mechanisms [for example, levers, sliders, wheels and axles], in their products

Explore and use

criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups

Use research and develop design

Understand how key events and individuals in design and

What makes a

person significant?

Build structures,

ingredients, according to their functional properties and aesthetic qualities

Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical

How high can I travel

on Earth?

Understand developments in

design and technology, its impact

on individuals, society and the

environment, and the

responsibilities of designers,

engineers and technologists

How does it feel to be

part of a carnival?

Understand how more

advanced mechanical

systems used in their

products enable changes in

movement and force

responses

Understand developments in design and Investigate new technology, its impact on individuals, society and the environment, and the technologies responsibilities of designers, engineers and technologists

> How do different countries and religions celebrate?

Understand how more advanced mechanical systems used in their products enable changes in

Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid

stereotypical responses

Can you travel the whole

emerging

technologies

Understand developments in

design and technology, its

impact on individuals, society

and the environment, and the

responsibilities of designers.

engineers and technologists

Investigate new

technologies

part of a carnival?

Design purposeful, functional,

appealing products for

themselves and other users

based on design criteria

Would you like to live in

Use research and

study of different

cultures, to identify and

understand user needs

Understand and use

mechanical systems

in their products [for

example, gears,

pulleys, cams, levers

and linkages]

way around the world?

new and

Use research and

exploration, such as the

study of different

cultures, to identify and

understand user needs

precisely, including

Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions

Select from and use a wider,

more complex range of

ingredients, taking into

2023

Apply their understanding of

computing to program.

monitor and control their

products

Evaluate their ideas and

products against their

own design criteria and

consider the views of

others to improve their



Understand advanced electrical and electronic systems

like to live can be powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputsl

Develop specifications to inform the design of innovative, functional appealing products that respond to needs in a variety of situations Understand how key

events and individuals in design and technology Select from and use a wide have helped shape the range of materials and components, including construction materials, textiles and ingredients, according to

Apply their computing to program, monitor

and control their products

Generate, develop model and their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and

communication

Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and xploded diagrams, prototypes, pattern pieces and computeraided 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

linkages]

ruled?

Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and

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 range of tools and equipment to perform finishing]

exploring how they can be made stronger, stiffer and more stable

Select from and use a wider range of materials and components, including construction materials, textiles and



Evaluate their ideas and

design criteria and consider the views of How was life different when Queen Victoria

2022

Explore and evaluate a range of

existing products and evaluate

their ideas and products against

design criteria

example, levers, products against their own sliders, wheels and axles], in their products

Build structures. exploring how they can be made stronger, stiffer and more stable

Understand and use Explore and use electrical systems in mechanisms [for their products [for example, series circuits incorporating switches, bulbs. buzzers and motors]

Design purposeful,

example, cutting, shaping, joining and finishing],

wider range of tools and

equipment to perform

practical tasks [for

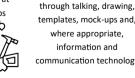
a range of existing

Investigate and analyse technology have helped sha

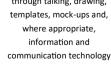












Generate, develop, model and

communicate their ideas



Identify and solve their own design problems and understand problems given

Understand and

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performance of structural

Test, evaluate and refine

their ideas and products

against a specification,

taking into account the

views of intended

users and other

Understand how more advanced electrical

and electronic systems can be powered

and used in their products [for example,

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ment as inputs and outputs]

Select from and use a wider, more complex range

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Identify and solve their own

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Understand and use the

properties of materials and the

performance of structural

elements to achieve

2026

Test, evaluate and refine their ideas and products against a specification, taking into account the views of

important for survival? Develop specifications to inform the design of innovative functional, appealing products that respond to needs in a variety

of situations

What was life like in medieval times?

> Analyse the work of past and present professionals and others to develop and broaden their understanding

> > Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

How did the Romans change our world?

Apply computing and use electronics to embed intelligence in products that respond to inputs [for

example, sensors], and control outputs Analyse the work of [for example, actuators], using programmable

components [for example,

What was life like during

the turn of BC to AD?

Select from and use specialist

tools, techniques, processes,

equipment and machinery

precisely, including

computer-aided manufacture

Develop and communicate design ideas

using annotated sketches, detailed

plans, 3-D and mathematical modelling,

oral and digital presentations and

computer-based tools

How have

professionals and mechanical systems used in their others to develop and products enable changes in movement and force broaden their understanding

Use research and

exploration, such as

the study of different

cultures, to identify

past and present

Could you survive in a rainforest?

Understand how more advanced

[for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses

Use a variety of approaches

Use research and exploration, such as the study of different cultures, to identify and understand user needs

How has history changed the way we celebrate?

> Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists

> > Investigate new and emerging technologies

Where in the world are you?

> Use a variety of approaches [for

Select from and use a wider, more complex components and ingredients, taking into account their properties

> How are skills from the iron/ stone age still used today?

Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools

> Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations

Are the Pyramids of Giza an important part of world history?

Analyse the work of past and present professionals and others to develop and broaden their

understanding

Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example

Did the Vikings How does it feel to be change our part of a carnival? world?

> Understand developments in Select from and use design and technology, its wider, more complex impact on individuals, society range of materials, components and ingredients, taking into the responsibilities of account their properties designers, engineers and technologists

> > Analyse the work of past and present professionals and others to develop and

> > > precisely, including

computer-aided

manufacture

electronics to embed intelligence in

products that respond to inputs

[for example, sensors], and control

outputs [for example, actuators],

using programmable components

[for example, microcontrollers].

Why was the year 1666 important to London?

Understand how more Select from and use specialist tools

advanced electrical and electronic systems can be techniques, processes, equipment and machinery powered and used in their products [for example, circuits with heat, light, sound and movement as inputs and outputs]

> Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties

What makes a

person significant?

Apply computing and use

Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, ora and digital presentations and



identify and solve their

own design problems

and understand how to

reformulate problems

given to them

Test, evaluate

and refine their

products against

a specification,

taking into

account the

intended users

and other

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4

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[for example, circuits

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Identify and solve their own

design problems and understand

given to them

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and outputsl

Develop

design of

situations

specifications

functional, appealing

products that respond

to needs in a variety of

Understand and use the

properties of materials

and the performance of

structural elements to

achieve functioning

Design Technology Learning Journey

Apply computing and use electronics

to embed intelligence in products

that respond to inputs [for example

sensors], and control outputs [for

example, actuators], using

programmable components [for

example, microcontrollers].

2025

Solve addition and subtraction one

and/or multi-step problems in

contexts, deciding which operations

and methods to use and why

intended users and other interested groups Select from and use

specialist tools techniques, processes, equipment and machinery precisely, including computeraided manufacture

Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses

How high can I travel

on Earth?

Understand developments in

design and technology, its impact

on individuals, society and the

environment, and the

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How does it feel to be

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Understand how more

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Investigate new

and emerging

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How do different countries and religions celebrate?

Use research and

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Can you travel the whole

way around the world?

emerging



Select from and use specialist

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equipment and machinery

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computer-aided manufacture

Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions

iDevelop and communicate design ideas

using annotated sketches, detailed

oral and digital presentations and

computer-based tools

2023

Test, evaluate and refine their

ideas and products against a

specification, taking into

account the views of intended

users and other interested

Understand advanced electrical and electronic systems can be powered and

like to live used in their products [for example, circuits with heat, light, sound and movement as inputs and outputsl Develop specifications to

inform the design of innovative, functional appealing products that respond to needs in a variety

of situations Select from and use a wider, more complex range of materials, components and ingredients, taking into account their properties

2022 Identify and solve

understand how to Test, evaluate and refine their reformulate ideas and products against a problems given specification, taking into account the views of intended users and other interested groups

significant people changed our

> Apply computing and use electronics to embed intelligence in products that respond to inputs [for example, sensors], and control outputs [for example, actuators], using programmable components [for example, microcontrollers].

Select from and use Understand how more advanced electrical and specialist tools, techniques, electronic systems can be powered and used in their processes, equipment and machinery precisely, products [for example, circuits with heat, light, including computer-aided

sound and movement as inputs and outputs] manufacture How was life different

when Queen Victoria ruled?

and present professionals and others to develop and broaden their understanding

more advanced

example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical

used in their products enable changes in movement and

Would you like to live in

Understand how more

advanced mechanical systems

approaches [for Investigate example, biomimicry and user emerging -centred design], to technologies generate creative ideas and avoid

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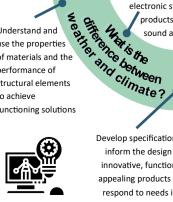
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of materials and the

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Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations

Analyse the work of past

mechanical systems used in their products enable changes in movement and