

## Design and Technology

### Curriculum End Points

#### Reception



#### Unit Topic: STRUCTURES: Junk Modelling.

In this unit, pupils explore and learn about various types of permanent and temporary join. They are encouraged to tinker using a combination of materials and joining techniques in the junk modelling area.

#### Unit Topic: TEXTILES: Bookmarks.

Pupils develop and practise threading and weaving techniques using various materials and objects. They look at the history of the bookmark from Victorian times versus modern-day styles. The pupils apply their knowledge and skills to design and sew their own bookmarks.

#### Unit Topic: STRUCTURES: Boats

In this unit, children explore what is meant by 'waterproof', 'floating' and 'sinking', then experiment and make predictions with various materials to carry out a series of tests. They learn about the different features of boats and ships before investigating their shape and structures to build their own.

#### Additional Unit: COOKING AND NUTRITION: Soup

In this unit, children explore the differences between fruits and vegetables using their senses (taste, texture, smell etc.). They listen to the story 'The best pumpkin soup' and discuss the key ingredients the characters used before developing a class-based vegetable soup recipe.

## Design and Technology

### Curriculum End Points

#### Year 1



#### Unit Topic: STRUCTURES: Constructing a Windmill

- To create a stable structure.
- To use tools and equipment accurately to make part of a structure.
- To join parts of a structure.
- To use tools and equipment accurately to make part of a structure.

#### Unit Topic: TEXTILES: Puppets

- Join fabrics together using pins, staples or glue.
- Design a puppet and use a template.
- Join their two puppets' faces together as one.
- Decorate a puppet to match their design.

#### Unit Topic: COOKING AND NUTRITION: Smoothies.

- Describe fruits and vegetables and explain how to identify fruits.
- Name a range of places that fruits and vegetables grow.
- Describe basic characteristics of fruit and vegetables.
- Prepare fruits and vegetables to make a smoothie.

## Design and Technology

### Vocabulary

#### Year 1



### Topic: STRUCTURES: Constructing a Windmill

design	equal
rotate	rotor
rotor blades	sails
stable	strong
structure	test
weak	

### Unit Topic: TEXTILES: Puppets

decorate	design
fabric	glue
model	hand puppet
safety pin	staple
stencil	template

### Unit Topic: COOKING AND NUTRITION: Smoothies.

flavour	fruit
healthy	ingredients
juicer	recipe
root	seed
smoothie	stem
vegetable	vine

## Design and Technology

### Curriculum End Points

#### Year 2



#### Unit Topic: STRUCTURES: Baby Bear's Chair

- To explore the concept and features of structures and the stability of different shapes.
- To understand that the shape of the structure affects its strength.
- To make a structure according to design criteria.
- To produce a finished structure and evaluate its strength, stiffness and stability.

#### Unit Topic: MECHANISMS: Fairground Wheel.

- To explore wheel mechanisms and design a fairground wheel.
- To select materials with appropriate properties.
- To build and test a moving wheel.
- To conduct a simple survey to gather opinions.
- To finish and evaluate a structure with a rotating wheel.

#### Unit Topic: MECHANISMS: Making a Moving Monster.

- To look at objects and understand how they move.
- Identify the correct terms for levers, linkages and pivots.
- Create functional linkages that produce the desired input and output motions.
- To explore different design options.
- To make a moving monster.



## Vocabulary

### Year 2

#### Unit Topic: STRUCTURES: Baby Bear's Chair

design criteria

man-made

natural

properties

structure

stable

shape

model

test

#### Unit Topic: MECHANISMS: Fairground Wheel.

design brief

design criteria

evaluate

frame

model

opinion

rotate

survey

#### Unit Topic: MECHANISMS: Making a Moving Monster.

axle

design criteria

input

linkage

mechanical

output

pivot

wheel



## Curriculum End Points

### Year 3

#### Unit Topic: FOOD: Eating Seasonally.

- To explain why food comes from different places around the world.
- To explain the benefits of seasonal foods.
- To develop cutting and peeling skills.
- To evaluate seasonal ingredients.
- To design a mock-up using criteria.
- To evaluate a dish.

#### Unit Topic: DIGITAL WORLD: Wearable Technology.

- To research and evaluate existing products.
- To develop design criteria
- To use code to program and control a product.
- To develop and communicate ideas.
- To develop ideas through computer-aided design.
- To improve a design based on feedback.

#### Unit Topic: STRUCTURES: Constructing a Castle.

- To recognise how multiple shapes (2D and 3D) are combined to form a strong and stable structure.
- To design a castle.
- To construct 3D nets.
- To construct and evaluate my final product.



## Vocabulary

### Year 3

#### Unit Topic: FOOD: Eating Seasonally.

export	grate
import	Mediterranean
mock-up	peel
polar	seasonal
temperate	texture
tropical	complementary

#### Unit Topic: DIGITAL WORLD: Wearable Technology.

analogue	analyse
annotate	computer-aided design (cad)
digital	digital revolution
electronic	initiate
monitor	net
product	program
simulator	smart

#### Unit Topic: STRUCTURES: Constructing a Castle.

2D	3D
Castle	design
key features	net
scoring	stable
stiff	structure
tab	



## Curriculum End Points

### Year 4

#### Unit Topic: STRUCTURES: Pavilions.

- Produce a range of free-standing frame structures of different shapes and sizes.
- Design a pavilion that is strong, stable and aesthetically pleasing.
- Select appropriate materials and construction techniques to create a stable, free-standing frame structure.
- Select appropriate materials and techniques to add cladding to their pavilion.

#### Unit Topic: MECHANICAL SYSTEMS: Making a Slingshot Car.

- Work independently to produce an accurate, functioning car chassis.
- To design a shape that reduces air resistance.
- Produce panels that will fit the chassis and can be assembled effectively using the tabs they have designed.
- Construct car bodies effectively.
- Conduct a trial accurately and draw conclusions and improvements from the results.

#### Unit Topic: ELECTRICAL SYSTEMS: Torches.

- To learn about electrical items and how they work.
- Help to make a working switch.
- Create suitable designs that fit the success criteria and their own design criteria.
- Create a functioning torch with a switch according to their design criteria.





## Vocabulary

### Year 4

#### Unit Topic: STRUCTURES: Pavilions.

3D shapes  
cladding  
design criteria  
innovative  
natural  
reinforce  
structure

#### Unit Topic: MECHANICAL SYSTEMS: Making a Slingshot Car.

chassis	energy
kinetic	mechanism
air resistance	structure
graphics	research
model	template

#### Unit Topic: ELECTRICAL SYSTEMS: Torches.

battery	bulb
buzzer	circuit diagram
component	conductor
electrical item	insulator
series circuit	switch
target audience	



## Curriculum End Points

### Year 5

#### Unit Topic: ELECTRICAL SYSTEMS: Doodlers.

- To understand how motors are used in electrical products.
- To investigate an existing product to determine the factors that affect the product's form and function.
- To apply the findings from research to develop a unique product.
- To develop a DIY kit for another individual to assemble their product

#### Unit Topic: MECHANICAL SYSTEMS: Pop-Up Book.

- To design a pop-up book.
- To follow my design brief to make my pop-up book.
- To use layers and spacers to cover the workings and mechanisms.
- To use appropriate materials and captions to illustrate the story.
- To create a high-quality product suitable for a target user

#### Unit Topic: COOKING AND NUTRITION: Developing a Recipe.

- To understand how ingredients are reared and processed.
- To make adaptations to design a recipe.
- To evaluate nutritional content.
- To practise food preparation skills.
- To design a product label.
- To follow and make an adapted recipe.



## Vocabulary

### Year 5

#### Unit Topic: ELECTRICAL SYSTEMS: Doodlers.

circuit component	configuration
current	DIY
investigate	motor
motorised	product analysis
series circuit	stable
target user	

#### Unit Topic: MECHANICAL SYSTEMS: Pop-Up Book.

criteria  
design  
input  
mechanism  
model  
motion  
reinforce  
research

#### Unit Topic: COOKING AND NUTRITION: Developing a Recipe.

beef	brand
cross-contamination	enhance
equipment	grate
hygiene	nutrient
nutrition	nutritional value
preference	process



## Curriculum End Points

### Year 6

#### Unit Topic: TEXTILES: Waistcoats.

- Consider a range of factors in their design criteria and use this to create a waistcoat design.
- Use a template to mark and cut out a design.
- Use a running stitch to join fabric to make a functional waistcoat.
- Attach a secure fastening, as well as decorative objects.
- Evaluate their final product.

#### Unit Topic: STRUCTURES: Playgrounds.

- To design a playground with a variety of structures.
- To build three different structures from their plans using the materials available.
- To make suitable changes to their work after peer evaluation.
- Secure their apparatus to a base.
- Make a range of landscape features using a variety of materials which will enhance their apparatus.

#### Unit Topic: DIGITAL WORLD: Navigating the World.

- To write a design brief and criteria based on a client request.
- To write a program to include multiple functions as part of a navigation device.
- To develop a sustainable product concept.
- To develop 3D CAD skills to produce a virtual model.
- To present a pitch to 'sell' the product to a specified client.



## Vocabulary

### Year 6

#### Unit Topic: TEXTILES: Waistcoats.

annotate  
decorate  
design criteria  
fabric  
target customer  
waistcoat  
waterproof

#### Unit Topic: STRUCTURES: Playgrounds.

apparatus  
design criteria  
equipment  
playground  
landscape features  
cladding

#### Unit Topic: DIGITAL WORLD: Navigating the World.

Duplicate	GPS tracker
if statement	loop
mouldable	navigation
pedometer	product lifecycle
product lifespan	
replica	
smart	
sustainable design	