

## Year 3: Textiles

How can you make a box out of cloth?



### Core content:

Explore ways to stiffen fabric.  
Cover a box with cloth.  
Create a rigid box out of fabric.

### Technical vocabulary:

**Starch** – a white substance that comes from potatoes and grains and is used to make cloth stiff.



**PVA glue** – an adhesive used to secure or 'paste' things like clothing, paper and wood.



**Gelatin** – a virtually colourless and tasteless protein used in food preparation, photographic processes and glue.



**Stiffen** – to make something, such as cloth, hard and unable to bend.



**Interfacing** – an additional layer applied to the inside of garments to add firmness, shape and structure.



**Cloth** – woven or felted fabric made from wool, cotton or a similar fibre.



### Connections

Gisela Stromeyer  
New York-based artist, architect,  
dancer and teacher

Frei Otto Retrospective  
by Gisela Stromeyer Designs



## Year 3 Textiles

How can you make a box out of cloth?

### What do I already know?

I know how to use a template to cut shapes from fabric.

I know how to attach fabric to paper.

I know how to fold paper to create 3D shapes.

I know different ways to join materials.

### What am I going to find out?

I will know how fabric can be stiffened.

I will be able to make a box using stiffened fabric.

## Working as a Designer

### Design

I will decide how something will look or how it will work.



### Make

I will create something by combining materials or putting parts together.



### Evaluate

I will form an opinion of the quality of my creation after careful thought.



### Apply

I will use my creation in a real life context.



## Key Vocabulary

Starch



PVA glue



Gelatin



Stiffen



Interfacing



Cloth



Year 3: Food and Nutrition  
What do we mean by a balanced diet?



**Core content:**

Learn what a balanced diet is.  
Make three products that are often bought pre-made or highly processed.

**Technical vocabulary:**

**Seasonal** – fruit and vegetables that are ripe and ready in a particular season. They will no longer grow when the weather changes.



**Balance** – when different things exist in equal, correct or good amounts.



**Preserve** – to prevent something, especially food, from decaying.



**Stew** – to cook slowly in liquid.



**Pressure** – the force or weight with which something presses against something else.



**Seasoning** – salt, herbs or spices added to food to enhance its flavour.



**Techniques**



stewing



seasoning



slicing

Year 3 Food and Nutrition  
What do we mean by a balanced diet?

What do I already know?

- I know how to use a knife with confidence.
- I can name examples of processed food.
- I can name some key nutrients found in fresh food.
- I know the importance of fibre and carbohydrates in my diet.

What am I going to find out?

- I will know what is meant by the term 'balanced'?
- I will know why fresh foods are better.
- I will be able to flavour foods.

Key Vocabulary

Seasonal



Balance



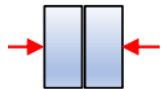
Preserve



Stew



Pressure



Seasoning



Working as a Designer

Design	Make	Evaluate	Apply
I will decide how something will look or how it will work.	I will create something by combining materials or putting parts together.	I will form an opinion of the quality of my creation after careful thought.	I will use my creation in a real life context.



## Year 3: Mechanisms

How can you do a lot of work with little effort?



### Core content:

Investigate various linkages and levers.  
Design and make a linkages and levers product.  
Select and use a variety of modelling materials.

### Technical vocabulary:

**Lever** – a rigid body that has a fulcrum along its length.



**Load** – the weight of an object or objects being moved.



**Effort** – the force applied to make something move.



**Fulcrum** – the point where a lever pivots.



**Linkage** – a series of connected levers and pivots.



**Mechanism** – a system of parts working together in a machine.



**Force** – pushes or pulls, measured in Newtons.



### Connections:

Archimedes  
(287BC – 212BC)



## Year 3 Mechanisms

How can you do a lot of work with little effort?

What do I already know?

I know simple mechanisms and their uses.

What am I going to find out?

I will know types of levers and linkages.

I know how levers and linkages can change direction of movement.

I will be able to design and make a simple lever and linkage product.

## Working as a Designer

Design	Make	Evaluate	Apply
I will decide how something will look or how it will work.	I will create something by combining materials or putting parts together.	I will form an opinion of the quality of my creation after careful thought.	I will use my creation in a real life context.



## Key Vocabulary

Lever



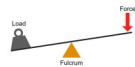
Load



Effort



Fulcrum



Linkage



Mechanism



Force



Year 3: Food and Nutrition  
How does food affect your body and mind?



**Core content:**

Explore the nutritional value of food and its effect on our physical and mental health. Practice methods for preparing vegetables to create different dishes. Learn how to change the texture and flavour of food by roasting and adding herbs and spices.

**Technical vocabulary:**

**Fibre** – the part of food that cannot be broken down by the body and aids digestion.



**Nutrition** – the process by which living things receive the food necessary for them to grow and be healthy.



**Minerals** – substances present in food and drink and in the human body which are essential for good health.



**Seasoning** – salt, herbs or spices added to food to enhance its flavour.



**Claw** – a way of holding food to protect the fingers whilst cutting, chopping or slicing.



**Bridge** – a technique used when chopping food where the thumb and index finger are placed either side of the food item, forming a kind of bridge shape.



**Techniques:**



claw



roasting



bridge

Year 3 Food and Nutrition  
How does food affect your body and mind?

What do I already know?

I know how to use the bridge method to cut food safely.

I know and can describe some key flavours.

I know how to peel, chop and grate vegetables.

I can describe how food can affect our senses.

What am I going to find out?

I will know how food can help our body and mind.

I will know how to prepare and cook a range of vegetables.

I will be able to add flavour and texture to foods.

Key Vocabulary

Fibre



Nutrition



Minerals



Seasoning



Claw



Bridge



Working as a Designer

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Year 3: Systems  
How are things powered?



**Core content:**

Look at different types of energy and how these can be used to power different devices. Consider how design choices are influenced by energy sources.

**Technical vocabulary:**

**Energy** – another word for power. Energy makes things move. It makes machines work. Energy also makes living things grow.



**Energy source** – the origin of power or energy.



**Turbine** – a machine that produces continuous turning power from a fast-moving flow of a liquid or gas.



**Source (noun)** – a place, person or thing which something originates from.



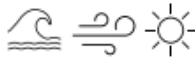
**Source (verb)** – to obtain something from a place, person or thing.



**Intermittent** – stopping and starting, on and off.



**Renewable** – a natural resource or source of energy that is not depleted by use, such as water, wind or solar power.



**Connections:**

William Kamkwamba  
(born 1987)  
Malawian inventor, engineer and author



Year 3 Systems  
How are things powered?

What do I already know?

I can identify mechanisms powered by hand.

I can identify appliances that use electricity.

I can use vocabulary to describe weather.

I can explain what humans and animals need to survive.

What am I going to find out?

I will know different types of energy.

I will know why designers need to carefully consider energy sources.

I will be able to identify how things are powered.

I will be able to suggest appropriate energy sources for different problems.

Working as a Designer

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Key Vocabulary

Energy



Energy Source



Turbine



Source (noun)



Source (verb)



Intermittent



Renewable



Year 3: Structures  
What makes a bridge strong?



**Core content:**

Investigate how the shape and features of a bridge can affect how strong it is. Identify types of bridges and the structural changes that engineers and architects make to increase the stability of structures.

**Technical vocabulary:**

Gap – an empty space or opening in the middle of something or between two things.



Deck – the roadway, or the pedestrian walkway, surface of a bridge.



Pier – a type of structure that extends to the ground below or into the water. It is used to support the bridge and transfer the loads to the foundation.



Suspension – a type of bridge in which the deck is hung below suspension cables on vertical suspenders.



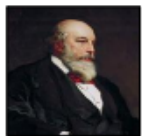
Arch – a curved structure that supports the weight of something above it, such as a bridge or the upper part of a building.



Bascule (pronounced *bas-kyood*) – a movable bridge deck where the rising floor or section is counterbalanced by a weight.



**Connections:**



Sir Horace Jones  
(1819 – 1887)



Sir John Wolfe Barry  
(1836 – 1918)



Tower Bridge  
(1894)

Year 3 Structures  
What makes a bridge strong?

What do I already know?

I can build structures using a range of materials.

I can make a structure using criteria.

I know that a cylindrical pillar is stronger than a rectangular one.

What am I going to find out?

I will know that bridges are structures that allow people to cross.

I will know that towers, piers and arches provide strength to a bridge.

I will be able to design and build a beam bridge that can hold the weight of 100 pennies.

I will be able to name parts of a bridge.

Working as a Designer

Design	Make	Evaluate	Apply
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Key Vocabulary

Gap



Deck



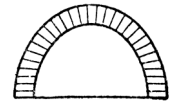
Pier



Suspension



Arch



Bascule

