



# Design Technology

## Year 4

### Mechanisms

#### Levers and linkages

**Key Terms:**  
 Design Purpose, Design criteria, Evaluation, Product, Design brief, User/Client

## Concepts -

Climate

Legacy

Equality

Identity

## Aspirational People

(287 - 212 B.C.) Archimedes was a Greek philosopher, mathematician and inventor, who wrote about geometry and mechanics. He was born in Syracuse, Sicily, and educated in Alexandria, Egypt. Archimedes defined the principle of the lever.



- ✦ The term linkage can also be used to describe levers that are joined together.
- ✦ Guides are used to help hold the mechanisms in place and control movement.
- ✦ Paper fasteners/split pins are used to make pivots when joining card levers/linkages.
- ✦ Pushing the lever/linkage creates input movement that then gives output movement of the picture moving.
- ✦ You need to use a thick plastic cutting board to cut on when using a craft knife.
- ✦ Levers create an oscillating movement (backwards and forwards in an arch)
- ✦ A linkage needs both fixed and loose pivots in order to work properly.

### Mechanism

A device used to create movement in a product

### Linkage

The card strips joining one or more levers to produce the type of movement required.

### Pivot

A point which a lever turns around.

### Fixed Pivot

A paper fastener that joins card strips to the backing card.

### Loose Pivot

A paper fastener that joins card strips together.

### Craft knife

A knife with a thin, sharp blade used to cut thin precise lines

## Sticky Knowledge

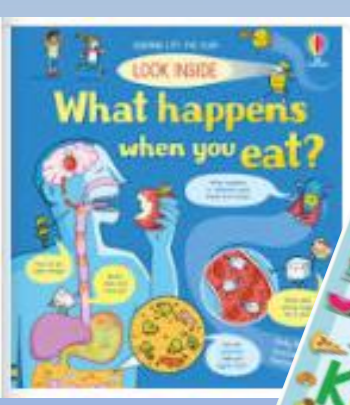
## Subject Specific Vocabulary

## Exciting Books





# Exciting Books



## Concepts -

Climate

Legacy

Equality

Sustainability

Identity



## Aspirational People

Michele Pascarella, owner of London pizza restaurant Napoli on the Road, was recently crowned the best pizza maker in the world. He was born in Italy and has been making pizzas since he was 11 years old.

- ✦ You must use a red chopping board for meat.
- ✦ You must use a green chopping board for fruit and vegetables.
- ✦ Having a varied diet ensures that you get a wide range of the macronutrients, vitamins, and minerals your body needs to help you feel your best.
- ✦ Only use big pieces of an ingredient when grating.
- ✦ When kneading dough you use your knuckles or heel of your hand as they are the coldest part of your hands.
- ✦ You must use separate or cleaned knives to cut cooked and uncooked foods.
- ✦ Some vegetables can be eaten raw but most taste sweeter when cooked.

## Sticky Knowledge

### **Knead**

Push into the dough with knuckles and the heel of the hands to bind the ingredients together properly

### **Varied diet**

Eating foods from across all food groups

### **Grating**

To cut (food) into very small pieces by rubbing it against a special tool (called a grater)

### **Scales**

A kitchen device used to measure the weight of ingredients and other food.

### **Dough**

A thick, malleable mixture of flour and liquid, used for baking into bread or pastry.

### **Raw**

Food that has not been cooked.

### **Edible**

Something is edible if we can eat it.

## Subject Specific Vocabulary



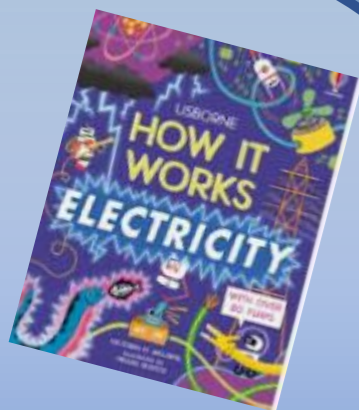
# Design Technology

## Year 4

### Electrical Systems



# Exciting Books



## Concepts -

Climate

Legacy

Equality

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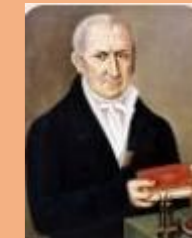
Identity

- ✦ Appropriate tools need to be used to cut wires safely.
- ✦ Battery powered devices run from chemical energy from a battery
- ✦ .Components for a simple circuit include: wires, battery, bulb, bulb holder, buzzer, switch.
- ✦ .Although electricity is extremely useful it is also very dangerous and safety should be considered at all times when using electricity.
- ✦ If your circuit includes a switch the switch must be accessible to the user.
- ✦ It is important to remind the user of the importance of turning off all decorations when not in use.
- ✦ When designing your product you must consider sustainability along with a design that is aesthetically pleasing.

## Sticky Knowledge

## Aspirational People

Alessandro Volta. In 1800, Volta invented the first true battery, storing and releasing a charge, through a chemical reaction instead of physically, which came to be known as the Voltic pile.



### Circuit

The pathway electricity flows around

#### Light emitting diode

A semiconductor device, which can emit light when an electric current passes through it.

#### Components

The different parts of a circuit.

#### Battery

A cell that is made of components and chemicals.

#### Switch

Is used to break a circuit causing it to be on or off.

#### Function

The relation between a set of inputs and set of outputs.

#### Mechanism

A mechanical device for doing something.

## Subject Specific Vocabulary