

DT Knowledge Organisers

Summer One - 2024

Year 1

No DT this term.

Year 2

Food (Preparing fruit and vegetables including cooking and nutrition requirements for KS1)



Hanslope Primary School Design Technology Knowledge Organiser

Year 2 - Food (Preparing fruit and vegetables including cooking and nutrition requirements for KS1)

Overview:

Understand where a range of fruit and vegetables come from e.g. farmed or grown at home.

Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of the eat well plate.

Know and use technical and sensory vocabulary relevant to the project.

What key vocabulary will I learn:

fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients



National Curriculum Links:

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

How does this link to my future learning?

Year 3 - Food healthy and varied diet (including cooking and nutrition requirements for KS2)

What steps will I follow to create my final product?

- Research where food comes from and the different sources
- Discuss the different food groups and their sources.
- Taste the different foods and which ones we like best
- Prepare the food using different utensils.
- Cook the food in different forms.
- Eat our food!

Health and Safety

-Remove any jewelry and tie back long hair.

-Wear an apron and roll up your sleeves.

-Wash your hands with hot water and antibacterial soap.

Washing your hands should be done before, during and after preparing food.

Use different chopping boards and knives for raw meat & other foods.

Check that food is cooked right the way through.

Check the dates on food, and check for allergies of those eating.

Make sure that you clean up properly after yourself.

Year 3

Mechanisms (levers and linkages)



Hanslope Primary School Design Technology Knowledge Organiser

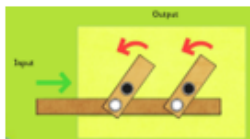
Year 3: Mechanisms (levers and linkages)

Overview:

Understand and use lever and linkage mechanisms.

Distinguish between fixed and loose pivots.

Know and use technical vocabulary relevant to the project.



Mechanisms are the parts that make something work.

-Mechanisms are all around us! Most objects that help us in our lives are made up of different mechanisms.

Levers and Linkages are mechanisms that make things move. Many mechanisms take one type of input motion, and output it as a different type of motion.

-In a lever and linkage mechanism, the 'input' is where the user pushes or pulls a card strip. The 'output' is where one or more parts of the picture move.

These mechanisms use a fulcrum (a fixed point around which the lever can pivot) to make things move in arc (curve).

What key vocabulary will I learn:

mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output linear, rotary, oscillating, reciprocating

National Curriculum Links:

- Design, make and evaluate products
- Technical knowledge: understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

How does this link to my future learning?

- Mechanisms (bullevs or aears) - Year 5

What steps will I follow to create my final product?

Designing

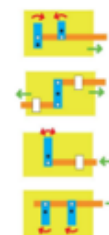
-Effective levers and linkages should move smoothly

-Effective sliders and levers should create a movement that is appropriate to the subject matter.

-You need to think about who your product is for - what is its purpose and who is going to use it?

Levers -consider where you will position the fulcrum. The further it is from the object, the more that the subject at the end of your lever can move!

Explore how to create different movements with your lever and linkage mechanisms



Making

-Levers and linkages can be made using card, cardboard, lollipop sticks, or another thin, firm material of your product.
-Guides/bridges can be made using strips of card fixed with masking tape.

Levers

-To create the hole for the fulcrum, place the card backdrop over a piece of Blu Tack and pressing a pencil through. The fulcrum can be attached using a paper fastener.

Evaluating

-How well does your mechanism work? Does it move smoothly?
-Does it meet its purpose?
-Who would use your mechanism? What would they like about it?
-Where did you position the levers/fulcrum?
-How did this affect the mechanism?
-What else could you do to improve your mechanism?

Health and Safety

-Remove any jewelry and tie back long hair.

-Wear an apron and roll up your sleeves.

-Walk safely and calmly around the classroom/workshop.

Keep your work area and floor area clear - keep your belongings well clear.

Follow the teacher's cutting instructions carefully.

Make sure that you are wearing the correct equipment for tasks.

If you need to move around with scissors, hold around the closed blades, facing down.

Report all spillages & clean up properly after yourself.

Year 4

No DT this term.

Year 5

No DT this term.

Year 6

Food celebrating culture and seasonality (including cooking and nutrition requirements for KS2)



Hanslope Primary School Design Technology Knowledge Organiser

Year 6 -Electrical systems (complex switches and circuits - programming monitoring and control)

Overview:

More Complex Switches and Circuits

Electricity is a type of energy. It is used to power lots of things

-Electricity can flow through circuits. A circuit is the path the electric current follows. It must have no breaks in it (a closed circuit) for electricity to flow. The symbols for different objects in electrical circuits are shown on the right.

-The electricity flowing through a circuit is known as the current. It can be used to power an output device.

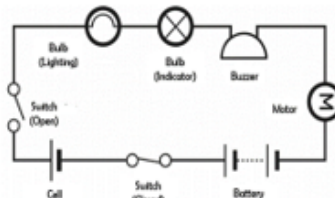
-Switches can be positioned so that electrical currents can flow through them (closed switch) or cannot flow through them (open switch). This alters the way that output devices function.

-In a series circuit, two output devices are controlled by one switch. In a parallel circuit, two output devices can be controlled separately by switches.

Switches can be used alongside control boxes, to set up timed systems (e.g. traffic lights) and monitoring systems (e.g. alarms).

What key vocabulary will I learn:

function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype



National Curriculum Links:

- Design, make and evaluate products.
- Technical knowledge: understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and

What steps will I follow to create my final product?

Designing: - You need to think about who your product is for - what is its purpose and who is going to use it?

-Consider which type of circuits you will need to use.

-In a series circuit, there is only one path which the electricity follows. The electricity flows from the input source, around one path (on which the components are positioned) and returns to complete a closed circuit.

-In a parallel circuit, the components are positioned on different branches of the wire. If one component breaks or becomes disconnected, the other components can still work.

-Consider which type of circuits you will need to use.

-Micro-switch, Reed Switch, Light Dependent, Resistors, Push-to-Make Switch, Push-to-Break Switch, Tilt Switch or Toggle Switch:

In designing you should be able to sketch and annotate different ideas, and should also be able to

Making:

-In addition to the making skills that you used throughout your electrical systems DT topics in lower KS2, you also need to learn how to write a sequence of instructions using a control program.

-This 'control language' or flowchart enables the system to act in a particular way e.g. when a switch is pressed.

-You will develop an understanding of using standalone/ interface control boxes

Evaluating: -How well does your electrical system work? Does it work as planned? Does it meet its purpose? -What would your audience think about your product? What would they like about it? What would they not like? -What type of switch did you choose to use? Why? What are the pros and cons of this type of switch? -What instructions did you input into your control box? How did this work? What could you still improve about your product? How would you do things differently next time?