DT Knowledge Organisers

Summer 2025-26

Year 1

No DT this term.

Year 2

No DT this term.

Year 3

Hanslope Primary School
Design Technology Knowledge Organiser

Year 3: Textiles (2D and 3D products)

Overview

Textiles are flexible materials woven from fibres

-Textiles are used to make clothing, sheets, towels, linen, carpets, rugs and wide variety of other products.

-Sewing involves the joining of different textile fabrics using a needle and thread.

-Sewers can use a range of different sewing styles to produce strong joins.

-Some stitches also create an attractive-looking seam (a line of stitching joining fabrics together). Thinking about the way a product looks is called 'aesthetics', and is highly important in textiles.

What key vocabulary will I learn?

Textiles, sew/stitch, thread, needle, applique, seam, aesthetics, running stitch, back stitch, over-sew stitch, blanket stitch.

How does this link to my future learning?

- Year 5 Textiles (combining different fabric shapes)

National Curriculum Links:

- Design, make and evaluate products
- Technical knowledge: select from and use a wide range of materials and components, including textiles.

What steps will I follow to create my final product?

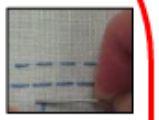
Design:

Fabrics -Different fabrics have different properties (characteristics) which make them good for different purposes. For example, some are soft and provide a cushion (e.g. felt) whilst others can be thin and lightweight (e.g. silk, cotton). This can make them easier to join/ decorate with.

Joining – There are lots of different stitches that you could use to join the fabrics together (see below). Some are easier and quicker, (e.g. running stitch) some are more secure and do not show the seam as obviously (e.g. backstitch), some help to improve certain fabrics (e.g. overstitch) and some are more aesthetically pleasing (e.g. blanket stitch).

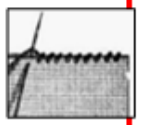
As a part of the design process, you should be able to sketch and annotate different ideas. You should also be able to plan the main stages of making, using either a checklist, a storyboard, or a flowchart.

Making:

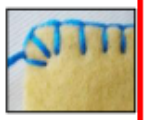


Running Stitch – This is the simplest stitch. It creates a dotted line effect. Remember to leave a space from the previous stitch.

Back Stitch – Similar to the running stitch, except that the thread doubles back so that there is no visible spacing between stitches. It is a very strong and secure stitch.



Over Sew Stitch – The over sew stitch is a good way to neaten the raw edge of fabrics. It involves sewing over the edge of the fabrics.



Blanket Stitch – Another way to reinforce the edges of thick materials. This stitch is popular as it is thought to be aesthetically-pleasing.

Evaluating:

-How does your textile look? Would your user like it? Why or why not? How could you improve the way it looks?
-Are your attached fabrics secure? How did you achieve this? Which stitch did you use? How could they be joined more securely?
-Which materials did you choose? Why? Does your product serve its purpose well? What do you like about your product? How could you improve your product?

Health and Safety

-Remove any jewelry and tie back long hair.

-Walk safely and calmly around the classroom/ workshop.

-When using a needle, keep your fingers well clear. Use a thimble where available.

-When you are not using your needle, keep it in the same safe place.

If using a sewing machine, follow staff 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 any accidents & clean up properly after yourself.

Year 4

No DT this term.

Year 5

No DT this term.

Year 6

Hanslope Primary School
Design Technology Knowledge Organiser

Year 6 - Electrical systems

(complex switches and circuits – programming monitoring and control)

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 motors]

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 below.

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

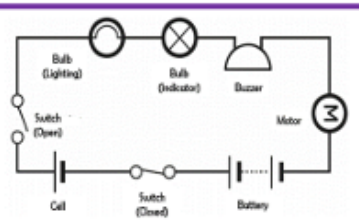
-Switches can be positioned so that electrical currents can flow through them (closed switch) or cannot flow through them (open switch). This alters the way that output devices function.

-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



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.

In designing you should be able to sketch and annotate different ideas, and should also be able to create either a making checklist, a storyboard, or a flowchart.

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?