



Knowledge and skills Concept Map-Design & Technology

Food

In Year 3 we will learn...

- To know that fruits and vegetables grow in different countries based on their climates.
- To recognise that seasonal fruits and vegetables grow in a given season.
- To understand that eating seasonal fruit and vegetables positively affects the environment.

In Year 4 we will learn...

- To identify the 3 main types of sushi: Nigiri (a slice of fish placed over a small bit of rice), sashimi (slices of fish served without rice), maki (bite-sized rolls with seaweed on the outside and rice on the inside).
- To adapt a sushi recipe by using additional, Japanese ingredients.
- To use the bridge, claw and rocking knife techniques to prepare ingredients.

In Year 5 we will learn...

- The 5 stages of 'farm to fork' are production, cleaning and packaging, distribution, retail, and consumer.
- To add nutritional value to a recipe by reducing fat and salt, incorporating more vegetables and considering meat substitutes.
- To select and safely use the appropriate chopping technique when preparing food.

In Year 6 we will learn...

- To identify the original and traditional ingredients in a mince pie.
- To follow and adapt a recipe by recognising seasonal (Christmas) spices and ingredients such as nutmeg, cinnamon, orange zest.
- To independently measure, cut, roll, and decorate a mince pie using cooking equipment and utensils.

Structures

In Year 3 we will learn...

- A Ziggurat is an ancient Mesopotamian temple tower consisting of a lofty pyramidal structure built in successive stages with outside staircases and a shrine at the top.
- To understand that a 2D shape is a flat object and a 3D shape is a solid shape.
- To design and build a 3D ziggurat structure using 2D nets and geometric shapes.
- That evaluating a project leads to improvements.

In Year 4 we will learn...

- To know that a pavilion is a decorative building or structure for leisure activities.
- To know that a 'free-standing' structure is one that can stand on its own. Adding material and reinforcing corners will strengthen a structure.
- To build frame structures designed to support weight.
- To design a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect.

In Year 5 we will learn...

- To know that beam, arch and truss are types of bridges.
- To use triangles to create simple truss bridges that support a load (weight).
- To cut beams to the correct size, using a tenon saw, and smooth down any rough-cut edges with sandpaper.

In Year 6 we will learn...

- That Anderson shelters were made from corrugated iron that was designed for easy assembly.
- How to use tin snips and hack saws to cut metal safely and to remove sharp edges with wet and dry paper.
- To carry out a series of tests (strength, waterproofing, aesthetics/authenticity) to evaluate the success of a structure.

Systems

In Year 3 we will learn...

- To know that a pneumatic system uses compressed air or gas to power and control a moving part.
- To be able to communicate ideas through thumbnail sketches and exploded diagrams.
- To safely use craft knives, scissors and hot glue guns to build a working pneumatic system.

In Year 4 we will learn...

- That a circuit is a path for electricity to move through.
- Components within a torch consist of a battery, wires, switch, LED or bulb.
- To build a working circuit by connecting wires, bulb, battery, and a switch correctly in series.
- How to troubleshoot a circuit e.g check wires are connected, polarity missing components etc.
- To design and build a housing for a circuit and assemble a working torch.

In Year 5 we will learn...

- To identify the component diagrams for an LED, cell, PTM switch.
- To analyse different greeting cards to help inform design ideas.
- To follow a circuit diagram to build a series LED circuit and insert neatly into a card.
- To construct a pop-up element by folding, scoring and cutting.

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Textiles

In Year 3 we will learn...

- To know that a template is a paper shape, which is cut and pinned onto fabric which allow for more accurate cutting.
- To know that appliqué is a sewing technique in which fabric patches are layered on a foundation fabric, then stitched in place.
- To use cross-stitching to join two pieces of fabric together.
- To use templates, cross-stitching and appliqué to make and decorate a cushion face.

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In Year 6 we will learn...

- blanket stitch joins two pieces of fabric and can be used to reinforces edges.
- Small, neat stitches - which are pulled taut—are important to ensure strength.
- To sew blanket stitches to join fabric and appliqué to attach pieces of fabric decoration.
- To measure, mark and cut fabric accurately and independently.

Digital World

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In Year 5 we will learn...

- CAD stands for computer aided design, and to give examples.
- That motors, buzzers, and LEDs are output components
- To write a program for a microbit that controls outputs (motor, buzzer, LED).
- To identify errors (bugs) in the code and ways to fix (debug) them.

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