

Design technology Component Knowledge

Year Six

Waistcoat Design

National Curriculum

Pupils should be taught to:

Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer aided design.

Key learning and Component knowledge

Key Learning:

L1: To design a waistcoat.

Component Knowledge:

- Follow a set of design criteria.
- Make annotations to the design.

Key Learning:

L2: To mark and cut fabric according to a design.

Component Knowledge:

- Explain the differences between the design and the template.
- Accurately mark out the outline of the panels for the waistcoat.
- Cut neatly and accurately.

Key Learning:

L3: To assemble a waistcoat.

Component Knowledge:

- Sew a strong running stitch.
- Ensure my stitches are small, neat and follow the edge.
- Tie strong knots to secure the thread in place.

Key Learning:

L4: To decorate your waistcoat and evaluate.

Component Knowledge:

- Secure a fastening.
- Attach objects for decoration using thread.
- Evaluate my work according to the design criteria.

Structures: Playgrounds

National Curriculum

Design

Pupils should be taught to:

Use research to develop and inform the design of innovative, functional and appealing products that are fit for purpose and aimed at particular groups.

Generate, develop, model and communicate ideas through discussion and annotated sketches.

Evaluate

Pupils should be taught to:

Investigate and analyse a range of existing products.

Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work. Changes within living memory. Where appropriate, these should be used to reveal aspects of change in national life.

Key learning and Component knowledge

Key Learning:

L1: To design a playground with a variety of structures.

Component Knowledge:

- Identify different types of structures used in playgrounds as apparatus.
- Consider how the structures can be used.
- Design five different pieces of apparatus using three different structures.
- Improve the design based on peer evaluation.

Key Learning:

L2: To build a range of structures.

Component Knowledge:

- Build play apparatus structures using the techniques demonstrated as well as prior knowledge of structures.
- Explain that structures can be strengthened by manipulating materials and shapes.
- Measure, mark, cut and shape wood to create a range of structures.

Key Learning:

L3: To improve and add detail to structures.

Component Knowledge:

- Test and adapt my design to improve it.
- Identify what makes a successful structure.
- Use a range of materials to reinforce and add decoration to the structures.

Key Learning:

L4: To create a surrounding landscape.

Component Knowledge:

- Attach structures to a base, reinforcing the join where necessary.
- Consider the surrounding environment of the playground.
- Create landscape features using a range of materials.

Digital World: Navigating the world
National Curriculum
<p>Design</p> <p>Pupils should be taught to:</p> <p>Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.</p> <p>Technical knowledge</p> <p>Pupils should be taught to:</p> <p>Apply their understanding of computing to program, monitor and control their products.</p>
Key learning and Component knowledge
<p>Key Learning:</p> <p>L1: To write a design brief and criteria based on a client request.</p> <p>Component Knowledge:</p> <ul style="list-style-type: none"> • Write a design brief from information submitted by a client. • Develop design criteria to fulfil the client's request. • Consider and suggest additional functions for their navigation tool. <p>Key Learning:</p> <p>L2: To write a program to include multiple functions as part of a navigation device.</p> <p>Component Knowledge:</p> <ul style="list-style-type: none"> • Program an n, e, s and w cardinal compass. • Explain the key functions in the program, including any additions. • Explain how their program fits the design criteria and how it would be useful as part of a navigation tool. <p>Key Learning:</p> <p>L3: To develop a sustainable product concept.</p> <p>Component Knowledge:</p> <ul style="list-style-type: none"> • Consider materials and their functional properties. • Understand the need for sustainability in design. • Develop a product idea through annotated sketches. <p>Key Learning:</p> <p>L4: To develop 3D CAD skills to produce a virtual model.</p> <p>Component Knowledge:</p> <ul style="list-style-type: none"> • Identify key industries that utilise 3D CAD modelling and explain why. • Place and manoeuvre 3D objects using computer-aided design. • Change the properties of or combine one or more 3D objects using computer-aided design to produce a 3D CAD model. <p>Key Learning:</p> <p>L5: To present a pitch to 'sell' the product to a specified client.</p> <p>Component Knowledge:</p> <ul style="list-style-type: none"> • Explain the key functions and features of their navigation tool. • Explain their material choices and why they were chosen. • Describe how their product fits the client's request and how it will benefit the customers.