

# KS3 Design and Technology

Demonstrate

Programming

DT Options

Product Design  
EAL Engineering  
Graphics  
GCSE Engineering

**Demonstrate skills and techniques:** Shaping, forming and joining materials.

against design specification.

**Demonstrate and apply knowledge:** Creativity and design ideas. Materials and properties.

**Demonstrate and apply knowledge:** Specifications (literacy links).

**Demonstrate skills and techniques:** Populating and soldering a PCB.

**Demonstrate and apply knowledge:** Series and parallel circuits. Resistor Colour codes.

**Demonstrate and apply knowledge:** Design Brief and Task Analysis.

Mood Light

Routines, behaviour, machines, tools/equipment, PPE. Hazards/risks/safety precautions.

Drinks Coaster (CAD/CAM)

**Demonstrate and apply knowledge:** CAD/CAM in society.

**Demonstrate and apply knowledge:** Creativity and design ideas (links to prior learning.)

Challenge Activities

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Health and Safety

**Demonstrate skills and techniques:** Rendering – light source and rendering realistic materials.

**Demonstrate skills and techniques:** Isometric drawing, 1 point and 2 point perspective drawing.

**Demonstrate and apply knowledge:** 2D and 3D Drawings (links to maths)

Drawing Techniques

**Demonstrate and apply knowledge:** Photoshop, magazine cover design.

**Demonstrate skills and techniques:** CAD / CAM Photoshop, editing and combining images, effects, fonts. Image size.

**Demonstrate and apply knowledge:** Analysis of existing magazine cover. Imagery, colour, typography.

Photoshop (CAD)

**Demonstrate and apply knowledge:** Evaluation of picture frames.

**Demonstrate skills and techniques:** Practical Activity – cutting and finishing aluminium.

**Demonstrate skills and techniques:** Practical activity – none permanent fixings (nuts and bolts)

**Demonstrate and apply knowledge:** Adhesives and uses

**Demonstrate skills and techniques:** Practical Activity – cutting and finishing acrylic.

**Demonstrate skills and techniques:** Marking out and cutting accurate finger joints in pine.

**Demonstrate and apply knowledge:** Softwoods and Hardwoods.

Picture Frame

Health and safety

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**Demonstrate and apply knowledge:** Tools – function and safety.

Routines, behaviour, machines, tools/equipment, PPE. Hazards/risks/safety precautions.