



Oxford Cambridge and RSA

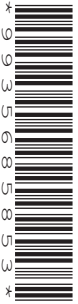
Monday 19 June 2023 – Morning

GCSE (9–1) Design and Technology

J310/01 Principles of Design and Technology

Insert

Time allowed: 2 hours



INSTRUCTIONS

- Use this Insert to answer the questions in Section B.
- Each question tells you which part of the Insert to refer to.
- Do **not** send this Insert for marking. Keep it in the centre or recycle it.

INFORMATION

- This document has **8** pages.

Product 1: Garden party decorations (papers and boards)

Item	Material	Other information
Flower	350gsm card	Finished with acrylic sealer spray
Butterflies	220gsm card	Embossed, finished with acrylic sealer spray

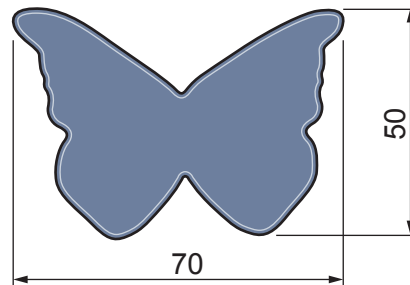
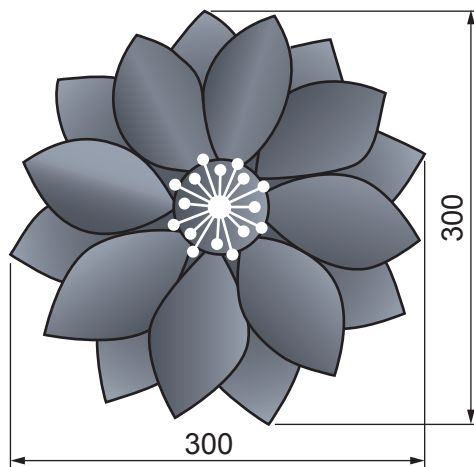


Butterfly decoration

Flower decoration



Embossed edges



All dimensions in mm

Product 2: Seat cushion pad (fibres and fabrics)

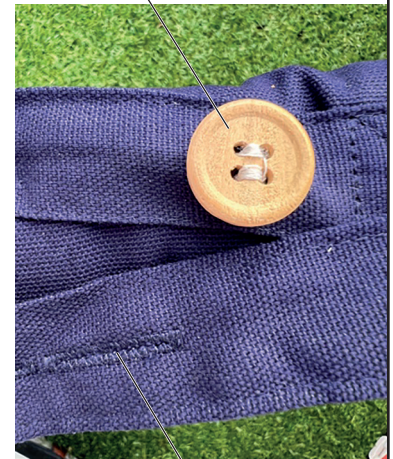
Item	Material	Other information
Cushion cover	Cotton canvas	Quilted with straps and button fastening with a wax coating
Filling	Polyester	



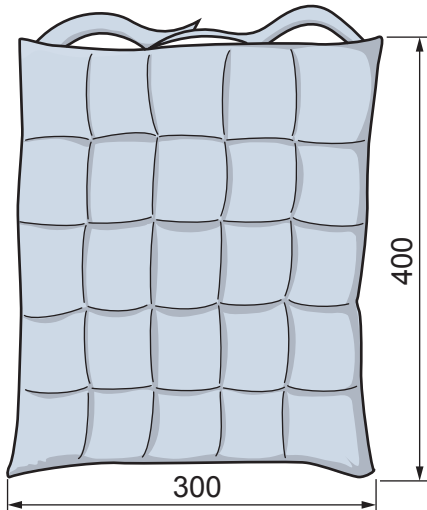
Cushion secured to chair by strap and button



Button



Button hole



All dimensions in mm

Product 3: Solar powered LED strip light (design engineering)

Item	Material	Other information
LED strip light	Circuit components soldered and mounted on a flexible strip	Encased in silicone LED strip light is connected to the solar panel to power it
Solar panel casing	HDPE (high density polyethylene)	Moulded



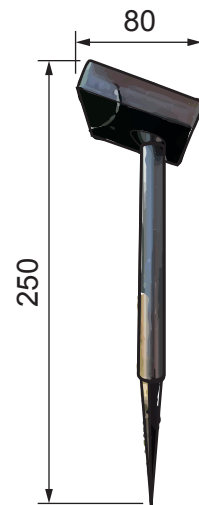
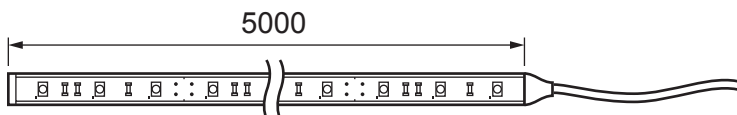
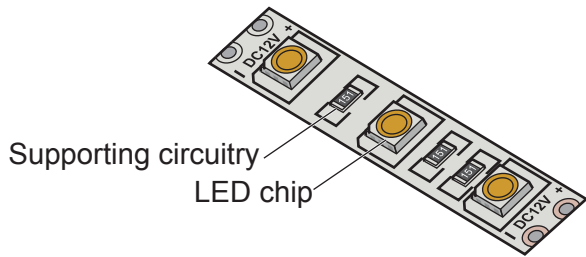
LED strip light encased in silicone



Solar panel casing

Cable to connect the solar panel to the LED strip light

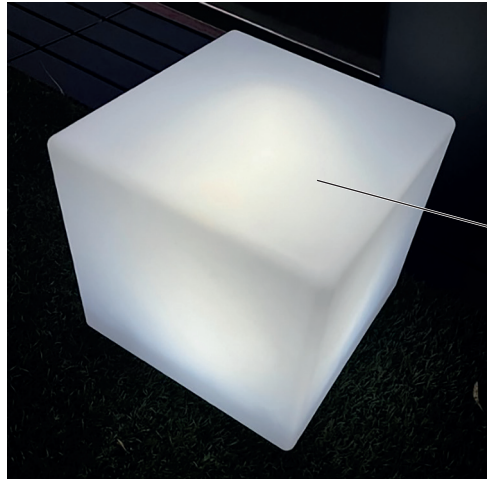
LED strip light circuit



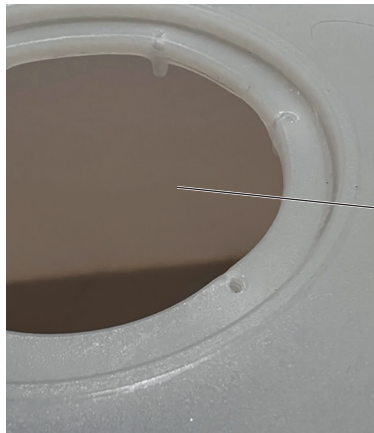
All dimensions in mm

Product 4: Cube seat (polymers)

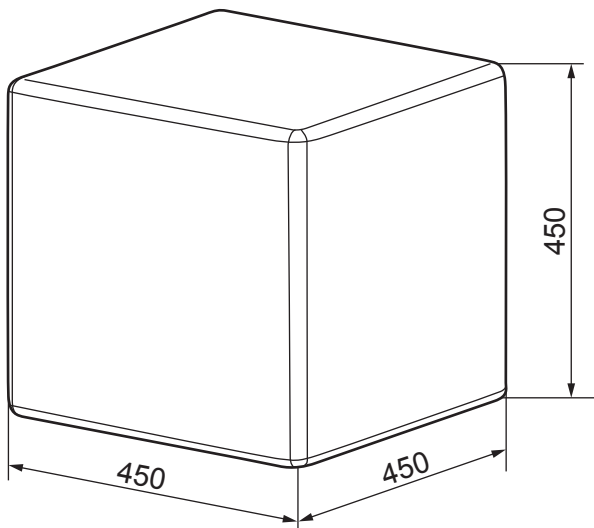
Item	Material	Other information
Cube seat	HDPE (high density polyethylene)	HDPE thickness 6 mm
Solar light unit	–	Bought-in component Fastened with screws to the cube base cut out



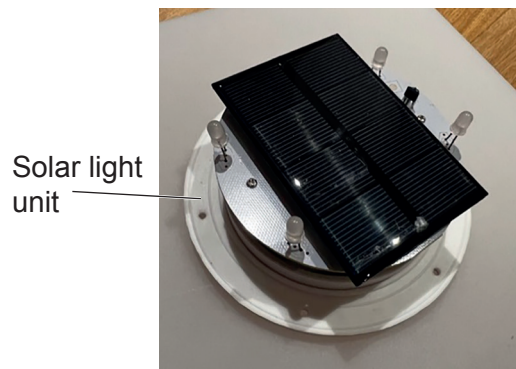
Hollow cube
lights up and has
solar light unit
inside



Circular cut out
in the base of the
cube for
solar light unit



All dimensions in mm



Solar light
unit

Product 5: Watering can (metals)

Item	Material	Other information
Watering can	1 mm thick mild steel	Zinc plated
Handle and spout	1 mm thick mild steel	Zinc plated Shaped and welded to the watering can body



Product 6: Garden table (timbers)

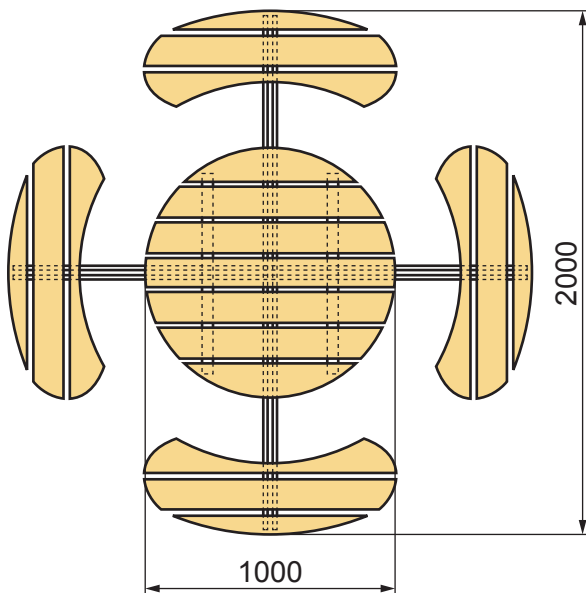
Item	Material	Other information
Table	Pine	Tanalised 38 mm thick
Coach bolts and nuts	Steel	Used to fix sections together Zinc plated



Coach bolt and nut



Coach bolt



All dimensions in mm

Information on this page is required to answer **Question 4**.

Image A



Image B



Image C



Image D



Image E



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