

Modified Enlarged 24pt
OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Thursday 18 November 2021 – Afternoon

GCSE (9–1) Design and Technology

**J310/01 Principles of Design and
Technology**

Insert

**Time allowed: 2 hours
plus your additional time allowance**

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.**



PRODUCT 1: Recipe cards (papers and boards)

The recipe cards are a set of double-sided cards that can be held by the user and fanned out so that each recipe can be seen. The cards are joined in the top right-hand corner with a rivet so that the cards can be fanned out. Each card is printed with instructions for the user to follow when preparing a juice or smoothie.

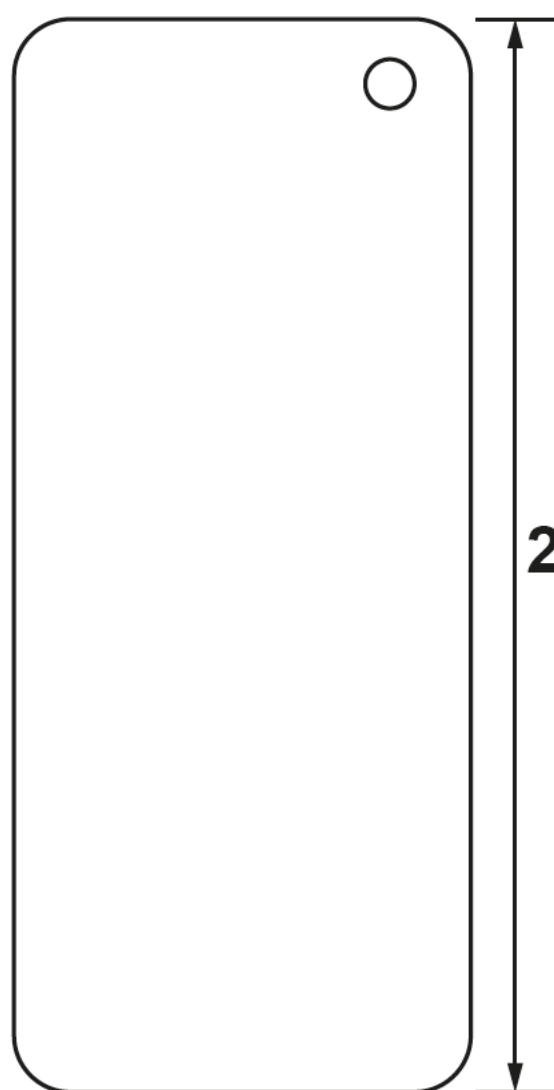
Item	Material	Other information
Recipe card	Printed paper, cardboard, Polypropylene (PP)	PP is 0.04 mm thick
Rivet	Stainless Steel	—



Rivet



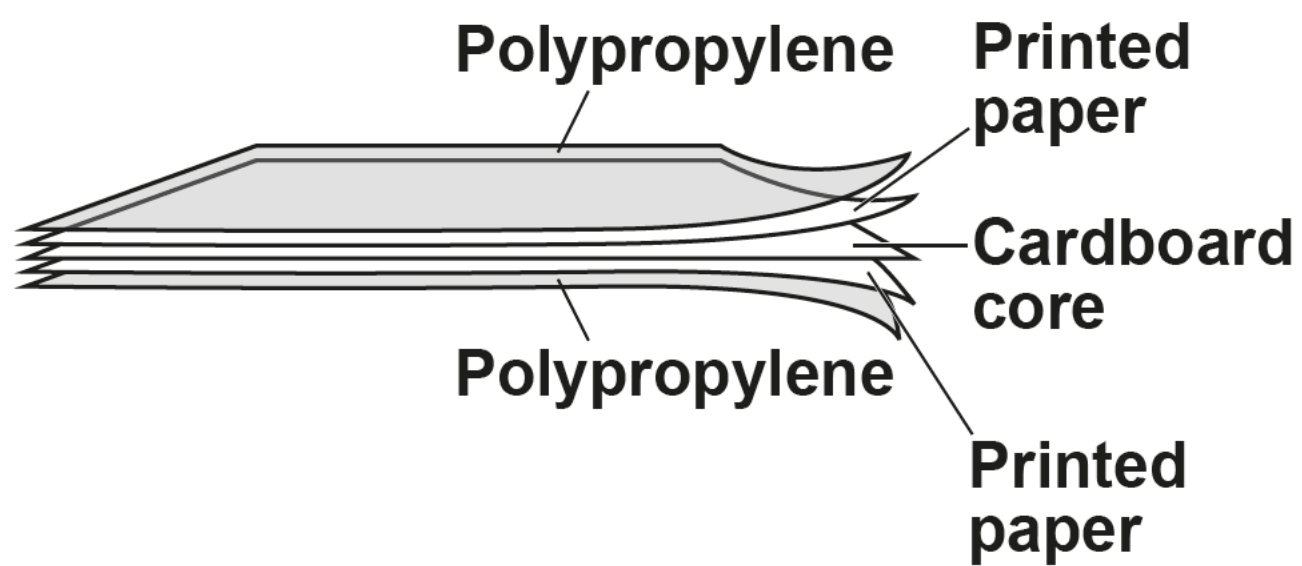
Rivet



210

85

Thickness of the set of cards 30 mm



Polypropylene

**Printed
paper**

**Cardboard
core**

Polypropylene

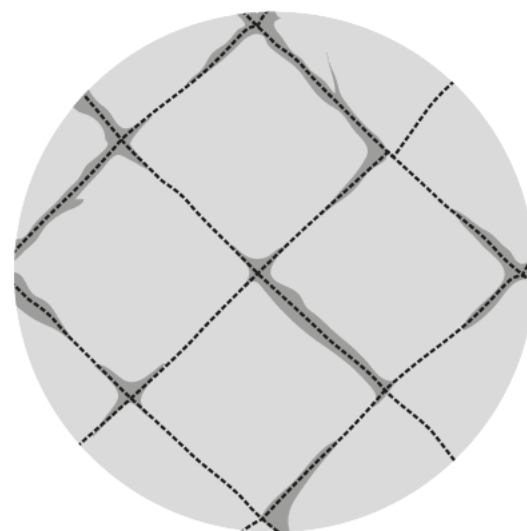
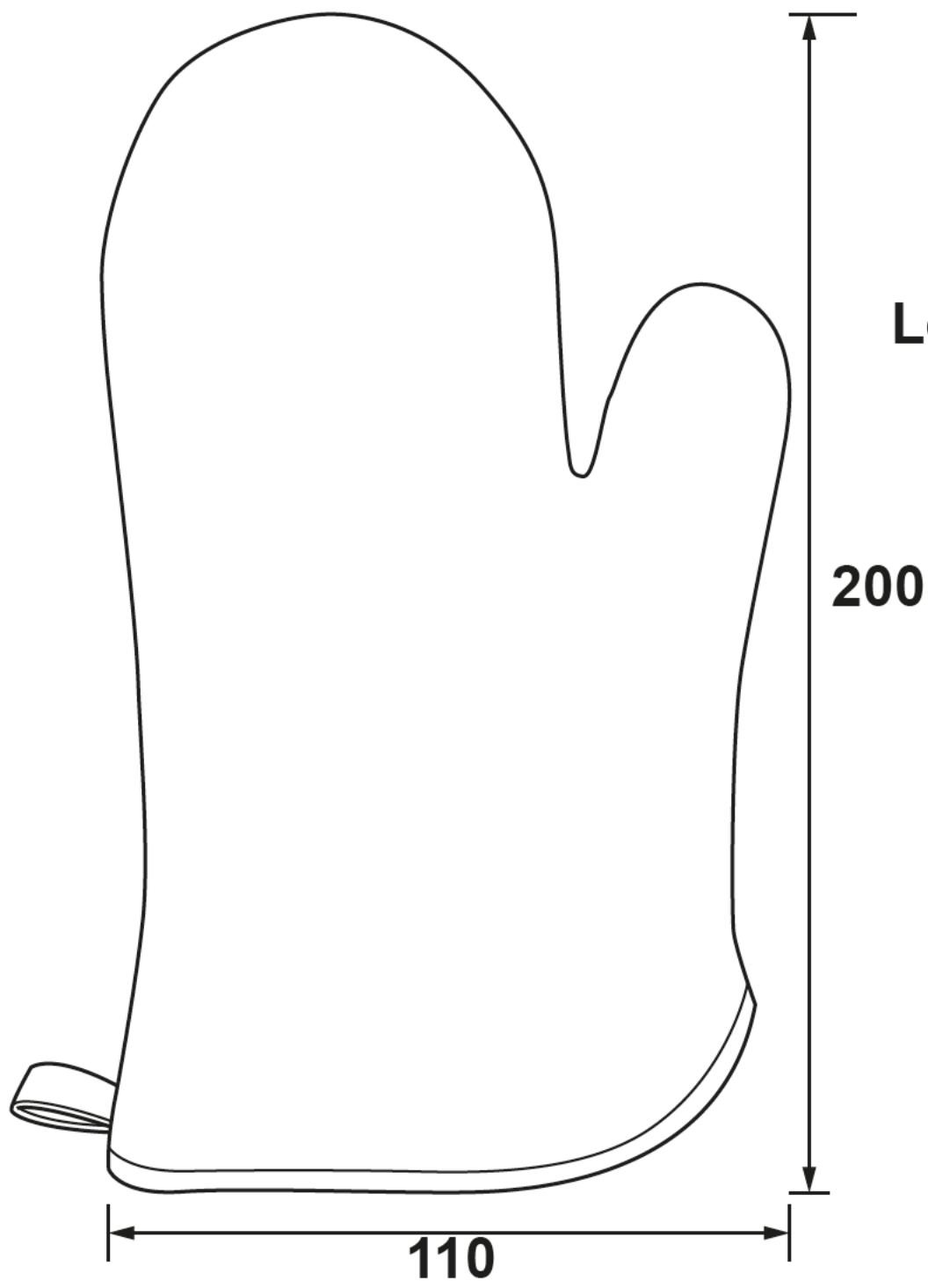
**Printed
paper**

All dimensions in mm

PRODUCT 2: Oven glove (fibres and fabrics)

The oven glove is made from cotton with a felted polyester layer. It has a thumb shape and a soft cotton lining. The oven glove has a loop so that it is easy to hang up when not in use. The oven glove is worn by the user to protect them when removing hot items from the oven.

Item	Material	Other information
Glove	Outer and lining: Cotton Interlining: Felted polyester	Quilted
Edging and loop	Cotton bias binding	Double stitched



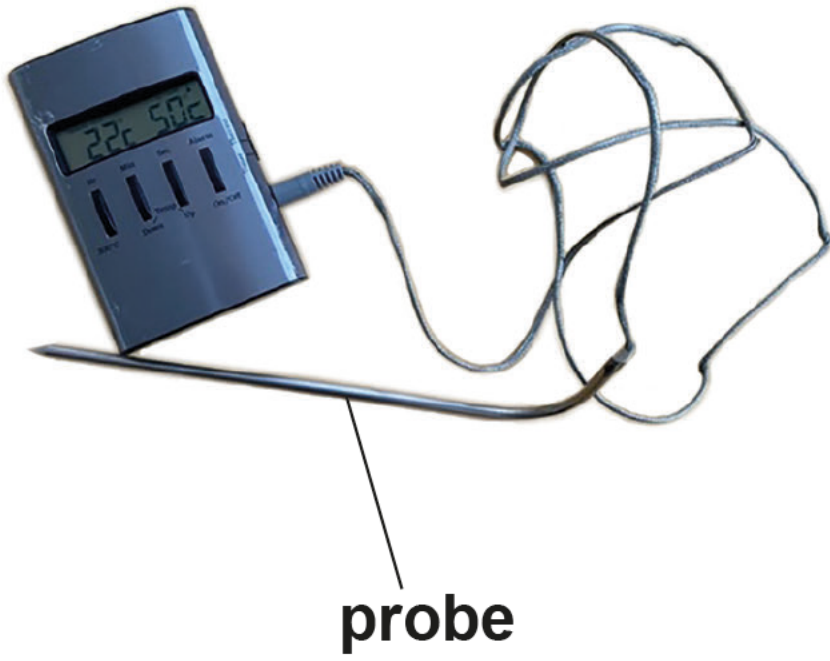
Quilted fabric

All dimensions in mm

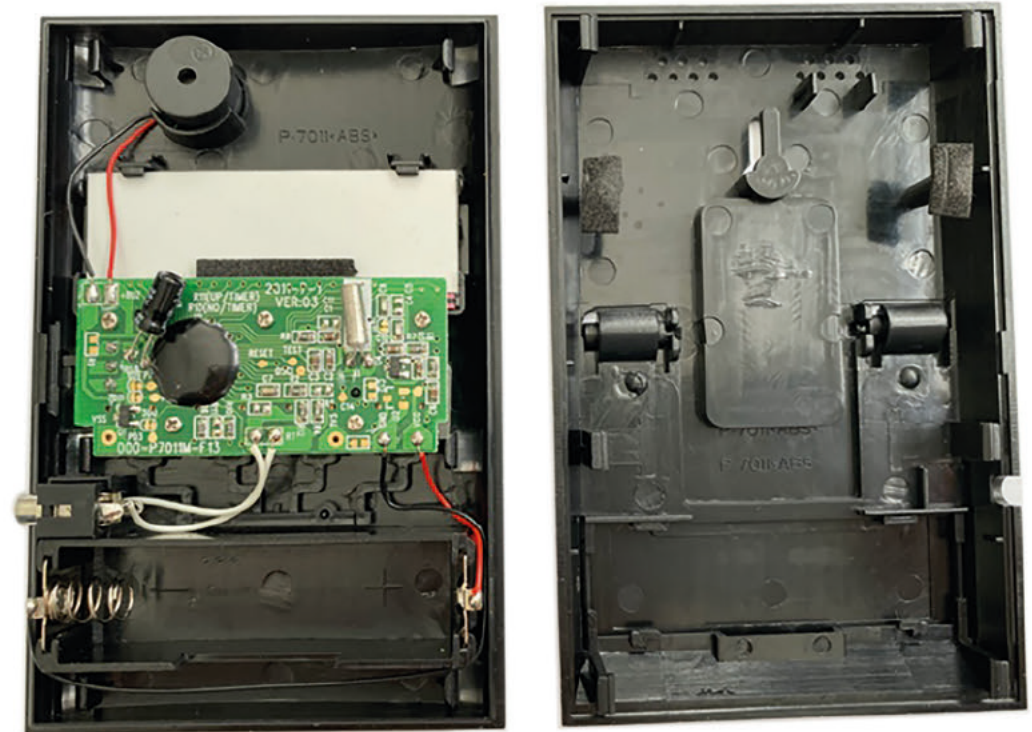
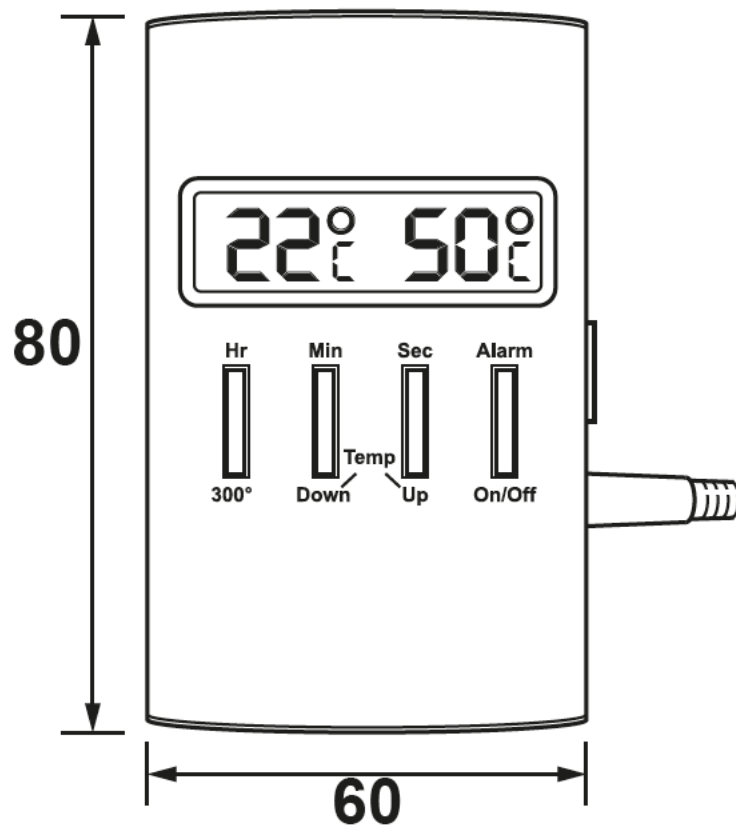
PRODUCT 3: Electronic thermometer (design engineering)

The electronic thermometer is a battery powered device that allows the user to measure the temperature of cooked food to ensure it is safe to eat. The stainless steel probe is inserted into the food and the temperature is shown on a digital display.

Item	Material	Other information
Printed circuit board (PCB)	Resin board with copper track	–
Casing	ABS	–
Probe	Stainless Steel	–



Probe being inserted into food



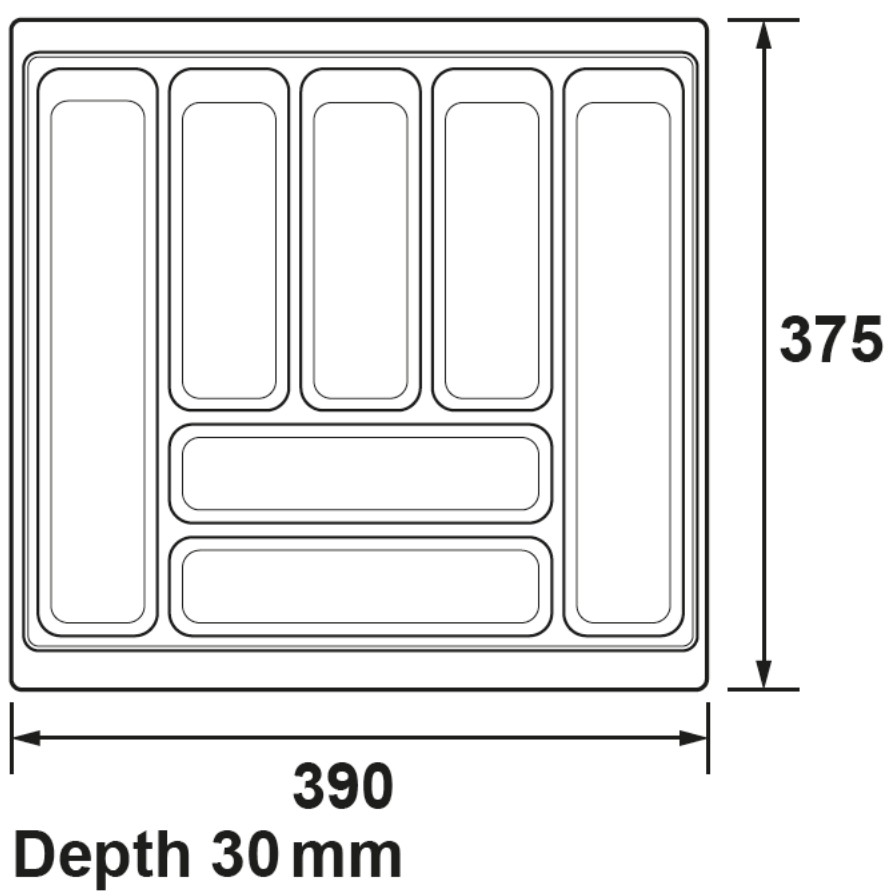
Case and PCB

All dimensions in mm

PRODUCT 4: Cutlery tray (polymers)

The cutlery tray fits into a drawer and organises and separates cutlery and kitchen utensils. The cutlery tray is made from 2 mm thick polypropylene and has seven compartments.

Item	Material	Other information
Tray	Polypropylene (PP)	2 mm thick



Underside of tray

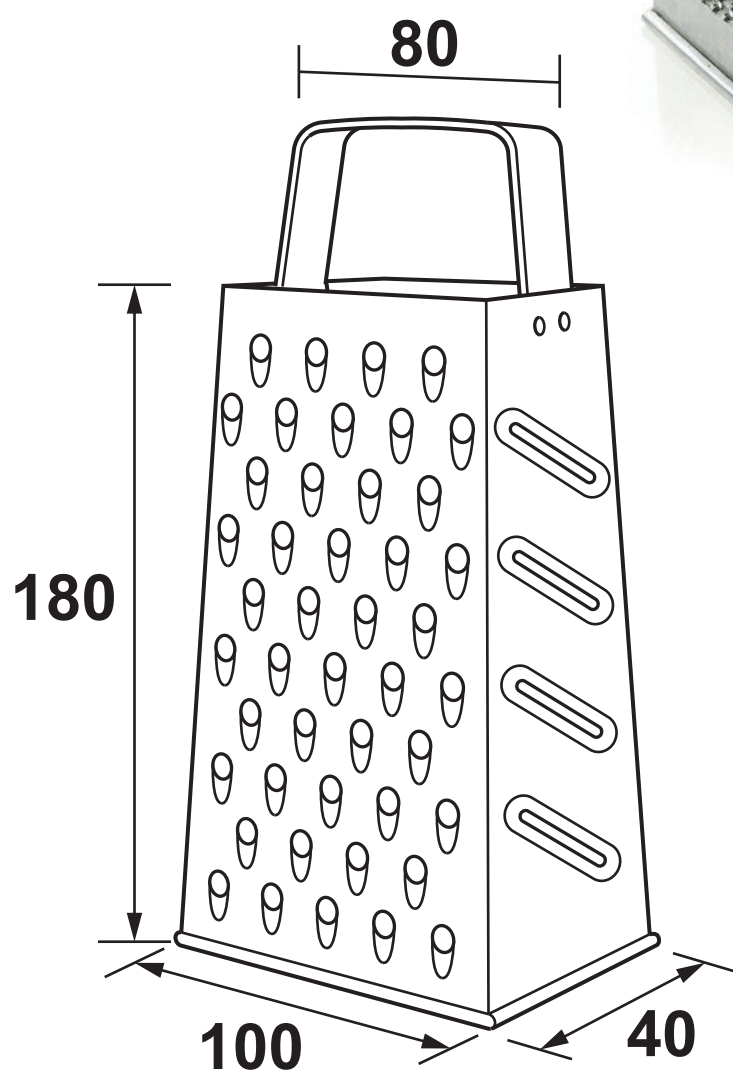
All dimensions in mm

PRODUCT 5: Food grater (metals)

The grater has four different cutting surfaces to grate and slice different foods such as cheese and vegetables. The user grips the handle to hold the grater steady when using it. The handle is riveted to the grater.

Item	Material	Other information
Grater	Stainless Steel	0.4 mm thick
Handle	Stainless Steel	0.4 mm thick

Handle riveted
to grater



All dimensions in mm

PRODUCT 6: Recipe book/tablet stand (timbers)

The stand is finished with a beech veneer. The user can place a recipe book or tablet on the stand so they can see it whilst cooking. The stand can be placed on a kitchen worktop or hung over a rail.

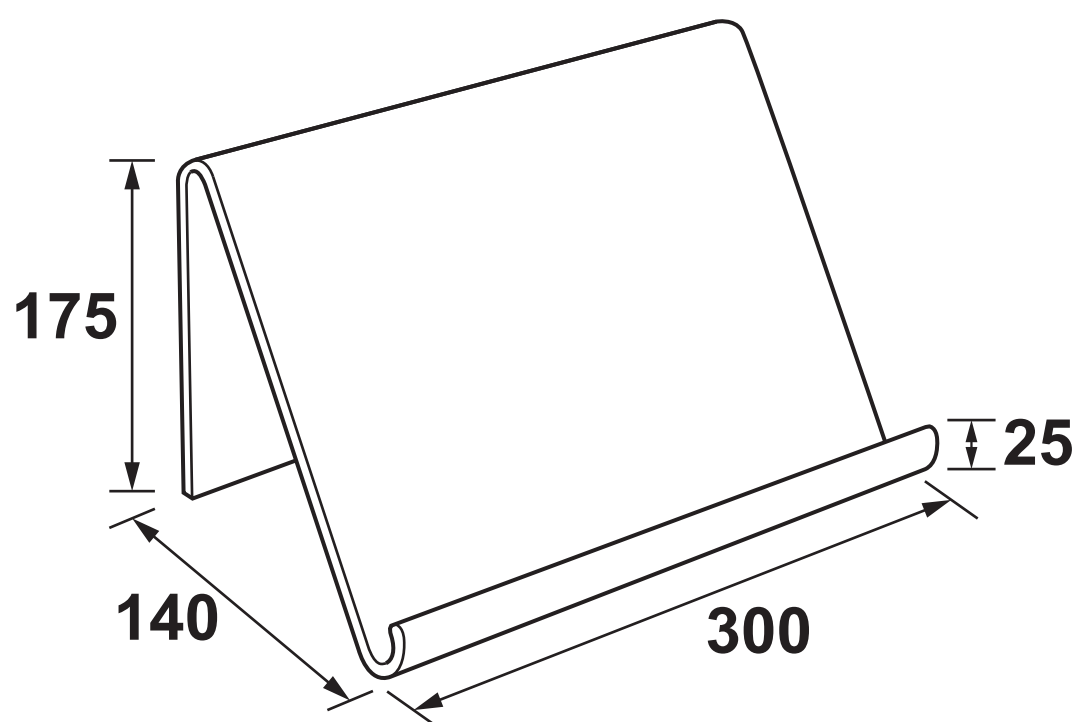
Item	Material	Other information
Recipe book/tablet stand	Plywood finished with a beech veneer	4mm thick Oil-based finish to beech veneer



Curved lip to hold the book or tablet



© Ikea, <https://www.ikea.com/gb/en/p/vivalla-tablet-stand-bamboo-veneer-10401484/>. Item removed due to third party copyright restrictions.



Thickness of plywood and veneer 4 mm

All dimensions in mm

Information on this page is required to answer QUESTION 4.

Image A

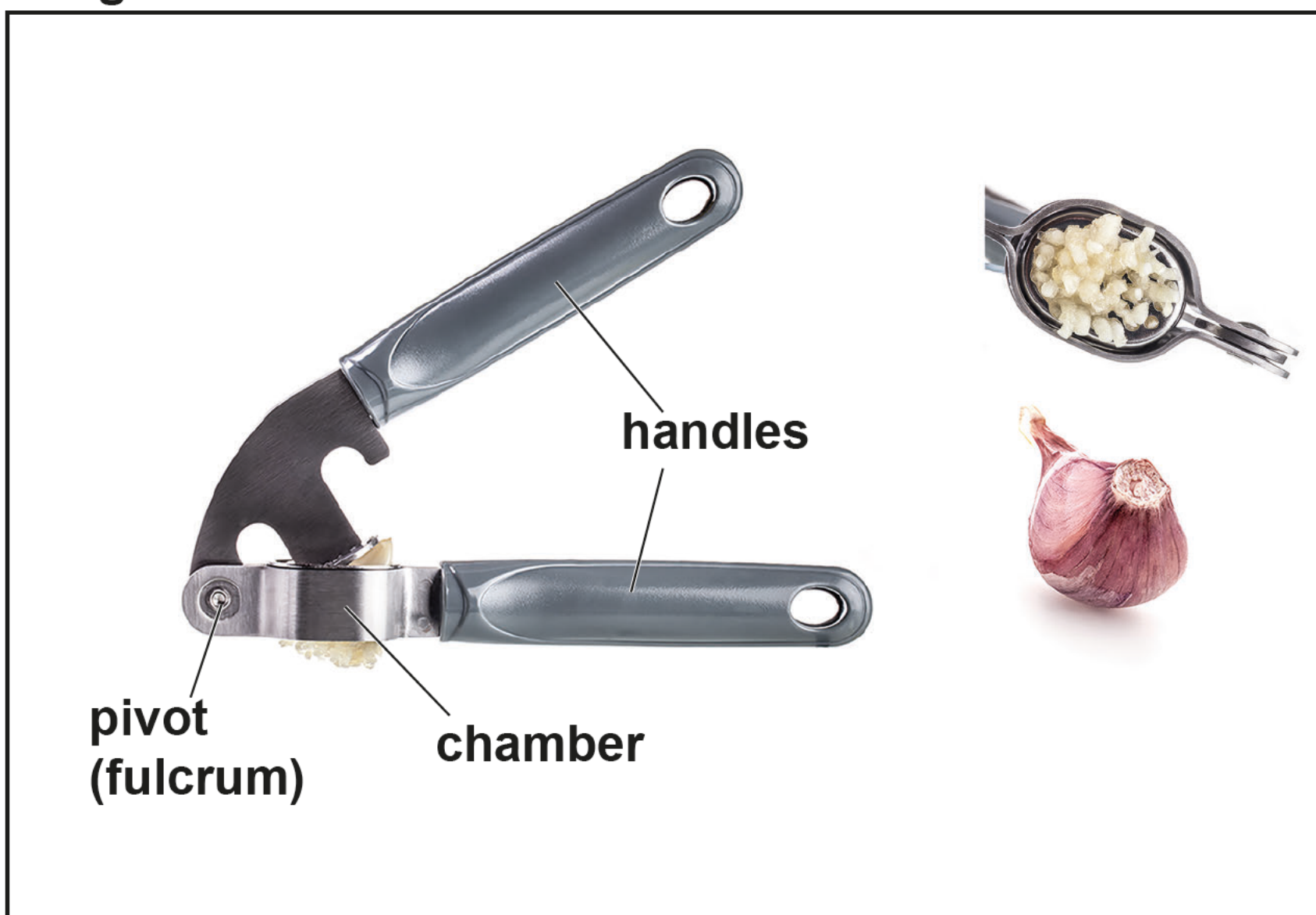


Image B



Image C



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