

**Modified Enlarged 18pt**

**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.

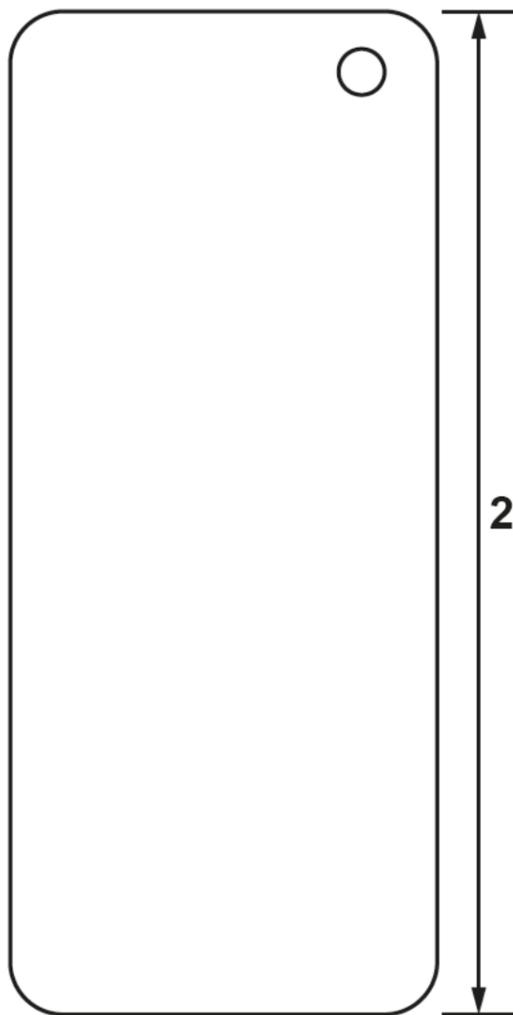
<b>Item</b>	<b>Material</b>	<b>Other information</b>
<b>Recipe card</b>	<b>Printed paper, cardboard, Polypropylene (PP)</b>	<b>PP is 0.04 mm thick</b>
<b>Rivet</b>	<b>Stainless Steel</b>	<b>–</b>



Rivet

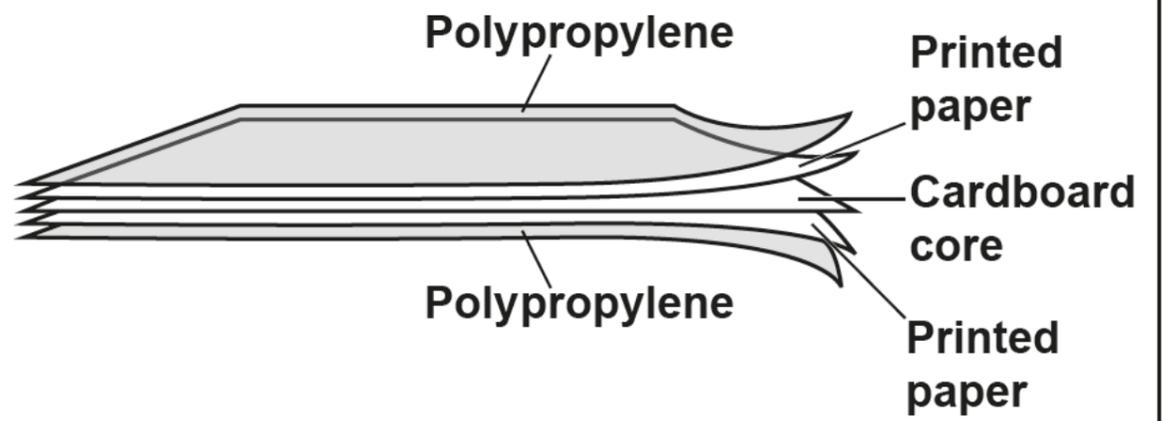


Rivet



210

85



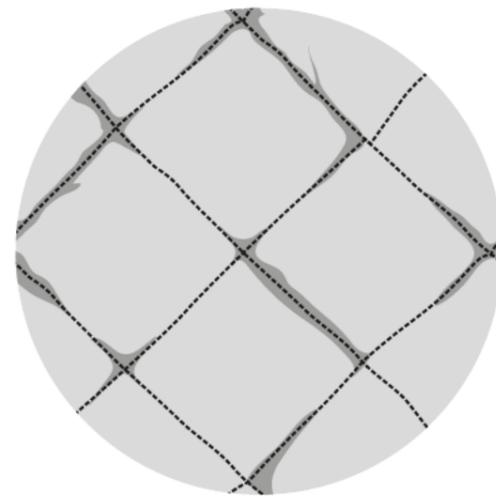
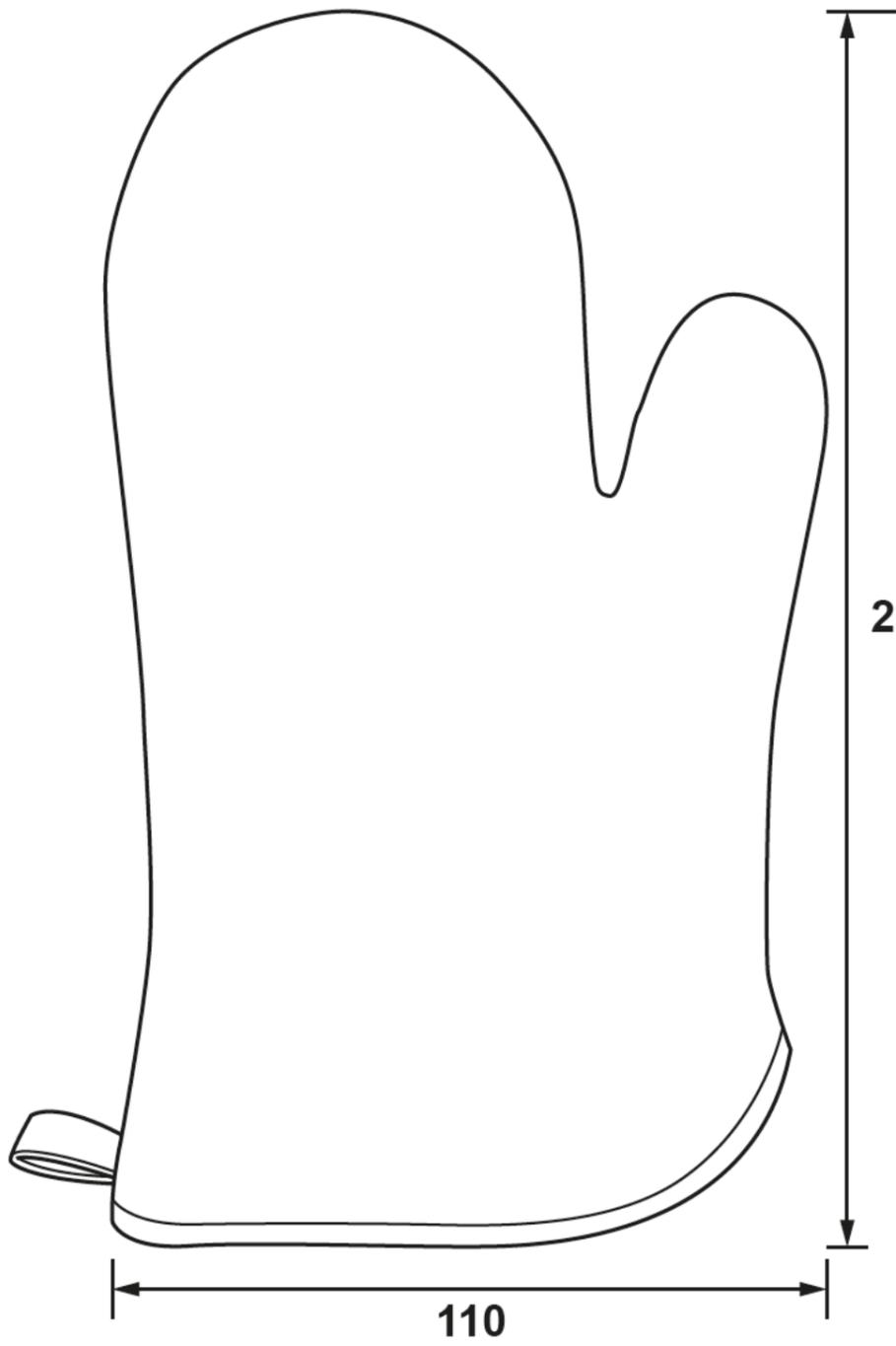
Thickness of the set of cards 30 mm

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.

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



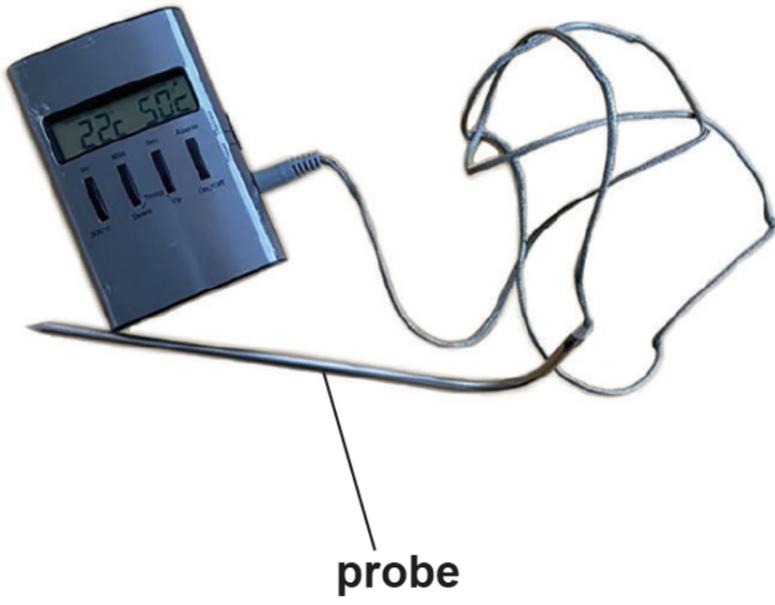
**Quilted fabric**

**All dimensions in mm**

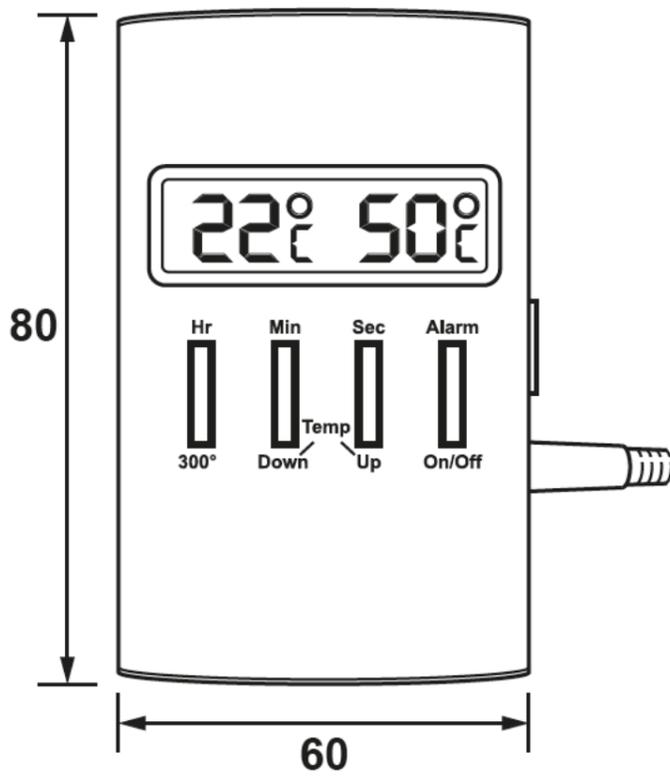
### **PRODUCT 3: Electronic thermometer (design engineering)**

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.

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



Probe being inserted into food



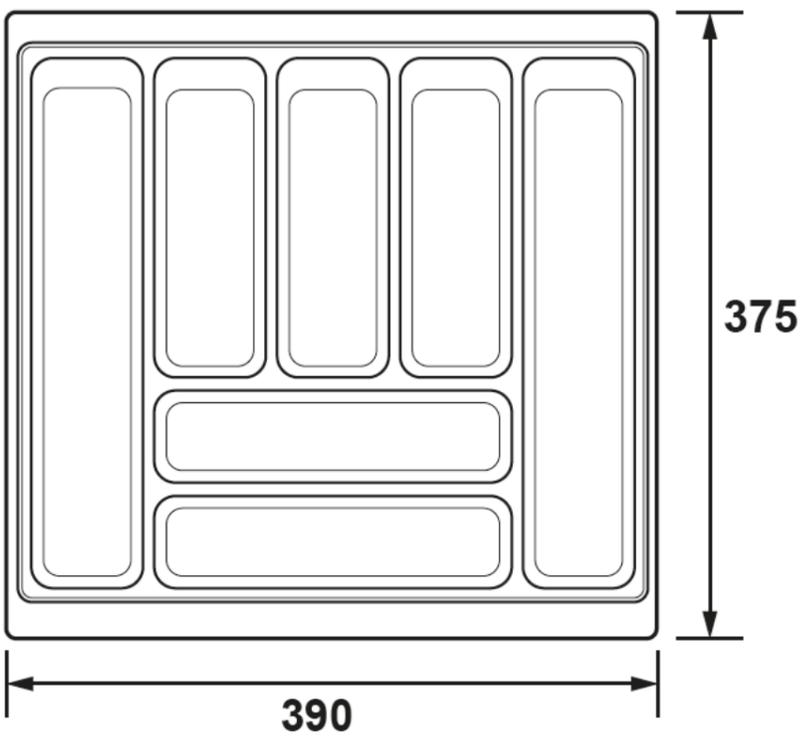
Case and PCB

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 2mm thick polypropylene and has seven compartments.

<b>Item</b>	<b>Material</b>	<b>Other information</b>
<b>Tray</b>	<b>Polypropylene (PP)</b>	<b>2mm thick</b>



Depth 30 mm



Underside of tray

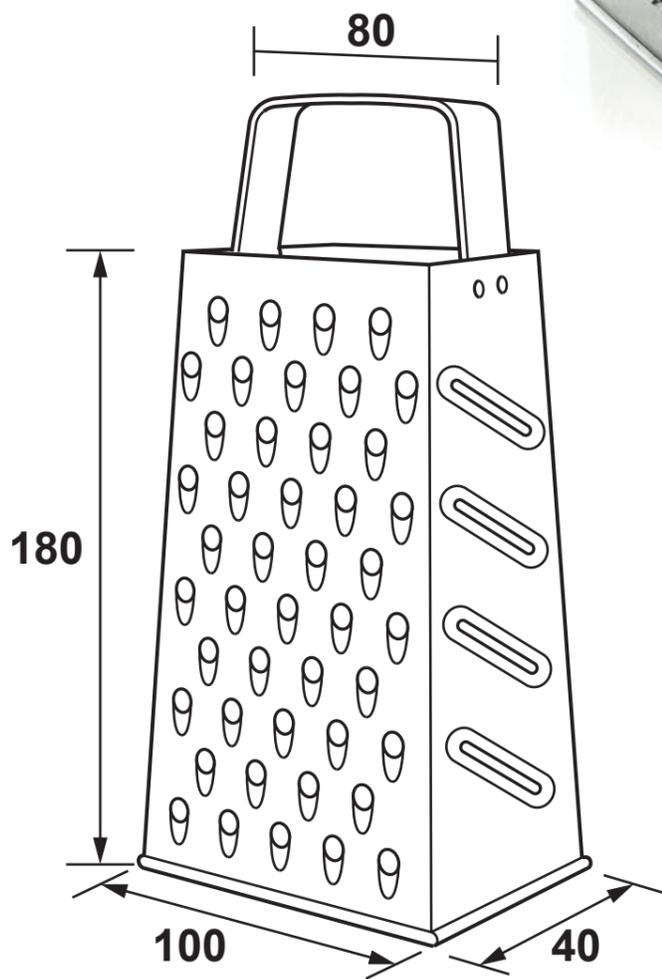
All dimensions in mm

## **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.

<b>Item</b>	<b>Material</b>	<b>Other information</b>
<b>Grater</b>	<b>Stainless Steel</b>	<b>0.4 mm thick</b>
<b>Handle</b>	<b>Stainless Steel</b>	<b>0.4 mm thick</b>

Handle riveted to grater



All dimensions in mm

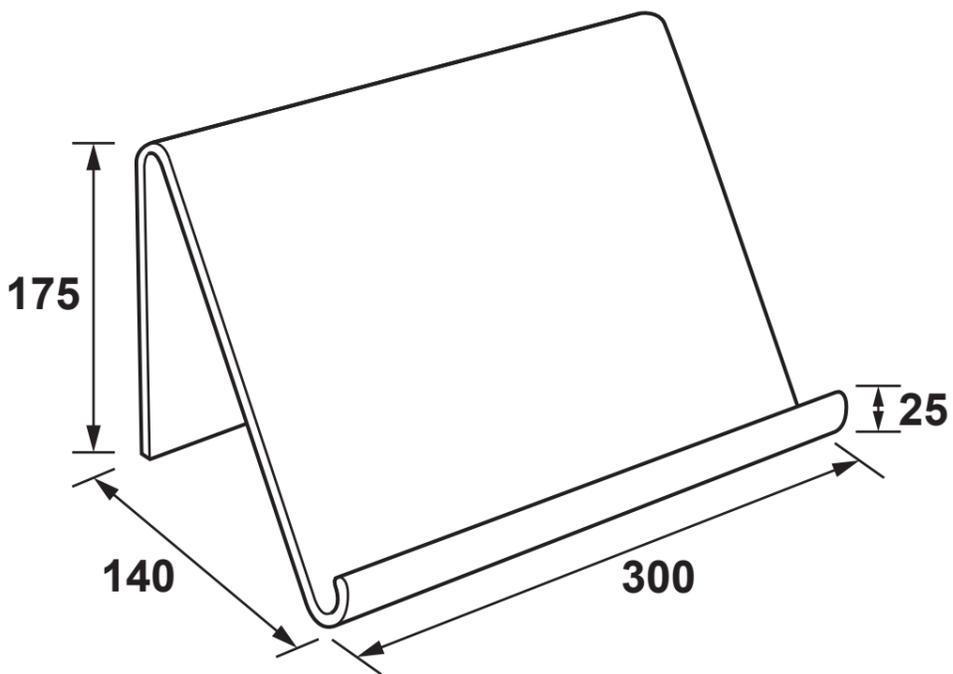
## **PRODUCT 6: Recipe book/tablet stand (timbers)**

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.

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



**Curved lip to hold the book or tablet**



**Thickness of plywood and veneer 4 mm**



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

**All dimensions in mm**

Information on this page is required to answer QUESTION 4.

Image A

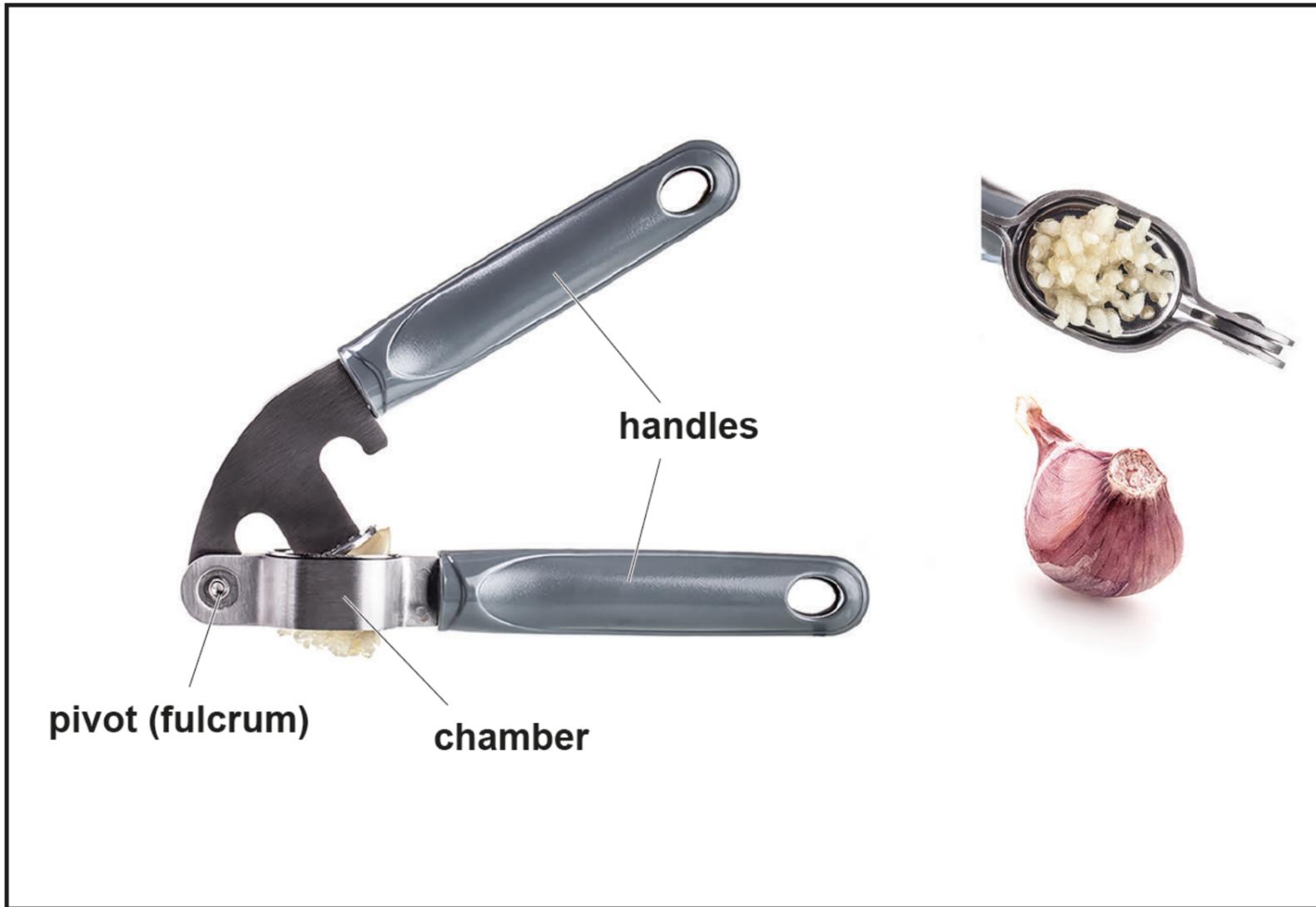


Image B



Image C



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