



Oxford Cambridge and RSA

Thursday 12 November 2020 – Afternoon

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.

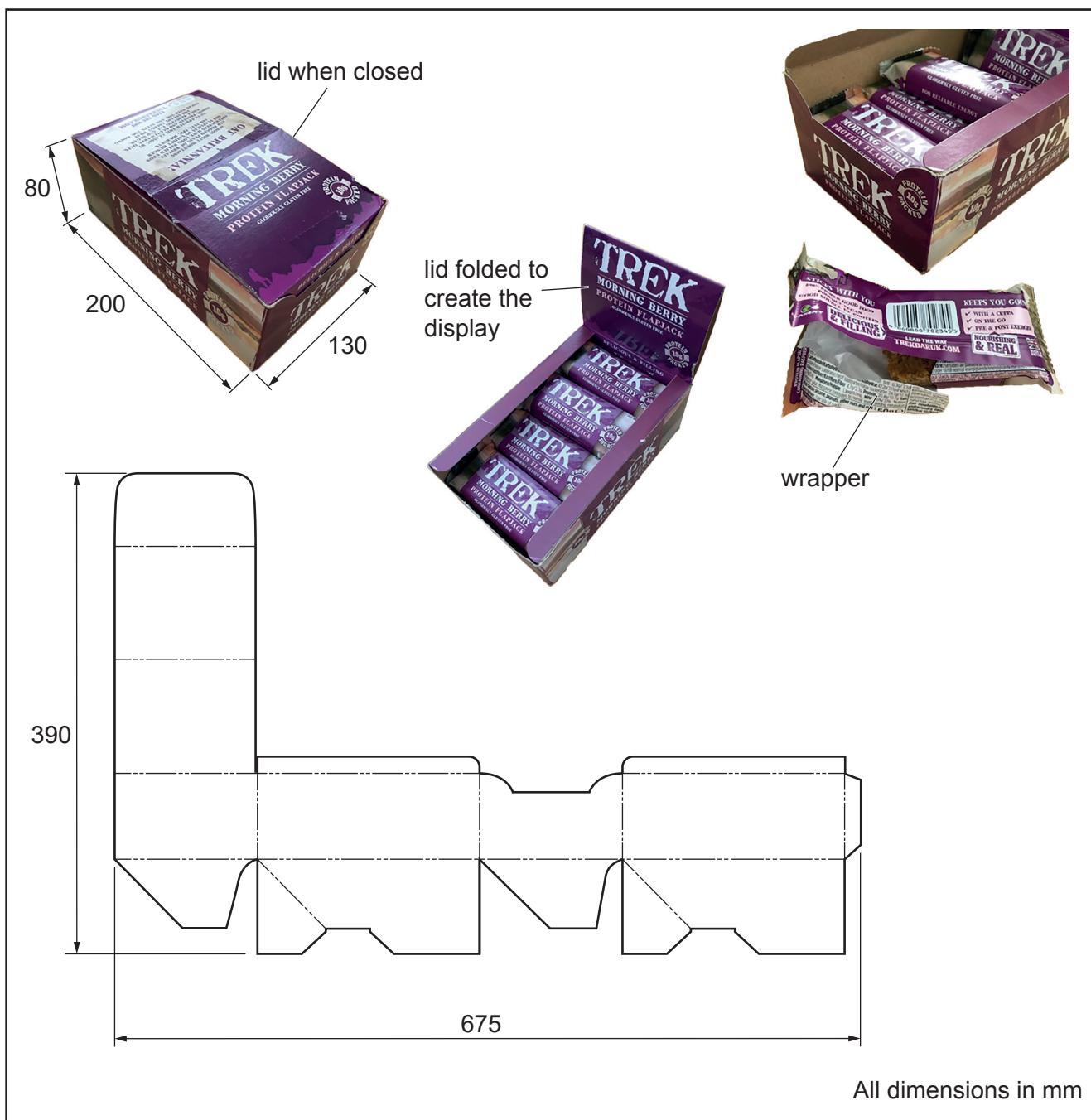
INFORMATION

- This document has **8** pages.

Product 1: Point of sale display (papers and boards)

The point of sale display holds 12 flapjack bars which are individually wrapped. The display is placed on the reception desk, so people can buy a flapjack bar on their way into the gym. The display lid closes flat for transportation and when in use it folds to create the display. It is printed with surface graphics.

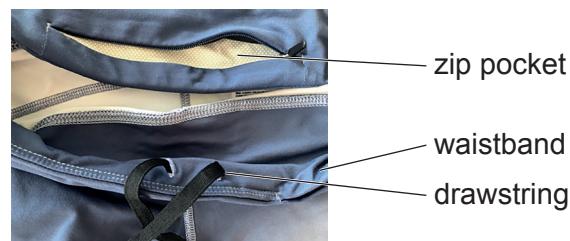
Item	Material	Other information
Point of sale display	Single walled printed cardboard	350 micron thickness Printed with surface graphics
Wrapper	Printed polypropylene	-



Product 2: Leggings (fibres and fabrics)

The leggings are designed to be worn when exercising in the gym. They are manufactured in three sizes; small, medium and large. The leggings have a small zipped pocket at the back to hold coins and keys, and a drawstring to allow them to be tightened. The leggings are branded with the logo of the designer.

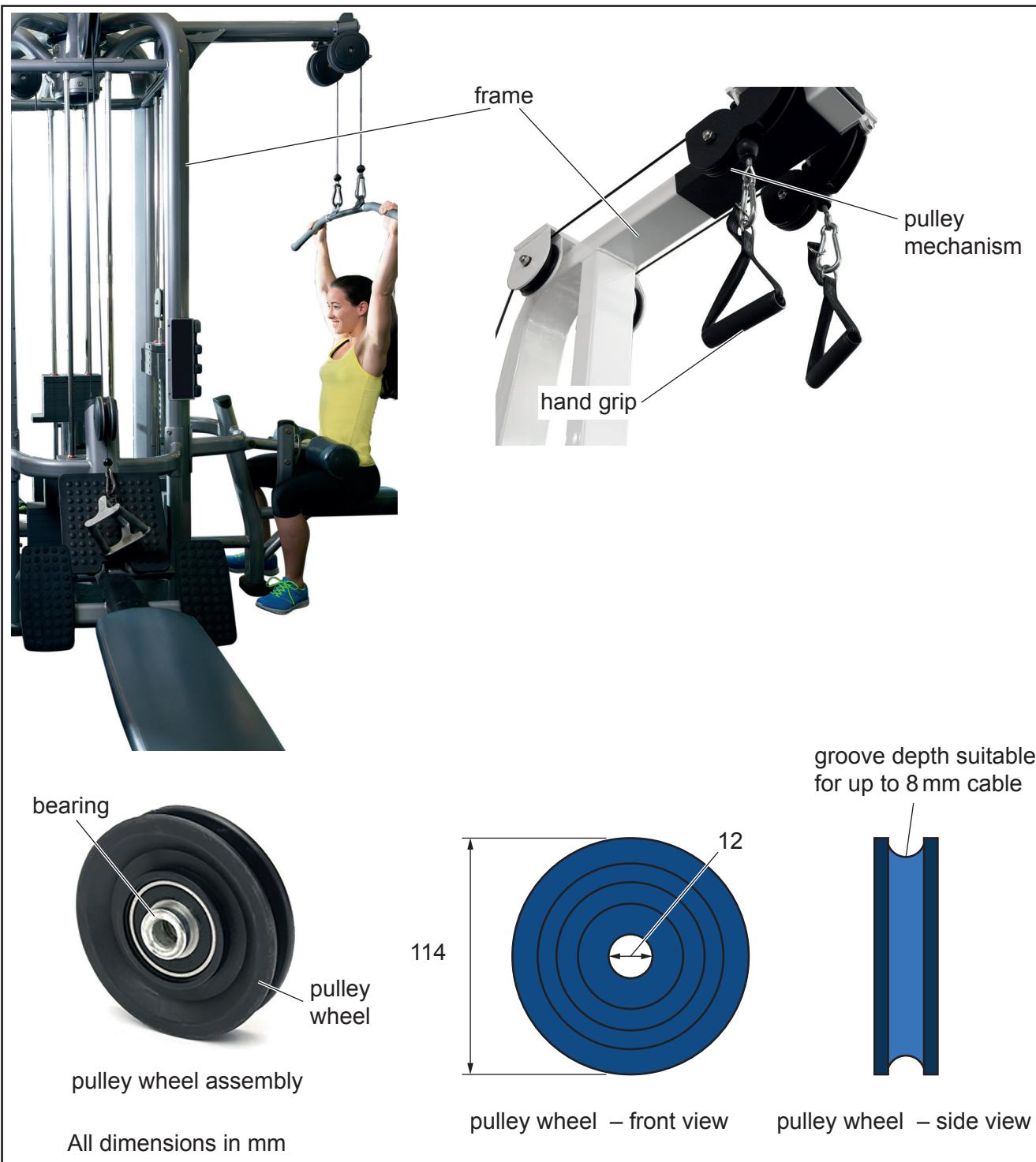
Item	Material	Other information
Leggings	Nylon with elastane	Logo applied to left ankle
Drawstring waistband lining	Nylon with elastane and polyester	The waistband has a small zip pocket



Product 3: Weights machine (design engineering)

The weights machine is used from a seated position, the user pulls on the hand grips to lift the weights. The weights are attached to the hand grips by long wire cables which run over a series of pulley wheels. The frame of the weights machine has a powder coated finish.

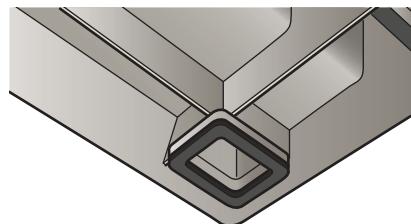
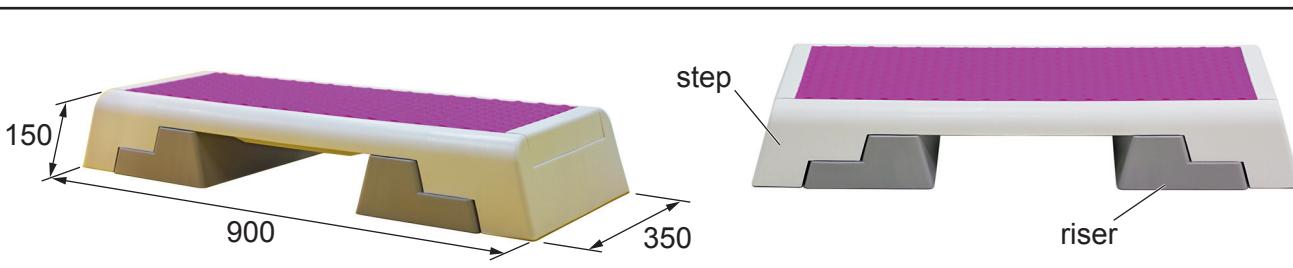
Item	Material	Other information
Pulley wheel	Nylon	Fitted with a standard bought-in bearing
Frame	Steel – box section and tube	Powder coated finish



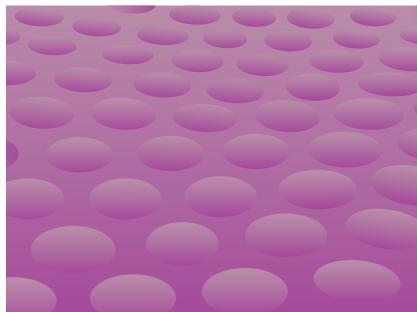
Product 4: Step block (polymers)

The step block is used in fitness classes at the gym. Users step on and off the block to increase their aerobic workout. The top of the step is covered with a textured surface pad. The risers allow the block to be set at three different heights; 150 mm, 200 mm and 250 mm.

Item	Material	Other information
Step and risers	Polypropylene	-
Surface pad	TPE (thermoplastic elastomer)	Textured



close up of the underside of the step



surface pad

All dimensions in mm

Product 5: Dumbbell (metals)

The dumbbell is a hand weight. The user grips the bar in the middle and lifts the weight(s) which are at either end of the bar. The weight of the dumbbell can be adjusted using three different weighted plates; 0.5kg, 1kg and 5kg. Spin-lock collars are used to secure the weights once they are on the bar. The bar has an elastomer grip.

Item	Material	Other information
Weight plate	Cast iron	Hammertone finish
Bar	Stainless steel	Threaded at both ends Secure spin-lock collars



set of 5kg, 1kg and 0.5kg plates and bar



weight plate

All dimensions in mm

Product 6: Locker (timbers)

The changing room lockers have a laminate finish and can be assembled on site. Doors are supplied in different colours and have a ventilation hole for air circulation. Gym users store their outdoor clothes and shoes in the lockers whilst they use the gym facilities.

Item	Material	Other information
Locker door	MDF	18 mm with laminate finish
Locker cabinet	MDF	18 mm with laminate finish



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



Image A



Image B



Image C



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