Your notes

GCSE Design and Technology: revision notes

Scales of production and specialist techniques

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Scales of production

- One-off (prototype or bespoke): a single product made to order, such as a wedding dress. High quality and unique, but expensive and slow.
- **Batch production**: a set number of identical products, such as 500 chairs. Jigs and **templates** speed it up, and the line can be changed for the next batch.
- **Mass production**: large numbers of identical products on a production line, such as cars. Cheap per product, but costly to set up and less flexible.
- **Continuous production**: non-stop production 24 hours a day, such as oil refining or making drinks cans, because stopping is too costly.

Specialist processes

- **Wasting** processes remove material: cutting, sawing, drilling, milling, turning and laser cutting.
- Addition processes join or add material: welding, brazing, soldering, adhesives, sewing, and 3D printing.
- Deforming and reforming change shape: bending, vacuum forming, **injection moulding**, casting, pressing and steam bending.

Accuracy and quality

- Jigs hold and guide work so that holes and cuts are in the same place every time. **Templates** are shapes to draw round.
- Quality control checks products against a specification, such as measuring with gauges.
- Printing uses registration marks to line up colours, and tolerances set how much a size can vary.

Key terms

One-off production	Making a single, unique product.
Batch production	Making a set number of identical products.
Mass production	Making large numbers of identical products on a production line.
Continuous production	Production that runs non-stop.
Jig	A device that holds and guides work so it is made the same each time.
Template	A shape used to mark out identical parts.
Wasting	A process that removes material, such as drilling.
Injection moulding	Forcing molten plastic into a mould.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. Which scale of production makes a single, unique product?
2. Which scale of production makes cars on a production line?
3. Which scale of production runs non-stop, such as oil refining?
4. What is batch production?
5. What is a jig used for?
6. Which process is a wasting process?
7. Which process adds material?
8. Which process forces molten plastic into a mould?

Answers

1. One-off
2. Mass production
3. Continuous production
4. Making a set number of identical products
5. Holding and guiding work so parts are identical
6. Drilling
7. 3D printing
8. Injection moulding

What to do next

Practise 10 questions on this topic

Try 4 exam questions, with mark schemes

Read the lesson, one step at a time

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