

YR11 SCALES OF PRODUCTION



Key words and vocabulary

- Levels of Production:** Quantities in which a product should be manufactured
- Prototype:** A test model that allows designers to test function / manufacture, aesthetics and suitability for users
- Design Iterations:** These are improvements of prototypes based on user feedback after testing. There will be visual evidence and notes of the progress
- Hand Tools:** These are tools that may be used for small scale production, prototypes one off or batch production
- Machine Tools:** These can be for batch production such as a laser cutter or large scale Die cutters for industrial production

Scales of Production

Products are made using different production techniques. Designers and manufacturers must choose the right scale of production (how many are made), this depends on the type of product and on its demand.

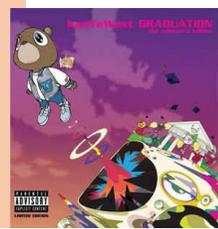
*One Off Production = 1 item

This is used for Bespoke products made suit an individual users needs. Each one is Unique i.e. Messi's football boots or a made to measure dress. Example: Bespoke clothing, Furniture and Jewellery.



*Batch Production = 1+ -10,000 items approx.

In batch production a set number of products are passed through production together. This is good for small scale production handmade products, limited edition of those where demand is not enormous. Templates are needed for batch production. Examples are bread, cakes, limited edition items



*Mass Production 11,000 - Hundreds of thousands

In Mass production hundreds of thousands of products are produced in large volumes. Production is broken down into different stages on an assembly line. The initial set up costs are high for machinery but the production costs are low because a large amount is produced over time. Examples: Newspapers, Cereal, Drinks bottles, Cadburys bars, Cars



*Continuous Production Millions 24 hrs a day 7 days a week

In continuous production items are made non stop without interruption. Production will stop for maintenance and cleaning. Production is high and done by machine. Examples are: Paper and pulp production, metal smelting and casting and chemicals.



Other production scales below.
Q. Which ones are more sustainable in your opinion? Why?

What are:
*LEAN MANUFACTURING &
*JUST IN TIME (JIT) ?



Explore

*Design

Create

Make

Evaluate