

# Folder order

Project 1- Skills Builder

project 2 – Production Methods

Project 3

Project 4

Theory & Exam

# GCSE TEXTILES REVISION MANUFACTURING



# PRODUCTION SYSTEMS AND PROCESSES

3 main types of production system:

1. One off
2. Batch
3. Mass

**EXAM TIP**

*You should be able to explain the differences between the above systems and the cost implications of each one*

**Today you are going to experience each system**

# Notes....

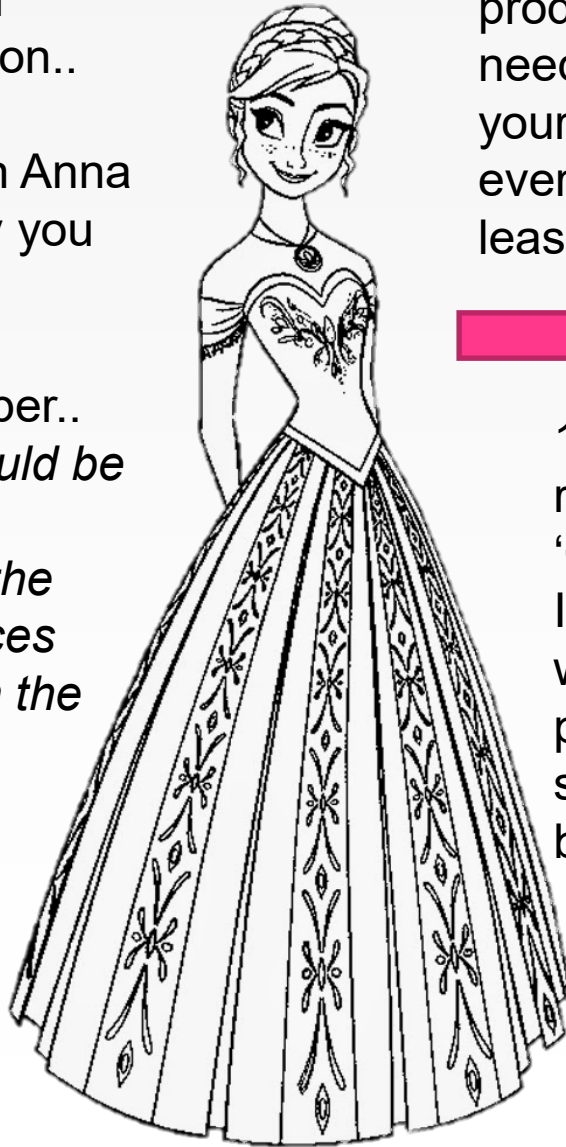
- ◉ Production systems.. My favourite revision lesson every year! I spilt my group into 3 teams to colour in my Frozen Anna dress.. 1 student was one off (they could colour the dress using any colour and add extra detail etc) 4 students were the batch team who had 2 jobs each and shared the colouring (to show they were flexible) in following the example on the board, and the other 10 were mass and sat in a production line (I'd even coloured in the hair already for my sub assembly line) We compared the quality of colouring and cutting afterwards, and the fact they had initial problems as I'd given them (on purpose) the wrong colour pencils which were blunt before they set off (to represent Just in Time stock control) We also talked about how mass were bored with their jobs and held up by others etc..
- ◉ Oh I had one girl on quality control as well.. She was in charge of sticking them on the board. If it didn't pass her standards it went in the bin. We also talked about tolerances at the end of the lesson where their colours varied, they coloured over the line and their cutting was rubbish as they rushed





1 person will represent 'One Off' production.. You can colour in Anna any way you like!

Remember..  
*You should be able to explain the differences between the systems*



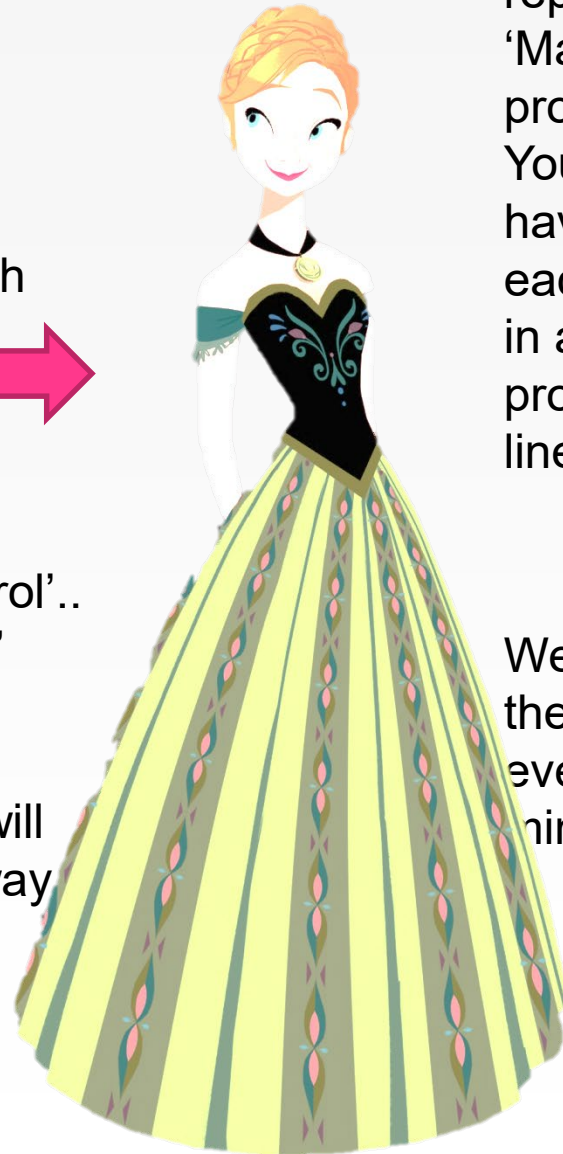
5 people will represent 'Batch' production.. You need to organise your jobs so everyone has at least 2 tasks each



1 person will represent 'Quality Control'.. If your teams' work doesn't pass their standards it will be thrown away

10 people will represent 'Mass' production.. You must have 1 job each and sit in a production line

We will rotate the stations every 10 minutes





**One Off**

**Batch**

**Mass**

# ONE OFF PRODUCTION

# MASS PRODUCTION

**Job roles:**

Pencil sharpener (organise colours)

Cut out garment

Colour bodice

Colour sleeve

Add pink detail

Colour plain skirt panel

Colour detailed skirt panel

# BATCH PRODUCTION

Now let's analyse our work this lesson..

- What's the difference in the quality of your colouring in?
- Who was neater? Why?
- Whose cutting out was more accurate?
- What problems did you have with the 'delivery of materials?'
- Did it help having Anna's hair already coloured in for Mass production?
- How did you feel about your jobs?
- What problems did you have?
- Who worked the quickest? Was the quickest the best?

## One Off

## Batch

## Mass



# ONE OFF MANUFACTURE

REVISE ME

- ◉ Individual items made once
- ◉ By hand or highly skilled machinists
- ◉ Made exclusively for a client
- ◉ Also known as bespoke, made to measure etc
- ◉ Haute couture is made this way (high quality designer items)

# BATCH PRODUCTION

REVISE ME

- ◉ An agreed number of identical items made
- ◉ Team of workers
- ◉ Production costs are lower
- ◉ E.g... A dress in topshop would be batch produced as the shop will only have so many of each size of the dress (short term item in a range)

# MASS (VOLUME) MANUFACTURE

REVISE ME

- ◉ Large numbers of identical products are manufactured over a long period of time
- ◉ Uses a **production line & sub-assembly**
- ◉ Cheapest as materials can be bought in bulk, automated machinery & CAM is used as much as possible to cut labour costs
- ◉ E.g...white t-shirts or big white granny knickers – items in continual demand!

# PRODUCTION LINES

REVISE ME

- ◉ Used in mass production
- ◉ Each operator works on a section of the product before passing it along to the next machinist
- ◉ Workers must work quickly to agreed standards so the line runs smoothly and is cost effective
- ◉ Machinery runs continuously with operators working shifts

# SUB-ASSEMBLY

REVISE ME

- Its more efficient to join & attach small parts of a product together separate from the main production line
- E.g... A whole shirt collar is made separately before attaching it to the shirt
- Some production systems may have several sub assemblies – some not even in the same factory.

# JUST-IN-TIME STOCK CONTROL (JIT)

REVISE ME

- ◉ Cost effective method of ordering fabrics, components & sub-assemblies to arrive just before they are needed
- ◉ Saves money in stock storage but any mistakes/delays in deliveries will hold the production up



# PRODUCTION PLANNING

REVISE ME

- ◉ Flow Charts – see example photocopied, they include feedback loops for quality control (QC)
- ◉ Manufacturing specifications – can include working drawings (technical flat drawings) & lay plans (a plan of how to lay patterns onto fabrics to be most economical)
- ◉ Costings – direct & indirect costs have to be considered. See photocopied sheet for more info...

# QUALITY CONTROL (QC) REVISE ME

QC – checks made throughout manufacturing in 3 main critical control points:

1. Raw materials check (in good condition)
  2. Prototype testing (does it meet design spec)
  3. Production sampling (samples tested)
- ◉ Staff inspect products to check for anything dangerous e.g. broken needles etc

*Don't confuse it with quality assurance (QA) – quality checking during designing process*

# USE OF ICT IN MANUFACTURING (CAM)

REVISE ME

- ◉ Used mainly in Mass manufacture – they can afford to invest!
- ◉ Once installed CAM can-
- ◉ Increase efficiency, consistency & accuracy.
- ◉ Time can be saved and modifications made easily
- ◉ CAM benefits the manufacturer in many ways and you must be clear as to the reasons why (see list for examples...)

- ◉ Pattern (template) design
- ◉ Lay plans (reduce wastage)
- ◉ Digital printing
- ◉ Computer controlled weaving looms
- ◉ Knitted garments
- ◉ Automatic spreading of fabric and cutting out
- ◉ Sewing machines programmed for buttonholes etc
- ◉ Labelling can be done using CAM
- ◉ Monitoring of quality
- ◉ More CAM = less health & safety risks!

REVISE ME



One off



Batch



Mass



