Year 8 DT Home Learning 2

Name:	Class:

Task: In DT, New and emerging technologies have a huge impact on manufacturing systems. All products are created through a series of systems. Read the following information and answer the questions below.

ew and Emerging Technologies

hese can be split into 3 headings

IPUT – All materials, tools and equipment needed to make the product.

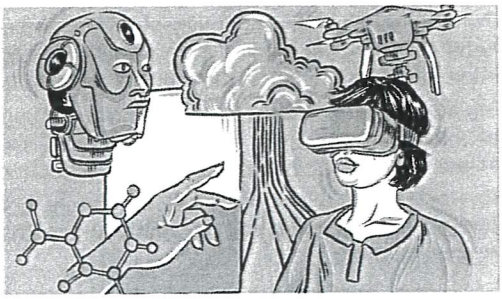
ROCESS – All the work needed to make the product, measurements, cutting, joining.

UTPUT – The end product.

ver the years manufacturing processes have developed to be quicker and more cost effective and more recently, better for the environment. utomation has made jobs previously done by humans quicker and more complex.

dvantages:

- Robots can work quicker than humans and therefore cost less money.
- Robots can do tasks too dangerous for humans.
- A robot can be more accurate and consistent when doing the same task repeatedly.



isadvantages:

- Mechanisation is expensive; the initial cost of robots is high.
- Humans can make decisions and solve problems.
- Fewer jobs for humans can have an effect on the local economy.

xamples of automation through new technology:

- Computer Aided Design and Manufacture enables really accurate work to be produced.
- Computerised stock control can automatically find, deliver and reorder materials as they are needed. Materials coming in and out of a factory can be tagged or bar coded to allow stock control to be really accurate and stop loss and wastage.
- Communication systems can allow people and machines to communicate instantly around the world. The use of smart phone and tablet has enabled contact between all layers of the manufacturing sector for constant communication.

anufacturing to maximise efficiency:

MS (Flexible manufacturing systems) are factories where a series of machines can be put together to make a product. Automated systems eliver and process each step from input to output. Although this system is expensive it is fairly easy to reconfigure each time a new product is oduced.

T (Just in time) is a form of manufacturing known as Lean Manufacturing. It minimises the amount of resources used by cutting down on waste, orage and materials. Materials are ordered as they're needed rather than expensive storage and having money tied up in materials that aren't en used.

'e are all consumers and we are encouraged to like owning 'stuff,' whether it's the latest phone, a takeaway meal or the new trainers we are told e should be able to have it now.

arket Pull / Technology Push

arket Pull is the design and manufacture of products which satisfy a need in the market and consumer demand. This might be from the influenc a celebrity or a sports person on the clothes you choose.

_Technology push __(sometimes called Market Push) is what designers and manufacturers can provide which can inspire a new product or iprove an old one. A great example of his is a mobile phone. Things that make a product more desirable would be to improve its function, the ay it looks or make it cheaper.

onsumerism

s consumers we are unwittingly influenced by fashion, celebrity and marketing. With the growing use of social media entrepreneurs are taking dvantage of this way of advertising to start new businesses:

rtual marketing – popup advertising, spam emails and virtual retailing are all ways of selling you products without you setting foot in a shop.

rowdfunding - people are encouraged to invest in the development of products or services which they think are a good idea to help it be oduced. They receive a percentage of the profits if it is successful.

ooperatives - are groups of people who share their investment and develop products together, they can share profits (and losses) when it goes to production.

is sort of innovation is making a change in our spending habits. Where once we would go to shops in towns we can now buy virtually anything n line. This has affected the amount of shops on our high streets and the number of jobs available to us. Not having to pay the overheads of ops and staff saves company's money.

ne development of new ideas in our consumer society means that we have never before had the choice and availability of new products and this having an impact on all parts of society:

- Products specifically made for the old or disabled – such as mobile phones with large numbers.
- Products to help the developing world become more affordable – water filters and pumps.
- More availability of products for specific groups – vegetarian food, clothing adapted for religious groups.
- Respect for consumers political, religious and cultural beliefs has meant more availability or products from fashion to food which may encourage some people and discourage others.

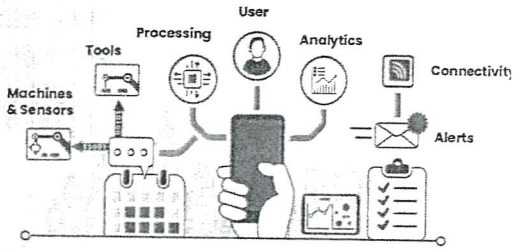
Environmental Footprint

How far has your product travelled?

Does the company do anything to offset its emissions like plant trees or put filter systems in place? (Different rules apply to different countries regarding what it can put into the atmosphere and help combat global warming).

Ethical issues are becoming more and more important to us – the consumer. We are becoming more likely to as whether the products we're buying are harming the environment or unfairly treating people. Fair trade is a principle where everyone in the chain or manufacturing is offered fair wages and good working conditions:

- Farmers are paid a fair price for the raw materials.
- Factory workers are paid a living wage.
- Workers conditions are monitored and kept safe.
- Use of safety equipment like goggles and guards is encouraged.
- Toxic chemicals which could harm staff are changed.
- The use of sweat shops and child labour is banned.



Examples to bring up in your exam:

- Dyson have developed a vacuum cleaner which has interchangeable parts which are easy to repair.
- Fair trade fabrics are used in many high street stores. Particular cotton products.
- The use of fake fur is much more common than real fur due to consumer pressure to stop killing animals.
- More factories are being built in this country as it becomes cost effective to make products locally and transport them less distance that transporting them from Asia.

Fad Products

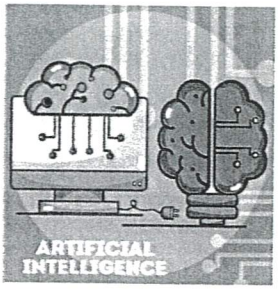
We are probably all a little guilty of loving fad products. They are introduced to the market and sell rapidly for a short period of time. (Think fidget spinners, loom band and virtual pets!) Fads have a rapid rise in sales followed by a small time period of development and improvement and then a rapid fall in sales. An entrepreneur spotting a product at the beginning of a fad can make a fortune very quickly.

We live in a time of rapid change and consumerism. Changes in technology mean that products are adapting and improving all the time and people generally want to very latest version. Resources on our planet are not never ending (infinite) and eventually they will run out (finite) unless we develop better ways of sustaining them.

No products are expected to last forever and become obsolete quicker than others. Toothbrushes, for example, are disposable this is called planned obsolescence. Mobile phone and fashion are expected to become obsolete but could be designed to last and have less impact on the environment.

Consumers can be encouraged to help the environment by:

- Buying fewer products.
- Mending your existing products and recycling where possible.
- Being aware of the environmental footprint of your product and choosing the least damaging.



Factories can be encouraged to help the environment by:

- Improving energy ratings of their products and their manufacturing techniques.
- Avoid using chemicals which are bad for the environment eg. CFC's going into the atmosphere or polluting dyes going into the water harming wildlife.
- Avoid wasting materials.
- Make products that can be recycled.
- Design products with easy to change spare parts to discourage waste.

INPUT

Q1: What is the role of Computerised stock control in manufacturing?

Q2: Why is the initial cost of robots considered a disadvantage in automation?

PROCESS

Q3: How has automation impacted the manufacturing process?

Q4: What is Flexible Manufacturing Systems (FMS) and how does it work?

Q5: What are the benefits of Just in Time (JIT) manufacturing?

OUTPUT

Q6: How does automation affect the local economy?

Q7: What is Market Pull in product design and manufacture?

Q8: What are some ethical considerations that consumers are increasingly concerned about?

IMPACT

Q9: How does consumerism influence the availability and development of new products?

Q10: How can factories reduce their environmental footprint?

Year 8 RS HL2 - Introduction to the Old Testament



What is the Old Testament? The Old Testament is the first part of the Christian Bible and is also a sacred text in Judaism, where it is known as the Hebrew Bible or Tanakh. It contains a collection of books written over many centuries, telling the history, laws, poetry, prophecies, and stories of the ancient Israelites.

Books of the Old Testament: The Old Testament is divided into several sections:

1. **The Torah (Pentateuch):**
   - **Books Included**: Genesis, Exodus, Leviticus, Numbers, Deuteronomy.
   - **Content**: These books cover the creation of the world, the early history of humanity, the lives of the patriarchs (Abraham, Isaac, Jacob), the story of Moses, and the laws given to the Israelites.
2. **Historical Books:**
   - **Books Included**: Joshua, Judges, Ruth, 1 & 2 Samuel, 1 & 2 Kings, 1 & 2 Chronicles, Ezra, Nehemiah, Esther.
   - **Content**: These books recount the history of the Israelites from entering the Promised Land to the Babylonian exile and their return.
3. **Wisdom Literature:**
   - **Books Included**: Job, Psalms, Proverbs, Ecclesiastes, Song of Solomon.
   - **Content**: These books contain poetry, songs, wise sayings, and reflections on life.
4. **Prophetic Books:**
   - **Books Included**: Major Prophets (Isaiah, Jeremiah, Lamentations, Ezekiel, Daniel) and Minor Prophets (Hosea, Joel, Amos, Obadiah, Jonah, Micah, Nahum, Habakkuk, Zephaniah, Haggai, Zechariah, Malachi).
   - **Content**: These books include the messages of prophets who spoke for God, offering warnings, hope, and guidance to the people.

Key Themes in the Old Testament:

1. **Creation and Covenant:**
   - **Creation**: The Old Testament begins with the story of how God created the world and everything in it.
   - **Covenant**: God makes covenants, or sacred agreements, with key figures like Noah, Abraham, and Moses, promising to bless them and their descendants.
2. **Law and Commandments:**
   - The Old Testament includes many laws and commandments given to the Israelites, including the Ten Commandments, which provide moral and ethical guidelines.
3. **Faith and Obedience:**
   - Many stories in the Old Testament emphasise the importance of faith in God and obedience to His laws.
4. **Prophecy and Fulfilment:**
   - The prophets in the Old Testament spoke about the future, including the coming of a Messiah who would bring salvation to the people.

Why is the Old Testament Important? The Old Testament is foundational for both Judaism and Christianity. It provides historical context, moral teachings, and spiritual insights that continue to influence millions of people today. It also sets the stage for the New Testament in Christianity, where the life and teachings of Jesus are seen as fulfilling Old Testament prophecies.

Home Learning - Read and use the information about the Old Testament to answer the questions below. You will be tested on these in the next lesson.

Write in full sentences:

1. **What is the Old Testament?**

2. **What are the five books of the Torah?**

3. **What kind of content is found in the Historical Books?**

4. **Name two books from the Wisdom Literature section.**

5. **Who are considered Major Prophets?**

6. **What is a covenant, according to the Old Testament?**

7. **What is included in the laws and commandments given to the Israelites?**

8. **Why are the Ten Commandments important?**

9. **What role do the prophets play in the Old Testament?**

10. **Why is the Old Testament significant for both Judaism and Christianity?**