Lesson plan

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| Topic 2 IT systems in organisations |
| Learning Objectives:   * Describe the features and implications of IT systems used by organisations for: * Stock control * Data logging * Data analysis * General office tasks * Creative tasks * Advertising * Manufacturing * Security |
| Content |
| Starter  PowerPoint Guide: Topic 2 IT systems in organisations  Ask students to consider the ingredients required to make 500,000 sandwiches per day in a factory. To make the calculation easier, they should think of just one sandwich type. Take them through a potential answer for a ham/cheese/tomato sandwich. The purpose of this activity is for them to see that companies buy very large quantities of products. The problems with this are discussed in the next slides.  Main  Problems with stock  Take students through some of the problems associated with large amounts of stock. One growth area of property in the UK is for warehouses near major motorways that can be used as distribution centres for online businesses.  Stock control and Just in Time (JIT)  It is important for businesses to track their stock levels and use stock control software that can re-order products. If companies get this right, then they can make savings on storage space. They also don’t need to borrow so much money to buy the products in the first place. Just in Time is the name of the system that allows just enough products to be ordered to carry out the work. In some industries, there may be just a few hours of products available in stock. Such a system can easily go wrong if careful planning is not carried out.  Case study: KFC  You may wish to read more about this case study at: <https://www.wired.co.uk/article/kfc-chicken-crisis-shortage-supply-chain-logistics-experts>. The cause of the failure was that whilst Rugby was a central location with access to the whole country there was one point of failure. The new IT systems were just being started with the new supplier. Just in Time meant that stores had limited supplies to cope with failure. Sufficient planning had not been carried out to assess what would happen if the location failed to deliver. Just in Time meant that there was not enough stock in stores to cope with the days needed to solve problems.  Give out **Worksheet 2** and ask students to do **Task 1.**  Topic 2 Worksheet 2  Topic 2 Worksheet 2 Answers  Manufacturing  Many products are now manufactured using a large amount of IT. Ask students what others they can think of. Some possible answers include toys, cars, bicycles, computers and flat pack furniture.  Data logging  Take students through the slide which shows the sort of weather measurements that will be logged. The major advantage of data logging is that they can monitor without human input. This means that they can work in harsh or high risk environments that humans cannot (such as a nuclear reactor). They can also work all day and night without intervention. Ask students to consider the sort of measurements that may need to be taken when manufacturing chocolate. They should consider both the chocolate itself and the people involved in making it. Answers are given on the following slide.  Data analysis  Data logging gets the raw data, but on its own it is often of little value. It is the data analysis which transforms the raw data into something useful. Take students through the slide and then ask what else data analysis can be used for. Answers are on the next slide.  Case study: Chocolate box sales  This case study looks at the sale of chocolate boxes. The raw data can be seen on the left. As part of the analysis, a chart is made which more clearly show the trends in the data. It is now easier to see that there are peaks in December (Christmas), February (Valentines) and April (Easter). Take students through the answers slide.  Ask students to do **Task 2** on the worksheet.  Automation of office tasks  Students may not fully appreciate how much automation and personal computers have helped in office tasks. You may wish to cast their minds back to the early 20th Century when typing pools and typewriters were how documents were produced. Ask students for other automations to those listed and take them through the suggestions on the following slide.  More efficiency  Computers and machinery have made people more efficient. The question of why we are not all working a 15-hour week has many possibilities in its answer. In many respects people can work harder today. Some of this will be due to a higher standard of living and more money being spent on holidays and entertainment. There are certainly people who have achieved a less than a 15-hour week by being frugal and having simpler lifestyles.  Creative industries and Case study: OBSBOT Tail  Creative industries have seen huge changes due to IT. Take students through the changes in animation and ask them for other changes in creative industries. Some of these are given on the answers slide. Other creative areas include Computer Aided Design (CAD) and 3D printing. One major recent change has been towards user generated content. The standard of such videos has been ever increasing. The case study of OBSBOT Tail, which was funded by Kickstarter, shows how advanced some ‘prosumer’ level cameras now are. This camera has the ability to track a subject as they move and replaces the need for a camera operator. Play the video to show the OBSBOT working: <https://www.youtube.com/watch?v=EeTlNzrtNMY> [0m0s-2m24s]  Ask students to do **Task 3** and **Task 4** on the worksheet.  Advertising  The advertising industry has seen huge changes as a result of online services. There are other changes that have occurred in advertising such as the ability for campaigns to go viral if designed well (or by accident). Website tracking allows huge amounts of data to be built up about users. Ask students what web and email usage can be tracked and take them through the answers slide.  Security  There are many ways that IT systems are used for security. CCTV and burglar alarms have had their feature sets improved. Automatic door locks controlled by IT equipment rather than a traditional key are commonly used in businesses and beginning to be used in people’s homes. Ask students for their suggestions and take them through possible answers on the following slide.  Ask students to do **Task 5** on the worksheet.  Plenary  Ask students to complete the plenary task and then go through the answers.   Hand out **Homework 2**.  Topic 2 Homework 2  Topic 2 Homework 2 Answers |