**WJEC GCSE Digital Technology**

**Unit 1: The digital world (Block 6: Changing digital technologies)**

|  |
| --- |
| This bundle may contain most if not, all of the following resources:   * Each lesson provided is for first-time teaching and they include the following components:   + Starter activity – The starter is designed for knowledge retrieval, many people believe (including myself) that revision should start from the very first lesson. So, each lesson the starter activity will include questions from previous topics to improve memory recall.   + Exam practise – As much as we would like students to be great at exams, they need considerable practise and guidance to master the art. Each lesson includes a ‘walk and talk’ style exam question that students can work through and self-assess using the mark scheme provided.   + Concept map – A concept map provides students with an overview of the topic and establishing the relationship it has with other concepts taught throughout the course.   + Keywords – Each lesson will include a set of key words students will come across throughout the lesson. The really important key terms will include a definition and meaning which they can refer back to throughout the lesson.   + New information – New concept is introduced and, in most cases, a video is provided which students watch and then answer a set of questions based around it. This is designed to provide some in-class discussion before moving onto the main activity.   + Activity – Each lesson will include at least one activity that allows students to be more independent and dig a little deeper into the new concept. All activity sheets include answers.   + Self-checker tool – This is a useful AFL tool in which students can check their understanding. The lesson could include a multiple-choice quiz which was built in Microsoft Forms. * AFL (Knowledge capture):   + This document is very versatile. It can be used as a plenary at the end to check understanding, could be used as a homework to consolidate learning, a starter for retrieval practice or saved for some revision.   + It includes a RAG rating for students to complete with some exam-style questions. The answers/mark scheme to these exam-style questions also been included. * Review:   + An accelerated writing activity to encourage students to go into more detail and demonstrate a deeper understanding of certain concepts. This could be converted into a bingo card and each box they complete they get a reward, works well with low ability students who need some extra motivation. * Knowledge organisers   + There are some question marks as to whether these really have an impact but I know a decent proportion of students find them useful so for me that’s a win. Most lessons will include a knowledge organiser that can be used as future revision. Completed copy and a blank version will be provided in case you wanted students to complete them. * Workbooks   + These are condensed versions of topics taught and act as a useful revision guide for students to complete in preparation for an exam.   + It’s quite flexible and could easily be used for anyone who prefers to go down the ‘flipped learning’ approach.   + It’s also good to set students who may be absent from lesson. * End of block assessment   + This is a short exam-style paper on the first block. It’s out of 40 marks and a mark scheme has been included. |

Lesson breakdown

|  |  |  |
| --- | --- | --- |
| Lesson | Topic | Structure |
| 1 | Contribution to technology | * Starter activity on retrieval practice. * Students practise an exam-style question based on last week’s learning. The mark scheme has been provided with some guidance on better understanding the command words used. * In-class activity on slide 8. * The lesson consists of one task * Task 1   + An A3 sheet where students identify the contribution each individual has made and some additional questions that may build on this. It hasn’t been made explicit in the specification, it just mentions their key contributions. * Self-checker tool   + A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students. * Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. * Knowledge organisers   + One organiser provided. * Revision workbook   + Teacher copy with answers and blank student version provided. |
| 2 | Artificial Intelligence | * Starter activity on retrieval practice. * Students practise an exam-style question based on last week’s learning. The mark scheme has been provided with some guidance on better understanding of the command words used. * In-class activity on slide 8 with a supporting video contributing to the in-class discussion. * The lesson consists of two tasks:   + Activity 1     - A – This looks into recognition technology such as natural language and speech. Sandwiched in the middle is a context based about devices that fit the description such as virtual assistants     - B – Focuses on the use of smart devices and their purpose. This will tie into the lesson on Internet of Things (IoT)     - C – Looks into machine learning and understanding the difference between this and deep learning. An additional activity has been provided to help students understand machine learning.     - D – This focuses on how AI is used to make better decisions and minimising human error.     - E – This looks into image recognition and how the four key areas work.     - The majority of this has not been provided on the specification but it helps students gain a deeper understanding of the topic.   + Task 2     - This is used to supplement a previous task. It allows students to understand training data and its links to machine learning. The delivery of this resource may depend on prior learning. * Self-checker tool   + A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students. * Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. * Knowledge organisers   + One organiser provided. * Knowledge capture   + Three questions based on today’s learning (answers provided). |
| 3 | Autonomy | * Starter activity on retrieval practice. * Students practise an exam-style question based on last week’s learning. The mark scheme has been provided with some guidance on better understanding of the command words used. * In-class activities on Slides 8 and 9 with supporting videos that will contribute to the discussion. * The lesson consists of two tasks:   + Task 1     - Activity 1 will encourage students to complete the moral machine activity which provides students with moral dilemmas faced with self-driving cars that suffer from brake failure. It’s always an interesting activity and does give you an indication of your student’s moral compass.     - Activity 2 – students will list a range of pros and cons associated with self-driving cars.   + Task 2     - Activity 1 focuses on the impact computer-controlled technology is having on the economy and whether this is a concern. There is a fear that robots will take over the world and we will all lose our jobs but is that true? Doesn’t the emergence of technology also create new jobs as quickly as we are losing them?     - Activity 2 – students will list a range of pros and cons associated with computer-controlled technology. * Self-checker tool   + **No quiz** provided at the moment as it was difficult to formulate questions based on the content but one could be released in the future. * Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. * Knowledge organisers   + One organiser provided. * Knowledge capture   + Three questions based on today’s learning (answers provided). |
| 4 | Internet of Things (IoT) | * Starter activity on retrieval practice. * Students practise an exam-style question based on last week’s learning. The mark scheme has been provided with some guidance on better understanding the command words used. * In-class activity on Slide 8 with a supporting video. * This lesson consists of four tasks:   + Each task is an example of an IoT project and they need to put together a network for different scenarios. The options are provided for them and they can either do it as a flow chart, draw it or use digital images to illustrate their point. * Self-checker tool   + A quiz in Microsoft Forms have been provided. Teachers can create a duplicate copy so they can pass it on to students. * Knowledge capture acts as a skills audit in which students can check their level of understanding and test it against exam-style questions. * Knowledge organisers   + One organiser provided. * Revision workbook   + Teacher copy with answers and blank student version provided. |
| Important notes about this bundle in relation to the specification.  You will notice the following sections are missing. I’ve provided the answer in red.   * Virtual Reality and Augmented Reality: Covered in 1.2 as part of the Interaction and Connection lesson. * Emerging technologies: I feel all the lessons in this bundle referred to emerging technologies. You may set a case study for your own group to look another emerging technology not discussed. | | |

Resources

|  |  |
| --- | --- |
| Exam starter | Knowledge retrieval starter |
| Concept map | Keywords |
| New information | Activity |
| Self-checker tool | End of block assessment |
| Knowledge organiser | Revision workbook |
| Knowledge capture | Knowledge capture |