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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 1 | Introduction |  |  |  |
| **Strand** |
| Information technology |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 2 | **The online world** | * Understands the importance of communicating safely and respectfully online, and the need for keeping personal information private. * Knows what to do when concerned about content or being contacted. * Understands the difference between the internet and internet service e.g. world wide web. * Shows an awareness of, and can use a range of internet services e.g. VOIP. * Recognises what is acceptable and unacceptable behaviour when using technologies and online services. | Developing a safe and responsible attitude to online safety | Fun quiz starter |
| **Strand** |
| **Communication and networks** |
| **Suggested activities and resources** | | | | **Misconceptions** |
| \\ke-srv-kedc-fs1.kedc.internal\kesh-staff-hd$\SORGAN\Downloads\The online world (quiz) (1).png\\ke-srv-kedc-fs1.kedc.internal\kesh-staff-hd$\SORGAN\Downloads\Lesson 2_ Assessment activity.png  How well do you know the Internet?  The internet and the WWW (they are not the same)  How should we communicate online (safely and respectfully)?  What is acceptable and unacceptable online?  What to do if we are concerned with what we see?  Quiz  Assessment  CEOP videos  School – safeguarding – who can we talk to?  <https://www.keshacademy.com/students/feeling-safe.html>  <https://www.thinkuknow.co.uk/>  <https://www.bbc.com/ownit> | | | | The internet and the world wide web are the same thing! |

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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 3 | **Computers** | * Understands that computers have no intelligence and that computers can do nothing unless a program is executed. * Recognises that all software executed on digital devices is programmed. * Knows that computers collect data from various input devices, including sensors and application software. * Understands the difference between hardware and application software, and their roles within a computer system. |  |  |
| **Strand** |
| **Hardware and processing** |
| **Suggested activities and resources** | | | | **Misconceptions** |
| \\ke-srv-kedc-fs1.kedc.internal\kesh-staff-hd$\SORGAN\Downloads\Lesson 3_ Assessment activity.png  What do we mean by a computer?   * Obvious computer * ‘hidden computer devices’ * Single board computers running a single task   Are computers smart? – How smart is Google AI  Assessment  Input and output devices <https://www.bbc.com/bitesize/guides/zxb72hv/revision/1>  Presentation about input, output and application software | | | |  |

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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 4 | **Assessment: Digital content** | * Uses technology with increasing independence to purposefully organise digital content. * Shows an awareness for the quality of digital content collected. * Uses a variety of software to manipulate and present digital content: data and information. * Shares their experiences of technology in school and beyond the classroom. * Talks about their work and makes improvements to solutions based on feedback received. | * Layout * Copy and paste images * Removal background of images * Choice of fonts * Choice of styles |  |
| **Strand** |
| **Information technology** |
| **Suggested activities and resources** | | | | **Misconceptions** |
| Assessed project: Creating a magazine front cover  \\ke-srv-kedc-fs1.kedc.internal\kesh-staff-hd$\SORGAN\Downloads\Lesson 4_ Feedback.pngPrior to the lesson students will have researched and looked at examples of magazine covers.  Students use either Word or PowerPoint to produce their own magazine cover.  Assessment | | | |  |

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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 5 | **Algorithms** | * Understands what an algorithm is and is able to express simple linear (non-branching) algorithms symbolically. * Understands that computers need precise instructions. * Demonstrates care and precision to avoid errors. |  |  |
| **Strand** |
| **Algorithms** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 6 | **Kodu (1)** | * Understands that algorithms are implemented on digital devices as programs. * Designs simple algorithms using loops, and selection i.e. if statements * Uses logical reasoning to predict outcomes. * Detects and corrects errors i.e. debugging, in algorithms. * Designs solutions (algorithms) that use repetition and two-way selection i.e. if, then and else. * Uses diagrams to express solutions. * Uses logical reasoning to predict outputs, showing an awareness of inputs. |  |  |
| **Strand** |
| **Algorithms** |
| **Suggested activities and resources** | | | | **Misconceptions** |
| Definition of algorithms  Algorithm games  Making a sandwich | | | |  |

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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 7 | **Kodu (2)** | * Knows that users can develop their own programs, and can demonstrate this by creating a simple program in an environment that does not rely on text * Executes, checks and changes programs. * Understands that programs execute by following precise instructions. * Uses arithmetic operators, if statements, and loops, within programs. * Uses logical reasoning to predict the behaviour of programs. * Detects and corrects simple semantic errors i.e. debugging, in programs. * Creates programs that implement algorithms to achieve given goals. * Declares and assigns variables. * Uses post-tested loop e.g. ‘until’, and |  |  |
| **Strand** |
| **Programming and development** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 8 | **Digital content** | * Recognises that digital content can be represented in many forms. * Distinguishes between some of these forms and can explain the different ways that they communicate information. * Recognises different types of data: text, number. * Appreciates that programs can work with different types of data. |  |  |
| **Strand** |
| **Data and data representation** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 9 | **Binary** | * Knows that digital computers use binary to represent all data. * Understands how bit patterns represent numbers and images. * Knows that computers transfer data in binary. |  |  |
| **Strand** |
| **Data and data representation** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 10 | **Searching the Internet well** | * Understands how to effectively use search engines, and knows how search results are selected, including that search engines use ‘web crawler programs’. * Selects, combines and uses internet services. * Demonstrates responsible use of technologies and online services, and knows a range of ways to report concerns. |  |  |
| **Strand** |
| **Communication and networks** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 11 | **Python 1 (Minecraft)** | * Creates programs that implement algorithms to achieve given goals. * Declares and assigns variables. * Uses post-tested loop e.g. ‘until’, and a sequence of selection statements in programs, including an if, then and else statement. * Has practical experience of a high-level textual language, including using standard libraries when programming. * Uses a range of operators and expressions |  |  |
| **Strand** |
| **Programming and development** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 12 | **Python 2 (Minecraft)** | * Creates programs that implement algorithms to achieve given goals. * Declares and assigns variables. * Uses post-tested loop e.g. ‘until’, and a sequence of selection statements in programs, including an if, then and else statement. * Has practical experience of a high-level textual language, including using standard libraries when programming. * Uses a range of operators and expressions |  |  |
| **Strand** |
| **Programming and development** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 13 | **Physical computing** | * Creates programs that implement algorithms to achieve given goals. * Declares and assigns variables. * Uses post-tested loop e.g. ‘until’, and a sequence of selection statements in programs, including an if, then and else statement. * Has practical experience of a high-level textual language, including using standard libraries when programming. * Uses a range of operators and expressions * Understands the difference between, and appropriately uses if and if, then and else statements. * Uses a variable and relational operators within a loop to govern termination. * Designs, writes and debugs modular programs using procedures. * Knows that a procedure can be used to hide the detail with sub-solution. |  |  |
| **Strand** |
| **Programming and development** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 14 | **Office skills (1)** | * Uses technology with increasing independence to purposefully organise digital content. * Shows an awareness for the quality of digital content collected. * Uses a variety of software to manipulate and present digital content: data and information. * Shares their experiences of technology in school and beyond the classroom. * Talks about their work and makes improvements to solutions based on feedback received. |  |  |
| **Strand** |
| **(Information Technology)** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 15 | **Presenting to an audience** | * Uses technology with increasing independence to purposefully organise digital content. * Shows an awareness for the quality of digital content collected. * Uses a variety of software to manipulate and present digital content: data and information. * Shares their experiences of technology in school and beyond the classroom. * Talks about their work and makes improvements to solutions based on feedback received. * Makes judgements about digital content when evaluating and repurposing it for a given audience. * Recognises the audience when designing and creating digital content. |  |  |
| **Strand** |
| **Information Technology** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 16 | **Operating systems and networks** | * Understands why and when computers are used. * Understands the main functions of the operating system. * Knows the difference between physical, wireless and mobile networks. * Recognises and understands the function of the main internal parts of basic computer architecture. Understands the concepts behind the fetch-execute cycle. * Knows that there is a range of operating systems and application software for the same hardware. |  |  |
| **Strand** |
| **Hardware and processing** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
| 17 | **Computer networks** | * Knows the names of hardware e.g. hubs, routers, switches, and the names of protocols e.g. SMTP, iMAP, POP, FTP, TCP/ IP, associated with networking computer systems. * Uses technologies and online services securely, and knows how to identify and report inappropriate conduct. |  |  |
| **Strand** |
| **Hardware and processing** |
| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
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| **Suggested activities and resources** | | | | **Misconceptions** |
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| **Lesson** | **Title** | **Outcomes** | **Skills and behaviours** | **Engagement** |
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| **Suggested activities and resources** | | | | **Misconceptions** |
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