# Above and Beyond – Computer Science (Year 7)

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| **1** | **Title:** Staying safe online<br><br>**Details:** Produce a guide for a year 7 student designed to give them the information they need in order to stay safe online. You can use any approach you like such as guides to social media, the risks of sharing data online and avoiding common problems that people may have by not keeping their privacy settings at an appropriate level. Your guide should be printed out and could take the form of a booklet, a tri-fold brochure or an infographic.<br><br>**Curriculum link:** Unit 7.1 – The Internet, e-Safety and ICT skills<br><br>**House Points:** 25 | **5** | **Title:** Digital Divide<br><br>**Details:** Produce a factfile about the digital divide **either** using the example of the divide between the rural and urban areas of Norfolk **or** the divide between the younger and older population **or** the divide between an HIC or an LIC (you will have these explained to you more in Geography).<br>You should write a letter to your MP to include some ideas of how you think the digital divide could be tackled to reduce the gap.<br><br>**Curriculum link:** Unit 7.1 – The Internet, e-Safety and ICT skills<br><br>**House Points:** 50 |
| **2** | **Title:** Write your name<br><br>**Details:** Write your name using Python Turtle programming. You would be best off to write each of your letters in capital letters, and use penup() and pendown() instructions to make a space between each letter.<br><br>**Curriculum link:** Unit 7.2 – Introduction to Computational Thinking (Turtle)<br><br>**House Points:** 25 | **6** | **Title:** Create an Encrypted Message<br><br>Use the ASCII character set to produce a binary encoded message. This will use zeros and ones and you can then ask your teacher or a friend to decipher message. You will need to also have the deciphered message so that your teacher or friend can easily check they are right.<br><br>**Curriculum link:** Unit 7.3 – Data Representation<br><br>**House Points:** **25** |
| **3** | **Title:** Spreadsheet art<br><br>**Details:** You can take the work from lessons further by extending your creative work to produce a piece of spreadsheet art, which is **original,** and you have made yourself. You can research some brilliant examples online and use these as ideas. You could make something that was a picture or a good 2D or 3D design. You should include a brief guide on how you made the piece of art focusing on formatting techniques you used and any shortcuts to working quickly you came up with.<br><br>**Curriculum link:** Unit 7.1 – The Internet, e-Safety and ICT skills<br><br>**House Points:** 25 | **7** | **Title:** Careers in Computing<br><br>Research the different career options available to you after school. Produce a poster or PowerPoint presentation on the<br>&bull; job titles<br>&bull; average pay<br>&bull; description<br>&bull; entry requirements<br>Include at least 5 computing jobs and include images in your work.<br><br>**Curriculum link:** 7.4 - Computer systems<br><br>**House Points:** 25 |
| **4** | **Title:** Programming Constructs<br><br>**Details:** Make a poster for the three Programming Constructs; Sequence, Selection and Iteration. You should include definitions of each, an example of each and an image to describe each. You can do this on paper or you can use<br><br>**Curriculum link:** Unit 7.2 – Introduction to Computational Thinking (Turtle)<br><br>**House Points:** 50 | **8** | **Title:** Inside a computer<br><br>**Details:** Produce a guide to the insides of a digital device using any sort of media you like. You could produce a 3D model, a 2D piece of graphic work on paper of an animation… or anything else you can think of!<br>You can choose any device you like for example a smartphone, a laptop, TV smart box or a household appliance as long as it is a computer system. You should include a breakdown of the components within the system you have chosen.<br><br>**Curriculum link:** 7.4 - Computer systems<br><br>**House Points:** 50 |