# TSS Primary Computing MTP 2022-2023
## Year 5 Block 5 – Robot Designers

| Week | Key Targets and Learning Objectives | Key Activities | Key Vocabulary |
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| 1 | **5SW.06** Recognise the implications of overuse of devices.<br><br>**5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Introduce this unit by asking learners to think of examples of where people use computers in their jobs.<br><br>Explain that a robot is a machine that is designed to perform a specific task accurately and automatically.<br><br>Move the discussion on to jobs that use robots or automated computers to complete tasks.<br>*Why do you think businesses use robots?*<br>*What are the benefits?*<br>*Where might the disadvantages be?*<br><br>Learners use the internet to research industries that use robotics. They could use various sources, including:<br>• specific company websites<br>• online videos of robots in action<br>• news reports and other commentaries.<br><br>• Learners create a document, in Word, which lists three positive and three negative aspects of the use of robots in the workplace. | • Robot<br>• Automaton<br>• Manufacturing<br>• Word<br>• Table<br>• Font<br>• Image<br>• Pro/Con<br>• Positive/Negative |
| 2 | **5SW.06** Recognise the implications of overuse of devices.<br><br>**5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia. | Remind learners about the positives and negatives of the use of robots in the workplace.<br><br>Focus the discussion on the negative impacts, especially on the skills gap it creates.<br>*Who might lose out when factories use robots for everything?*<br>*Will there be a negative effect on the factory?*<br><br>*What would happen if the robots broke?*<br>*Who would do the work?*<br>*Would they be able to?*<br><br>Relate this discussion to how we use technology in our homes and to the devices that we rely on.<br><br>*How many of you have a mobile device that you use every day?*<br>*Who has siblings or parents that use a device daily?* | • Positive/Negative<br>• Robot<br>• Workplace<br>• Overuse<br>• Reliance/Overreliance<br>• Skills<br>• Leisure |

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| | | *What purposes do you rely on mobile devices for?*<br>*Have you lost any skills because of this reliance on digital devices?*<br>*How does a reliance upon digital devices affect our social skills?*<br>*Could the time that you spend using digital devices at home be better spent on other activities?*<br><br>Learners use the internet to research the effects of the overuse of digital devices, including the use of mobile phones.<br><br>Using the information that they collect, learners should create a guide for older family members. It should include an explanation of the skills and leisure opportunities that may be lost as a result of an overreliance on devices.<br><br>• This activity can be extended by learners suggesting ideas of how to get back the skills that are being lost through the overuse of digital devices, including strategies for ensuring that devices are used in moderation. | |
| 3 | **5TC.06** Use search functions within applications to find information. | Explain that, in most programs on our computers, we have a search function to find information or help us in how we work. The most obvious of these are the search functions on the web.<br><br>Explain that an ability to use these search technologies effectively is a really important skill towards being effective lifelong learners.<br><br>Using internet search engines, learners find different robots that are already for sale for use in the home. Explain that they have an imaginary, unlimited budget which they should use to equip their homes with as many useful robots as they can find.<br><br>As well as using the search engine, learners should be shown how to search for keywords within a website. Demonstrate how to search for a word within a webpage by pressing CTRL + F. Explain that this feature is common within most programs we use on a computer.<br>*When would you use this?*<br>*Why might it be a useful tool for when you are researching a topic?* | • (Vocabulary) |

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| | | Ask learners about their experience of using the search engine, as well as the specific robots they found.<br>*What keywords did you include?*<br>*Which websites did the search list first?*<br>*Which websites were reliable? Why?*<br>• *Did any of your searches produce unhelpful results? Why?* | |
| 4 | **5TC.05** Edit images by changing colour, size and by cropping. | Discuss learner's perceptions about what robots look like.<br><br>*What do they look like in cartoons and films?*<br>*How does this compare to the ones you have seen in factories and other workplaces during this unit?*<br>*What do you want your own robots to look like?*<br><br>Learners each create three drawings of different robots. The three robots they design should all have the same overall purpose, but have different layouts or features to achieve this.<br><br>When they share their designs, each learner should explain the form that they have taken, for example are their robots based on modern industrial examples or are they inspired by those seen in classic films?<br><br>Learners should consider how real-life robot designers transfer their drawings of initial ideas from the page onto a computer. Three possible solutions would be:<br>• they scan their drawn designs<br>• they photograph and then upload their drawn designs<br>• they recreate their designs using drawing software.<br><br>Learners should transfer their designs to their computer using an appropriate method.<br><br>Once learners have their designs on the computer they should put them into a document and resize and crop versions of them, so that specific aspects of each design can be discussed in detail. For example, they might choose to include an enlarged picture which just shows the arm of the robot so that they can explain the specific function of that arm. Learners should | • (Vocabulary) |

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| | | annotate their designs using the arrow or shape tools within their software.<br><br>Learners should add appropriate notes to their document to explain:<br>• the overall purpose of their robot<br>• the purpose of specific parts<br>• the rationale for their design. | |
| 5 | **5TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.<br><br>**5TC.05** Edit images by changing colour, size and by cropping. | For the final project in this unit, learners design a robot for their home or classroom.<br><br>Learners start by drawing their designs on paper, and then they add annotations. The drawings should be as detailed as possible and should explain the features and abilities of their robot.<br><br>These images are uploaded to the computer and are adapted in a digital format.<br><br>The final images and designs are used to create a digital presentation that will explain the robot to potential investors. The presentation should explain any:<br>• interesting features<br>• potential uses in the home<br>• benefits that those uses could bring<br>• possible negative responses that are likely to be generated by the launch of the robot, and suggestions for how those responses could be overcome<br>• materials that will be needed to make the robot, such as plastics or metals, or supplementary devices such as speakers or cameras.<br><br>• Learners should then present their work either in small groups or to the whole class. | • (Vocabulary) |
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* Order and timing of activities for final project are subject to revision