# Lesson 3 – Input Process Output Model

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| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * All systems take inputs, process those inputs and then display the result of processing as an output * Learners will develop their own solutions using inputs, outputs and processes * The Internet of Things (IoT) consists of many different types of devices which will use a wide variety of input and output devices | * To understand that inputs are taken in by a system, processed and then the result of the processed inputs becomes the output * To understand that the IoT is a wide range of different devices which are connected to the internet * To understand how inputs and outputs can take many different forms |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| * Learners will explore how different processes can be applied to change a variety of different inputs into outputs * Learners will be able to develop their own processes to apply to inputs * Learners will carry out a creative exercise where they will be able to think outside the box and come up with their own ideas concerning how devices could make use of the internet | **Expected Progress:**   * All learners will understand how processes can be applied to change inputs into outputs * Learners will understand that the IoT relates to a number of household items which are connected to the internet   **Good Progress:**   * Learners will be able to develop instructions to process inputs into outputs * Learners will be able to identify the benefits of being able to connect household devices to the internet   **Exceptional Progress:**   * Learners will be able to discuss their own ideas on how devices in the future could be connected to the internet and the advantages and disadvantages of being able to do this |
| Key Concepts | Key Words |
| * The IoT relates to a wide range of objects that contain computers which allow them to communicate over the internet * Input devices are used to put data into a computer system * Processes are used to perform instructions on inputs * Output devices are used to show the result of any processes carried out on inputs | * Input Process Output * IoT * Internet * Household objects |
| Differentiation | Resources |
| Once learners have thought about the advantages of being able to connect a range of household devices to the internet. More capable learners may be able to identify some of the disadvantages. | * Lesson 3 ppt * Lesson 3 IPO worksheet * Lesson 3 IoT worksheet |
| Lesson Flow | |
| * Introduce learners to the concept of IPO. Students should identify as many input and output devices as they can think of * Using the IPO worksheet learners should work through the tasks to identify what the outputs will be once the processes have been carried out on the inputs. Stress that all computer systems use similar IPO models. Highlight the fact that computers can only carry out relatively simple mathematical processes, they can just do them very quickly * Discuss the meaning of the term ‘Internet of Things (IoT)’ * Students should work through the IoT worksheet where they will try to identify why a range of household devices could benefit from being connected to the internet | |
| Making | |
| There are no making activities in this lesson. | |