



Word Aware

Anchor:
Condition
Input
Sequence
Action
Selection

Goldilocks:
Connect
Motor
Output Devices
Input Devices

Step On:
Components
Infinite Loop

Previous knowledge

You should already know that Programming is when we make and input a set of instructions for computers to follow.

Computing Knowledge Organiser Year 5: Programming A: Selection in Physical Computing

Selection in Physical Computing

Lego WeDo 2.0 is an App which enables Lego models to be programmed in order to create movements using robotics.

We use algorithms (a set of instructions to perform a task) which we can plan, model and test, in order to create accurate and imaginative robotic actions.

Input - The data which is entered into a computer or device.

Output Device - The device which receives data from a computer or device.

Key Knowledge – What I need to know

Programming Blocks



Flow Blocks:
Start Block
Must be used at the beginning of a program string. Press on it to make the program start.



Wait for
Use this to tell the program to wait for something to happen.



Repeat Block
Use this block to repeat actions. Blocks placed inside will be looped.



Output: Motor Blocks:
Motor This Way Block
Sets the motor to turn the axle in the direction shown.



Motor That Way Block
Sets the motor to turn the axle in the direction shown.



Motor Power Block
Sets the motor power to the desired speed and starts the motor.



Motor On For Block
Starts the motor for a chosen amount of time.

Input Blocks:



Any Distance Change
Inputs the motion Sensor mode "Any Distance Change" in a block



Number Input
Inputs numeric value to a block

Connection and Logo Kit

Bluetooth Connection: Bluetooth enables a secure way to connect and exchange information between devices such as mobile phones, telephones, laptops, personal computers, printers, digital cameras, tablets, voice-controlled devices and video game consoles. This connection is needed to exchange information from the App to the Lego model.

Grabbing Objects:



Space Exploration:

Select your own solution from these three:



Drive



Grab



Sweep



Motor



SmartHub

The motor connects to the SmartHub. The SmartHub connects the device to the computer or tablet using a Bluetooth signal.

Sequencing and Algorithms

A sequence is a pattern or process in which one thing follows another. We design algorithms (sets of instructions for performing a task) to help us program the sequence that we require to achieve our desired outcomes. Programming is the process of keying in the code recognized by the computer (using your algorithm).

Trialling and Debugging

Programmers do not put their computer programs straight to work. They trial them first to find any errors: **Sequence errors:** An instruction in the sequence is wrong or in the wrong place.

Keying errors: Typing in the wrong code. **Logical errors:** Mistakes in plan/thinking. If your algorithm does not work correctly the first time, remember to debug it.