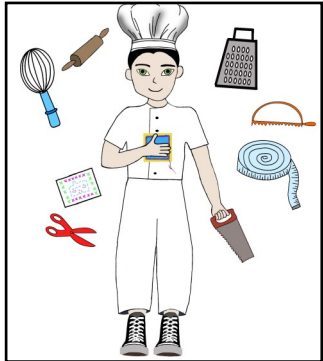
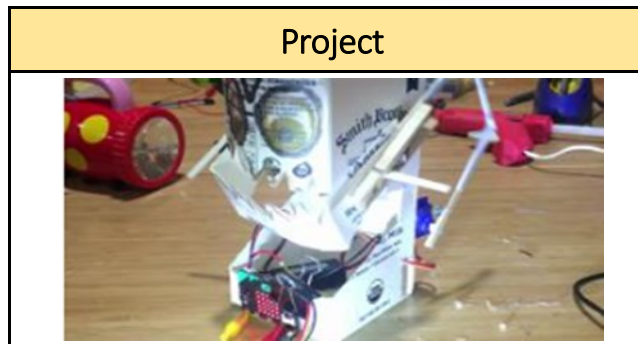




Knowledge Organiser					
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Concept

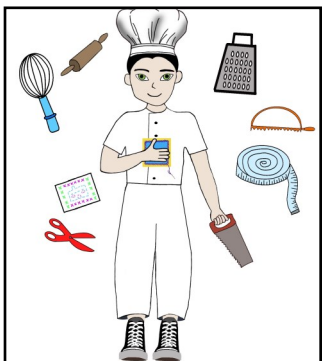


Technical knowledge
• Programming is when we make a set of instructions for computers to follow. • Robots are one type of machine that can follow programs - they follow what we instruct them to do. • Use algorithms (a set of instructions to perform a task) to help robots to do things that we want them to. • Debugging can help to correct algorithms and programs.

Prior experiences or knowledge learnt
• A series circuit contains an on-off switch, bulb and battery. • Use of Beebot to create simple algorithms for movement.

Skills I am practising
• Explain what a robot is and how they are being used in society today. • Learn how to use Makecode (Microbits) to program a monitoring device. • Learn how to use TinkerCAD to make a prototype for a robot. • Design a milk carton robot. • Use Microbit and TinkerCAD to program and design a robot. • Evaluate virtual model against the design requirements.

Sequence of learning	
1)	To analyse different methods of making moving parts for a purpose
2)	To understand that things can be programmed to achieve a desired outcome
3)	To practice programming microbits
4)	Research and design a milk bottle robot with a moving mouth
5)	Make the product and evaluate it with reference to the design brief



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Key vocabulary	
Tier 2	Tier 3
Evaluate —form an idea of the amount, number, or value of	Programme —provide a computer or other machine with coded instructions for the automatic performance of a task.
Design —decide upon the look and functioning of an object, by making a detailed drawing of it	Microbit —a tiny, pocket-size computer
Robot — a machine resembling a human being and able to replicate certain human movements and functions automatically.	Electronic —having or operating with components such as microchips and transistors that control and direct electric currents.
Hinge — a machine resembling a human being and able to replicate certain human movements and functions automatically.	Circuit —a complete circular path that electricity flows through