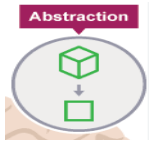
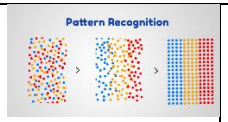
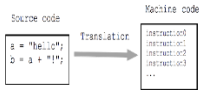
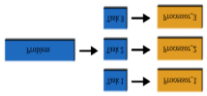
Year 2 Computing — Unit 2.2 — Autumn 2

We are programmers

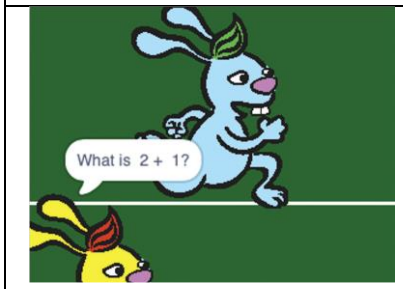
Prior Knowledge

You programmed BeeBots in **Unit 1.1: We are treasure hunters** and programmed on-screen in ScratchJr in **Unit 1.5: We are rhythmic.**

Key Vocabulary:

abstraction		computational thinking approach to managing complexity by simplifying things, through identifying what is important and what detail can be hidden or ignored	pattern recognition		computational thinking approach in which common aspects of how a system behaves are used to simplify implementing solutions
algorithm		a sequence of precise instructions or steps (sometimes a set of rules) to achieve an objective	remix		to take a project and make changes to its source code
bug		an error or mistake in a program or algorithm, causing the computer or robot to behave in a manner that was not originally intended	repetition		programming construct which allows a group of instructions to be repeated a number of times, or until a certain condition is met
computational thinking		a way of looking at problems so that the solution can be automated using a computer	scratch		simple, block-based programming language in which programs for characters are built by snapping together code blocks
input		data supplied to a computer, in this case, pressing buttons on the robot	source code		the code that a particular program follows; the instructions or rules that determine what happens in a game or other application
output		information produced by a computer – in this case, an animation	sprite		a graphical character in a program that can be given its own sequence of instructions
parallel processing		when programs run (or appear to run) simultaneously			

Key learning: What do we do when computer programs don't work?



Session 1: Addition race game

How is a computer game made?

What is the source code for a computer game?

Session 4: Duck shooting game

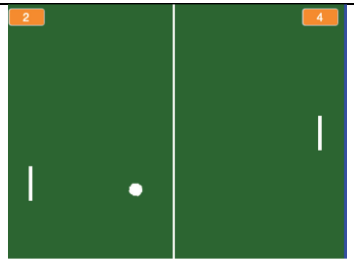
What are PEGI ratings?

Why are PEGI ratings important?

Session 2: Fish game

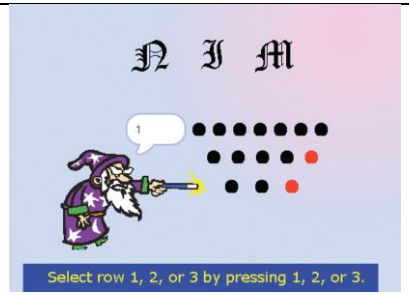
What is a sprite?

What is a program called that is made up of rules that are followed if something else happens: 'if this … then … that'?



Session 3: Tennis game

What is it called when a programmer alters (and improves) an existing game?



Session 5 & 6: Nim

What kind of games do computers play well?

Key Applications (apps)

Next Steps

In **Unit 3.2: We are bug fixers**, you will use computational thinking to debug Scratch programs.

In **Unit 4.1: We are software developers**, you will develop another arithmetic game.

In **Unit 5.1: We are game developers**, you will develop their own games in Scratch.