Coleman Primary School
Year 4 Autumn 1 Knowledge Organiser
Computing—We are software developers

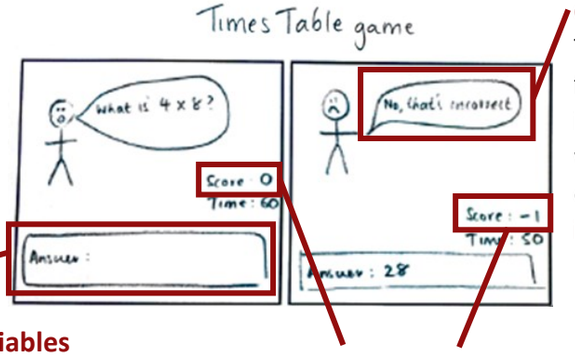
You will learn...
- to design and debug programs
- about inputs and outputs
- to create a game

Key Vocabulary: We are software developers	
algorithm: a sequence of precise instructions to achieve an objective	**program:** an algorithm written in code for the computer to follow
bug: an error or mistake in a program or algorithm	**repeat loop:** sequence of instructions that is repeated
debug: correct mistakes in a computer program or algortithm	**sequence:** placing programming instructions in order
input: data supplied to a computer eg by a keyboard or mouse	**sprite:** a graphical character in a program that has its own instructions
output: information sent out from a program eg to the screen or a printer	**variable:** lets computer programs store, retrieve or change simple data

Designing a game

You will design and **program** a simple game in Scratch. To make your games, you will learn to use **inputs**, **outputs** and **variables** within Scratch

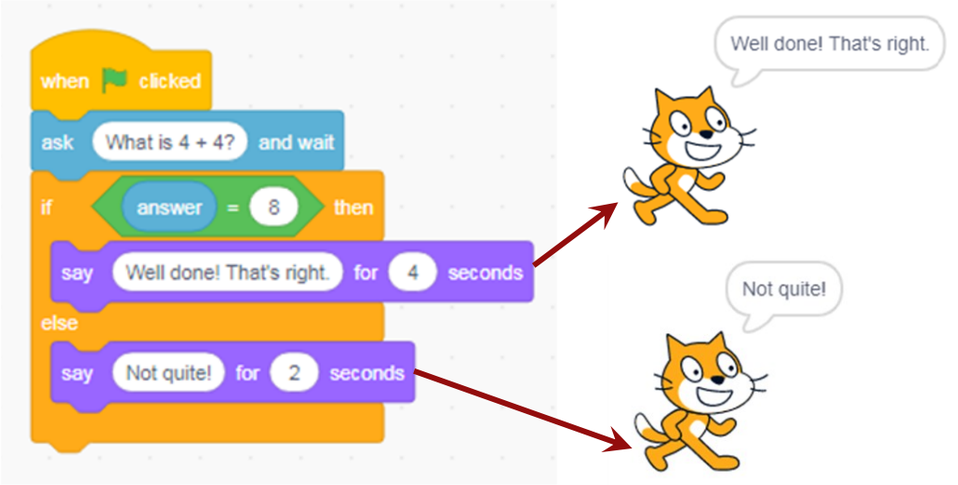
Inputs
We will use ask and answer blocks in Scratch. The answer box will receive your **input**.



Outputs
The response from the sprite is an **output**. It will differ based on what the **input** was.

Variables
We will use **variables** to generate the questions and to show the score in the game.

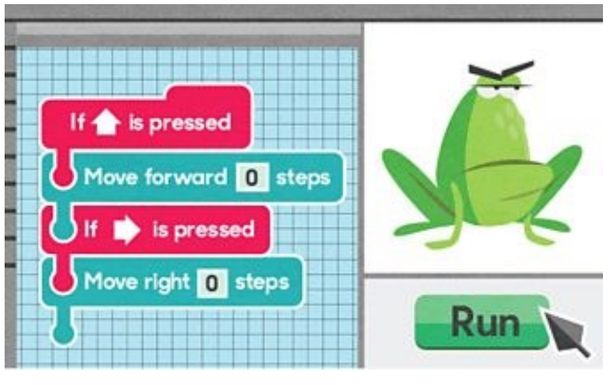
Using if () then, else with inputs and outputs



This code is to test the player on the calculation 4 + 4. The player types their answer as an **input**.
If the **input** is 8, then the **output** will be 'Well done! That's right.'
If the **input** was anything else, the **output** will be 'Not quite!'
Coding uses 'else' to mean 'If the **input** was anything else'

Debugging

In the game the character did not move when the keys were pressed. We can **debug** the game by looking at the **program** code for character movement. The number of steps is set to 0, so that's why the character didn't move!



Computing Skills Progression

In Year Three you learnt to...
- design, write and debug programs
- use sequence in programs; work with various forms of output
- begin to use reasoning to explain how some simple algorithms work and to detect errors in programs

In Year Four you will...
- design, write and debug programs that accomplish specific goals
- use sequence and repetition in programs; work with inputs and outputs
- use reasoning to explain how some simple algorithms work and to detect and correct errors in programs