Unit 3.1: We are programmers

5 Key words to remember

Algorithm – a sequence of precise instructions or steps to achieve a goal.

Code – instructions (or sometimes rules) that can be understood by a computer. In Scratch, code blocks are visual which helps to identify their purpose.

Decomposition– breaking down a problem into smaller steps.

Event – something which happens within a computer program to cause code to run. For example, when a particular button is pressed, such as the green flag, or 'when I receive' button.

Sequence – placing programming instructions in order, so that each happens one after the other.

Knowledge check – choosing sound for a project

When creating a project, it is important to only use content which we have permission to use. Which of these would be okay to use as background music for a project? (Select one answer.)

a) Creative Commons licensed music

b) Music you recorded with a microphone from YouTube

c) Music your friend downloaded from Spotify

d) Any music you want

Knowledge check – Scratch block categories

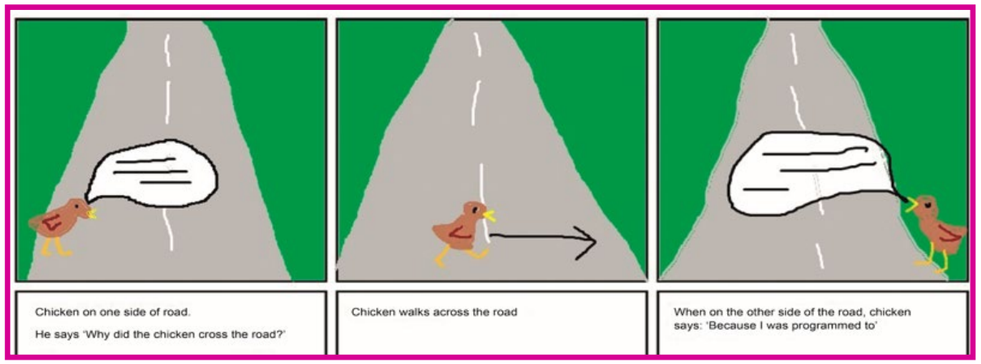
There are many different coding blocks in Scratch and they are organised into different categories. Here are some of the categories:

Motion	Motion blocks control sprite placement, direction, movement and rotation.
Looks	Looks blocks control how the sprite looks and the background appearance. They also allow text to be displayed onscreen.
Sound	Sound blocks control the playing and volume of audio and music files which have been selected from the library or uploaded.
Events	Events blocks decide when and how **events** are triggered in the program.
Control	Control blocks are used to control parts of the program, for example, pausing or repeating **events**.

Test yourself: Here are some other icons you will use in Scratch. Can you identify what they do?

Key takeaways

- Programming involves expressing a **sequence** of instructions (an **algorithm**) in a particular programming language in order to solve a problem. An example is creating an animation.
- Animations can be made using drawings, photographs or models. Sprites in Scratch can be used in animations.
- Using a storyboard to plan helps to provide pictures of key scenes (frames) which will appear in the animation. A storyboard helps to **decompose** (break into smaller parts) the process of making an animation.



- Animations in Scratch will show motion (movement).
- Background images and sounds can be added.
- When creating content, such as an animation, it is important to only use images and sounds that we have permission to use.
- Some sprites in Scratch already come with different costumes, such as the ballerina sprite below. These can be programmed using the 'next costume' block, as can be seen in the **code** below.