Coley Primary School – Knowledge Organiser

SUBJECT FOCUS:	Computing – coding	YEAR	4

Prior learning (KS2): Simple input sequences

Key knowledge

Repetition

Real-life examples

Repetition is when an event or a sequence is repeated. For example. the traffic lights on a pelican crossing will stay green until someone presses the button to cross the road; an oven heats up until it reaches the right temperature. When something repeats over and over, we call this a **loop**. There are many **loops** in the wider world, such as the days of the week or the moon travelling around the Earth.

Repetition in code

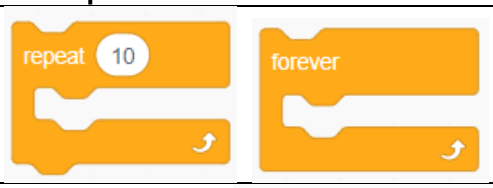
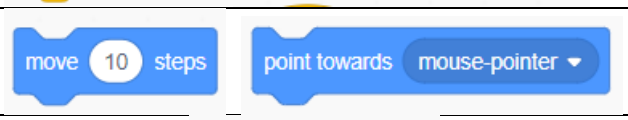
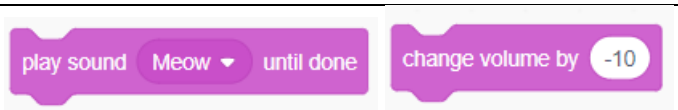
Repetition is when a computer runs part of the program a **certain number of times** or until something happens**.** If we were writing a quiz, we might want to ask ten questions, or keep going until the player has scored five correct answers. This would be **repeat ... until loop**: we would repeat the action of asking questions until five correct answers were entered. **Loops** (repeated actions) can be **count-controlled** (this means that they happen a certain number of times) or i**ndefinite** (which means they carry on and on and don't stop).

Repetition in Scratch

Repetition is sometimes called iteration in coding. Here's an example of how it might look in Scratch. The repeat bar goes around all of the steps that you want to repeat.

Concept	Explanation	Example
iteration (looping)	**forever** and **repeat** can be used for iteration (repeating a series of instructions)	

Scratch blocks

block colour	what it does	examples
Control	controls scripts	
Events	makes things happen	
Motion	makes things move	
Looks	changes how something looks; makes things appear and disappear	
Sound	makes a sound	

Vocabulary

sequence – one thing following another

repeat – do something again

code – instructions written for a digital device

repetition – when something is repeated more than once

loop - an event or pattern of events repeated

count-controlled – done a certain number of times

indefinite – carries on without stopping

sprite – object or image in Scratch

Experiences

Unplugged activities focusing on repetition: role play drawing squares/ rectangles

Code-it Gold: Shape – exploring loops/ sequence to repetition

Code-it Gold: App – Toy Giveaway

Code-it Gold: Game - helicopter

Can you …?

Give examples of repeated sequences in everyday life

Recognise which part of a sequence of code will control a particular event

Click on a Sprite in Scratch to see its code

Use and adapt code in Scratch to draw particular shapes

Predict what will happen from a section of code in Scratch

Create a sprite and add code to make it move, change or make a sound

Develop, test and debug until you have a program you are happy with