# Computing – Year 2

## Autumn 1

Learners will develop their understanding of what information technology (IT) is and will begin to identify examples. They will discuss where they have seen IT in school and beyond, in settings such as shops, hospitals, and libraries. Learners will then investigate how IT improves our world, and they will learn about the importance of using IT responsibly.

| | CK/ Vocabulary | Skills |
|---|---|---|
| **Computer Systems and Networks –** Information Technology | • Information Technology is a computer or has a computer inside or works with computers.<br>• Technology is all around us, in school (Computer, whiteboard and photocopier), At home (mobile phone, Television, washing machine, cameras) In the real world (Scanners in shops, traffic lights and streetlamps).<br>• Online safety is important so we can stay safe when learning and using the internet.<br>• When using the internet, I am respectful and kind to others.<br>When using the internet, I remain safe by keeping my personal details private.<br><br>Vocabulary: Information technology (IT), computer, barcode, scanner/scan | • To describe some uses of computers<br>• To identify information technology in school<br>• To identify information technology beyond school<br>• To show how to use information technology safely |

## Autumn 2

Learners will learn to recognise that different devices can be used to capture photographs and will gain experience capturing, editing, and improving photos. Finally, they will use this knowledge to recognise that images they see may not be real.

| | CK/ Vocabulary | Skills |
|---|---|---|
| **Creating media –** Digital Photography<br><br>Use technology purposefully to create, organise, store, manipulate, and retrieve digital content | • Digital Device is something that has a computer inside to make it work like a digital camera or mobile phone.<br>• Some digital devices can capture images using a camera<br>• Technology can be used to edit an image<br>• Online safety is important so we can stay safe when learning and using the internet.<br><br>**Vocabulary**: device, camera, photograph, capture, image, digital, landscape, portrait, framing, subject, compose, light sources, flash, focus, background, editing, filter, format, framing, lighting, | • use a digital device to take a photograph<br>• make choices when taking a photograph (including taking phot in portrait/landscape)<br>• decide how photographs can be improved (particularly when using light sources)<br>• use different software tools to change an image<br>Be aware that images on the internet/ advertisements are not always real. |

## Spring 1

Learners will begin to understand what the term data means and how data can be collected in the form of a tally chart. They will learn the term 'attribute' and use this to help them organise data. They will then progress onto presenting data visually using software. Learners will use the data presented to answer questions.

| | CK/ Vocabulary | Skills |
|---|---|---|
| **Data –** Pictograms | • Technology can be used to sort data.<br>• Data is a collection of information.<br>• Technology can be used to store data and digital content for example; pictures and charts.<br><br>• **Vocabulary**: more than, less than, most, least, common, popular, organise, data, object, tally chart, votes, total, pictogram, enter, data, compare, objects, count, explain, attribute, group, same, different, conclusion, block diagram, sharing | • Use a tally chart to collect data<br>• Enter data onto a computer<br>• Use a computer to view data in different formats<br>• Use a computer to answer comparison questions (graphs, tables)<br>• Use a computer program to present information in different ways<br>• Give simple examples of why some information should not be shared |

## Spring 2

This unit develops learners' understanding of instructions in sequences and the use of logical reasoning to predict outcomes. Learners will use given commands in different orders to investigate how the order affects the outcome. They will also learn about design in programming. They will develop artwork and test it for use in a program. They will design algorithms and then test those algorithms as programs and debug them.

| | CK/ Vocabulary | Skills |
|---|---|---|
| **Programming –** Robot algorithms | • Programming is when you give to give an algorithm to a digital device so it can complete its action.<br>• An **algorithm** is a list of rules or instructions<br>• Algorithms need to be written in a special language called **code** so digital devices, can understand them.<br>• **Coding** is how we communicate with computers. Code tells a computer what actions to take.<br>• Debug is when you check for mistakes in your code.<br><br>**Vocabulary**: instruction, sequence, clear, unambiguous, algorithm, program, order, prediction, artwork, design, route, mat, debugging, decomposition | • To describe a series of instructions as a sequence<br>• To explain what happens when we change the order of instructions<br>• To use logical reasoning to predict the outcome of a program<br>• To design an algorithm<br>• To create and debug a program that I have written |

## Summer 1

In this unit, learners will listen to a variety of pieces of music and consider how music can make them think and feel. Learners will compare creating music digitally and non-digitally. Learners will look at patterns and purposefully create music.

| | CK/ Vocabulary | Skills |
|---|---|---|
| **Creating Media –** Digital Music | • Technology can help you to create and change digital content<br>• **Digital content** can be music.<br>• **Software** is the programme or operating system that a computer uses.<br>• You can use **software** on digital devices to design and create music.<br><br>**Vocabulary**: music, quiet, loud, feelings, emotions, pattern, rhythm, pulse, pitch, tempo, rhythm, notes, create, emotion, beat, instrument, open, edit. | • Experiment with sound using a computer<br>• Use a computer to create a musical pattern<br>• Connect images with sounds<br>• Use a computer to experiment with pitch<br>• To review and refine music pieces |

## Summer 2

This unit initially recaps on learning from the Year 1 ScratchJr unit 'Programming B – Programming animations'. Learners begin to understand that sequences of commands have an outcome, and make predictions based on their learning. They use and modify designs to create their own quiz questions in ScratchJr, and realise these designs in ScratchJr using blocks of code. Finally, learners evaluate their work and make improvements to their programming projects.

| | CK/ Vocabulary | Skills |
|---|---|---|
| **Programming B –** Programming Quizzes | • An **algorithm** is a precise set of ordered instructions which can be turned into code<br>• Algorithms need to be written in a special language called **code** so digital devices, can understand them.<br>• **Coding** is how we communicate with computers. Code tells a computer what actions to take.<br>• Sequence: steps carried out in order, a series of instructions is a 'sequence'<br>• **Command** is a specific instruction given to a computer application to perform some kind of task or function.<br>**Vocabulary**: sequence, command, program, run, start, outcome, predict, blocks, design, actions, sprite, project, modify, change, algorithm, build, match, compare, debug, features, evaluate, decomposition, code. | • Identify that a program needs to be started<br>• Show how to run my program<br>• Explain that a sequence of commands has an outcome<br>• Create a program using a given design<br>• To decide how my project can be improved<br>• Debug my program to improve it |