

| Cheadle Primary – the school at the heart of the village, free to flourish, ready to learn and succeed. Progression of Skills and Knowledge: COMPUTING Year 3 | | | | | | |
|---|---|--|--|---|--|--|
| Topic | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| National Curriculum Learning Intentions | 1 Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts 2 Use sequence, selection, and repetition in programs; work with variables and various forms of input and output 3 Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs 4 Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration 5 Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content 6 Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information 7 Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact | | | | | |
| NC LINKS | 2,4,6 | 6 | 1,2,3,6 | 6 | 5,6 | 1,2,3,6 |
| Computing Units | Computing systems and networks | Creating media | Programming A | Data and information | Creating media | Programming B |
| Computing Topics | Connecting computers | Stop-frame animation | Sequencing sounds | Branching databases | Desktop publishing | Events and actions in programs |
| Key Knowledge | Identifying that digital devices have inputs, processes, and outputs, and how devices can be connected to make networks | Capturing and editing digital still images to produce a stop-frame animation that tells a story | Creating sequences in a block-based programming language to make music. | Building and using branching databases to group objects using yes/no questions. | Creating documents by modifying text, images, and page layouts for a specified purpose | Writing algorithms and programs that use a range of events to trigger sequences of actions |
| Key Skills | explain that digital devices accept inputs explain that digital devices produce outputs explain how I use digital devices for different activities recognise similarities between using digital devices and non-digital tools demonstrate how information can be passed between devices recognise that a computer network is made up of a number of devices identify how devices in a network are connected together identify networked devices around me | create an effective flip book—style animation draw a sequence of pictures explain how an animation/flip book works create an effective stop-frame animation explain why little changes are needed for each frame predict what an animation will look like break down a story into settings, characters and events create a storyboard evaluate the quality of my animation review a sequence of frames to check my work evaluate another learner's animation explain ways to make my animation better improve my animation based on feedback | identify the objects in a Scratch project (sprites, backdrops) recognise that commands in Scratch are represented as blocks create a program following a design identify that each sprite is controlled by the commands I choose create a sequence of connected commands explain what a sequence is order notes into a sequence decide the actions for each sprite in a program make design choices for my artwork" identify and name the objects I will need for a project | investigate questions with yes/no answers make up a yes/no question about a collection of objects arrange objects into a tree structure select an attribute to separate objects into groups group objects using my own yes/no questions prove my branching database works select objects to arrange in a branching database create yes/no questions using given attributes use my branching database to answer questions compare two ways of presenting information explain what a branching database tells me explain what a pictogram tells me | explain the difference between text and images identify the advantages and disadvantages of using text and images change font style, size, and colours for a given purpose edit text choose the best locations for my content make changes to content after I've added it paste text and images to create a magazine cover choose a suitable layout for a given purpose match a layout to a purpose compare work made on desktop publishing to work created by hand identify the uses of desktop publishing in the real world say why desktop publishing might be helpful | explain the relationship between an event and an action identify a way to improve a program choose a character for my project choose a suitable size for a character in a maze program movement choose blocks to set up my program build more sequences of commands to make my design work match a piece of code to an outcome modify a program using a design evaluate my project implement my design make design choices and justify them |
| Learning Intentions | To explain how digital devices function To identify input and output devices To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network | To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation | To explore a new programming environment To identify that commands have an outcome To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description | To create questions with yes/no answers To identify the object attributes needed to collect relevant data To create a branching database To explain why it is helpful for a database to be well structured To identify objects using a branching database To compare the information shown in a pictogram with a branching database | To recognise how text and images convey information To recognise that text and layout can be edited To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing | To explain how a sprite moves in an existing project To create a program to move a sprite in four directions To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge |
| Resources | Painting program (any) | iMotion (app for iOS) | Scratch | j2data Branch and Pictogram | Adobe Spark | Scratch |
| Cross Curricular Links | Maths, Art Education for a Connected World | English, History Education for a Connected World | | Science Education for a Connected World | English Education for a Connected World | |
| Progression | This unit progresses learners' knowledge and understanding of technology by focusing on digital and non-digital devices, and introducing the concept of computers connected together as a network. Following this unit, learners will explore the internet as a network of networks. | This unit progresses students' knowledge and understanding of using digital devices to create media, exploring how they can create stop-frame animations. Following this unit, learners will further develop their video editing skills in Year 5. | This unit builds on learner's prior experience of programming by introducing the concept of sequencing. | This unit progresses students' knowledge and understanding of presenting information. It builds on their knowledge of data and information from key stage 1. They continue to develop their understanding of attributes and begin to construct and interrogate branching databases as a means of displaying and retrieving information. | This unit progresses learners' knowledge and understanding of using digital devices to combine text and images building on work from the following units; Digital Writing Year 1, Digital painting Year 1, and Digital Photography Year 2. | This unit builds on learner's prior experience of programming. The key stage 1 units focus on floor robots and ScratchJr. The Year 3 — Programming A unit introduces the Scratch programming environment and the concept of sequences. |