Computing Scheme Unit Overview

Year 1

Introduction to Purple Mash `3 Lessons`

Introduction to Purple Mash Introducing Purple Mash and the essential skills for the year 1 scheme units.

- B Logging in and out of Purple Mash
- B Opening and using 2Dos
- B Saving work in the Work area

Creative Computing `4 Lessons`

Developing mouse skills and ICT skills using the creative 2DIY tools in Purple Mash.

- B Making digital art
- B Making and sharing jigsaws
- B Making a drag and drop game

Data Explorers `6 Lessons`

Grouping and sorting objects. Relating this to organising and interpreting data. Using pictorial data on Purple Mash.

- B Sorting and grouping quizzes
- B Understanding what data is
- B Representing data electronically

Creating & Following Instructions `3 Lessons`

Understanding simple algorithms though unplugged activities before moving to sequencing activities on digital devices.

- B Following instructions
- B Creating Instructions
- B Understanding simple algorithms

Animated Stories `6 Lessons`

Creating and combining digital art and text to produce digital books using the 2Create a Story tool.

- B Creating digital art and text
- B Adding animation to images
- B Adding sound

Coding `6 Lessons`

Introducing block coding using 2Code.

- B Using blocks to code
- B Understanding objects, actions and events
- B Planning and designing a program

Technology Around Us `4 Lessons`

Defining and understanding what technology is. Relating this to school, home, outside and to its use in the wider world.

- B Understanding what technology is
- B Recognising technology in the local environment and wider world

Making Beats `4 Lessons`

Introducing the concept of digital music.

- B Creating sounds using 2Explore
- B Combining instruments using 2Beat
- B Composing digital music

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Year 2

Introduction to Purple Mash `2 Lessons`

An optional introduction to Purple Mash and the essential skills for beginning the year 2 scheme units. Use with classes who haven't used Purple Mash before or who need a refresher in the basics.

Route Explorers `4 Lessons`

Coding using 2Go. Writing simple instructions to move a screen turtle along routes.

- B Considering direction and distance
- B Creating commands
- B Building an algorithm

The Internet `4 Lessons`

Understanding what the internet is.

- B Defining the World Wide Web
- B Recognising browsers and websites
- B Connecting to the internet

Creating Pictures `5 Lessons`

Using a digital art tool to create art in different traditional art styles.

- B Using 2Paint a Picture templates
- B Exploring the features of each template
- B Compiling an online art portfolio
- B Comparing digital art effects to non digital effects

Spreadsheets `6 Lessons`

Introducing spreadsheets and the way they organise data using the 2Calculate tool.

- B Understanding cells and columns
- B Inserting images with values
- B Using totalling tools
- B Creating graphs

Questioning `4 Lessons`

Investigating data, how it is collected and how it can be presented.

- B Asking the right question to collect or present data
- B Keeping a tally
- B Using 2Count to present the data
- B Using a branching database

Coding `6 Lessons`

Developing coding skills using 2Code.

- B Understanding algorithms
- B Introducing sequencing
- B Coding interaction between objects
- B Using timers
- B Debugging

Presenting Ideas `4 Lessons`

Creating mind maps using 2Connect to organise and present ideas.

- B Using and making mind maps
- B Using a mind map as a presentation tool

Making Music `3 Lessons`

Composing digital melodies using 2Sequence.

- B Understanding a digital music tool
- B Relating the functions to musical terms
- B Composing music digitally

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Year 3

Introduction to Purple Mash — 2 Lessons

An optional introduction to Purple Mash and the essential skills for beginning the year 3 scheme units. Use with classes who haven't used Purple Mash before or who need a refresher in the basics.

Email — 6 Lessons

Communicating electronically using 2Email. Considering safety aspects of email communication.

- B Composing and replying to emails
- B Opening and sending attachments
- B Using email safely

Route Planners — 5 Lessons

Using 2Go to create routes for screen turtles. Coding using angles of turn and repetition.

- B Writing commands using rotation
- B Creating algorithms and writing code
- B Planning routes
- B Repetition in 2Go

Branching Databases — 4 Lessons

Creating branching databases (binary tree databases) using 2Question.

- B Asking binary questions
- B Completing branching databases in 2Question
- B Creating and testing branching databases

Spreadsheets — 6 Lessons

Working with data using spreadsheets in the 2Calculate tool.

- B Creating graphs
- B Understanding cell addresses
- B Using the formula bar
- B Combining 2Calculate functions to analyse data

Coding — 6 Lessons

Developing coding skills using 2Code.

- B Using flowcharts in 2Chart
- B Using timers
- B Introducing repetition
- B Testing and debugging

Presenting Ideas — 5 Lessons

Using industry standard software to create presentations.

- B Adding media
- B Customising with animation and timings
- B Designing an effective presentation

Touch Typing — 4 Lessons

Developing touch typing skills using 2Type.

- B Recognising keyboard locations
- B Understanding correct finger positioning
- B Improving accuracy and speed

micro:bit — 4 Lessons

Coding using a micro:bit as an external device. The software includes an emulator for use in schools without micro:bits.

- B Using the LED display
- B Sequencing and timing
- B Understanding inputs and outputs
- B Adding sounds and gestures

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Year 4

Introduction to Purple Mash — 2 Lessons

An optional introduction to Purple Mash and the essential skills for beginning the year 4 scheme units. Use with classes who haven't used Purple Mash before or who need a refresher in the basics.

Unpacking Hardware and Software — 4 Lessons

Understanding technology and computer systems in relation to their hardware and software.

B Defining types of technology
B Knowing how systems work together
B Identifying hardware
B Understanding software

Animation — 6 Lessons

Creating digital animations using the 2Animate tool.

B Knowing the types of animation
B Understanding onion skinning
B Exploring animation features
B Using storyboarding

Logo — 4 Lessons

Learning the text-based Logo coding language to create patterns and shapes Coding sequences, repetition, and procedures.

B Using Logo commands
B Writing commands in a sequence
B Refining code using repetition and procedures

Sound Stories — 4 Lessons

Adding narrative and sound effects to create audio books using 2Cast.

B Recording audio content
B Creating sound effects
B Post-production editing

Effective Searching — 4 Lessons

Exploring how to effectively search the internet. Exploring safety aspects of online information.

B Using a search engine
B Search rankings
B Reliable searching
B Search algorithms

Coding — 6 Lessons

Developing coding skills using 2Code.

B Introducing selection
B Exploring design properties
B Introducing loops
B Coding number variables

Making Music — 4 Lessons

Using the Busy Beats tool to explore and compose music digitally.

B Exploring pulse, rhythm and tempo
B Understanding pitch and texture
B Composing a melody

Introduction to AI — 4 Lessons

Understanding what artificial intelligence is, how it can help and the ethics around its use.

B Exploring how AI works
B Investigating the positive and negative impacts of AI
B Considering AI in the future

micro:bit — 4 Lessons

Coding using a micro:bit as an external device. Includes an emulator for schools without micro:bits.

B Exploring sensor inputs and the accelerometer
B Using variables, inputs and outputs
B Coding with selection and loops

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Year 5

Introduction to Purple Mash — 2 Lessons

An optional introduction to Purple Mash and the essential skills for beginning the year 5 scheme units. Use with classes who haven't used Purple Mash before or who need a refresher in the basics.

Quizzing — 5 Lessons

Making effective quizzes using 2Quiz. Exploring types of questioning and effective presentation of a quiz.

- B Evaluating the features of a good quiz
- B Choosing appropriate question types
- B Making use of feedback and titles
- B Testing and editing quizzes

Databases — 4 Lessons

Using table-based databases for collecting, presenting, searching and analysing data.

- B Understanding records and fields
- B Creating a collaborative database
- B Searching databases
- B Analysing data

Game Creator — 5 Lessons

Designing and making a 3D maze adventure game using 2DIY3D.

- B Exploring the features of a good game
- B Designing and making sprites and the game world
- B Evaluating the playability of games

Spreadsheets — 6 Lessons

Working with data using spreadsheets in the 2Calculate tool.

- B Using formulae
- B Exploring measurement conversions
- B Carrying out numerical investigations
- B Creating computational models

Coding — 6 Lessons

Developing coding skills using 2Code.

- B Coding efficiently by refining code
- B Simulating a physical system
- B Exploring decomposition and abstraction
- B Using functions and variables

Word Processing — 6 Lessons

Using industry standard software to create documents.

- B Creating documents
- B Using images
- B Entering and editing text
- B Using tables and templates

Concept Maps — 4 Lessons

Using and creating concept maps using 2Connect.

- B Creating concept maps
- B Presenting from a concept map
- B Making collaborative concept maps

Coding External Devices — 6 Lessons

Using the Purple Chip app on a tablet or phone device alongside Purple Mash.

- B Using device movement
- B Exploring text functions
- B Coding interaction with the environment

micro:bit — 4 Lessons

Coding using a micro:bit as an external device. Includes an emulator for schools without micro:bits.

- B Exploring sensor inputs and the accelerometer
- B Using selection, variables, inputs and outputs
- B Coding for the micro:bit pins

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Year 6

Introduction to Purple Mash — 2 Lessons

An optional introduction to Purple Mash and the essential skills for beginning the year 6 scheme units. Use with classes who haven't used Purple Mash before or who need a refresher in the basics.

Graphing — 4 Lessons

Understanding the benefits of creating common graph types digitally. Using appropriate features to present data in the best possible way.

- B   Creating a range of graph types
- B   Incorporating multiple datasets
- B   Using graphs to solve a problem
- B   Exporting and importing files

Blogging — 4 Lessons

Understanding how blogs and their features can effectively engage an audience.

- B   Planning the theme, content and structure
- B   Writing, editing and publishing a blog post
- B   Understanding blog moderation
- B   Reviewing and commenting on blog posts

Data Detectives — 4 Lessons

Using the Data Detectives tool to work with large datasets to analyse complex data and answer questions.

- B   Filtering and sorting data
- B   Grouping data
- B   Linking tables

Networks — 4 Lessons

Learning what networks do and how they connect devices. Considering safety aspects of networks and collaboration.

- B   Identifying examples of networks
- B   Recognising types of networks
- B   Understanding internet services
- B   Discussing positive and negative use of networks

Coding — 6 Lessons

Developing coding skills using 2Code.

- B   Using functions
- B   Understanding flowcharts and control simulations
- B   Coding for user input

Introduction to Python — 4 Lessons

Introducing text-based Python coding using the Python in Pieces platform. Python in Pieces translates between block-code and Python.

- B   Comparing block and text code views
- B   Coding for text output
- B   Working with different datatypes
- B   Coding repetition in Python

Spreadsheets — 5 Lessons

Using industry standard software to work with spreadsheets.

- B   Performing calculations
- B   Entering and using formulae
- B   Presenting data
- B   Solving real life problems

3D Modelling — 5 Lessons

Exploring computer aided design in 3D using the 2Design and Make tool.

- B   Working with viewpoints of 3D objects
- B   Adding and editing points on a model
- B   Designing for a purpose

Binary — 5 Lessons

Understanding binary as a number system and its purpose and application in computing.

- B   Examining how binary represents data in digital systems.
- B   Counting in binary
- B   Converting from decimal to binary
- B   Exploring binary in relation to game states

micro:bit — 5 Lessons

Coding using a micro:bit as an external device.

- B   Using the micro:bit as a data logger
- B   Measuring, recording and analysing environmental data
- B   Collecting data and exporting to graphical software

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