Computing Scheme of work content overview

# Year 1

Information Technology

Computer Science

Digital Literacy

## An introduction to Purple Mash

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

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

3 lessons

## Creative Computing

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

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

4 lessons

## Data Explorers

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

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

6 lessons

## Creating and following instructions

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

- Following instructions
- Creating instructions
- Understanding simple algorithms.

3 lessons

## Animated Stories

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

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

6 lessons

## Coding

Introducing block coding using 2Code

- Using block code
- Understanding objects, actions and events
- Planning and designing a program

6 lessons

## Technology Around Us

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

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

4 lessons

## Making Beats

Introducing the concept of digital music.

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

4 lessons

Online safety will be addressed within relevant topics as and when it naturally arises.

Computing Scheme of work content overview

# Year 2

## The Internet

Understanding what the internet is.

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

*4 lessons*

## Route Explorers

Coding using 2Go, writing simple instructions to move a screen turtle along routes

➢ Considering direction and distance
➢ Creating commands
➢ Building an algorithm

*4 lessons*

## Creating Pictures

Using a digital art tool to create art in different traditional art styles.
➢ Using 2Paint a picture template
➢ Exploring the features of each template
➢ Compiling an online art portfolio
➢ Comparing digital art effects to non-digital effects.

*5 lessons*

## Spreadsheets

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

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

*6 lessons*

## Questioning

Investigating data, how it is collected and how it can be presented.
➢ Asking the right question to collect or present data
➢ Keeping a tally
➢ Using 2Count to present the data
➢ Using a branching database

*4 lessons*

## Presenting Ideas

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

➢ Using and making mind maps
➢ Using a mind map as a presentation

*4 lessons*

## Coding

Developing coding skills using 2Code

➢ Understanding algorithms
➢ Introducing sequencing
➢ Coding interaction between objects
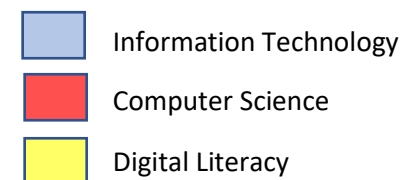➢ Using timers
➢ Debugging

*6 lessons*

## Making Music.

Composing digital melodies using 2Sequence.

➢ Understanding a digital music tool
➢ Relating the functions to musical terms
➢ Composing musically digitally

*3 lessons*

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Computing Scheme of work content overview

# Year 3

## Branching Databases

Creating branching databases (binary tree databases) using 2Question.
➢ Asking binary questions
➢ Completing branching databases in 2Question
➢ Creating and testing branching databases

4 lessons

## Email

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

➢ Composing and replying to email
➢ Opening and sending attachments
➢ Using email safely

6 lessons

## Route Planners

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

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

5 lessons

## Spreadsheets

Working with data using spreadsheets in the 2Calculate tool.
➢ Creating graphs
➢ Understandings cell addresses
➢ Using the formula bar
➢ Combining 2Calculate functions to analyse data.

6 lessons

## Presenting Ideas

Using industry standard software to create presentations.
➢ Adding media
➢ Customising with animations and timings
➢ Designing an effective presentation

5 lessons

## Coding

Developing coding skills using 2Code

➢ Using flowcharts in 2Chart
➢ Using timers
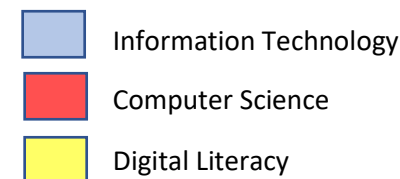➢ Introducing repetition
➢ Testing and debugging

6 lessons

## Micro:bits

Coding using a Micro:bits as an external device.

➢ Using LED display
➢ Sequencing and timing
➢ Understanding inputs and outputs
➢ Adding sound and gestures

4 lessons

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Computing Scheme of work content overview

# Year 4

Information Technology

Computer Science

Digital Literacy

## Unpacking Hardware and Software

Understanding technology and computer systems in relation to their hardware and software
➢ Defining types of technology
➢ Knowing how systems work together
➢ Identifying hardware
➢ Understanding software

4 lessons

## Animation

Creating digital animations using the 2Animate tool.

➢ Knowing the types of animation
➢ Understanding onion skinning
➢ Exploring animation features
➢ Using storyboards

6 lessons

## Sound stories

Adding narratives and sound effects to create audio books using 2Cast

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

4 lessons

## Logo

Learning the text-based Logo coding language to create patterns and shapes. Coding sequences, repetition and procedures.
➢ Using Logo commands
➢ Writing commands in a sequence
➢ Refining code using repetition and procedures

4 lessons

## Introduction to AI

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

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

4 lessons

## Effective Searching

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

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

4 lessons

## Coding

Developing coding skills using 2Code

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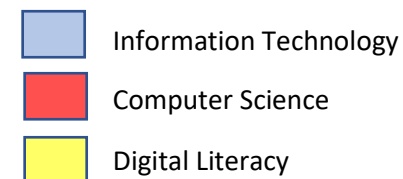➢ Introducing loops
➢ Coding number variables

6 lessons

## Micro:bits

Coding using a Micro:bit as an external device.

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

4 lessons

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# Year 5

## Quizzing

Making effective quizzes using 2Quiz. Exploring types of questioning and effective presentation of a quiz.
➤ Evaluating the features of a good quiz
➤ Choosing appropriate question types
➤ Making use of good feedback and titles
➤ Testing and editing quizzes.

*5 lessons*

## Databases

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

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

*4 lessons*

## Spreadsheets

Working with data using spreadsheets in the 2Calculate tool.
➤ Using formulae
➤ Exploring measurement conversions
➤ Carrying out numerical investigations
➤ Creating computational models

*6 lessons*

## Game Creator

Designing and making a 3D maze adventure game using 2DIY3D.
➤ Exploring the features of a good game
➤ Designing and making sprites and the game world
➤ Evaluating the playability of games.

*5 lessons*

## Word Processing

Using industry standard software to create documents.

➤ Creating documents
➤ Using images
➤ Entering and editing text
➤ Using tables and templates

*6 lessons*

## Coding

Developing coding skills using 2Code

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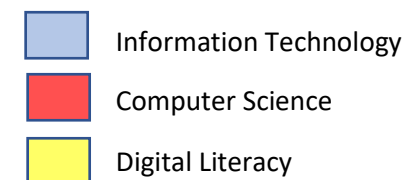➤ Using functions and variables

*6 lessons*

## Micro:bits

Introducing the concept of digital music.

➤ Creating sounds using 2Explore
➤ Combining instruments using 2Beat
➤ Composing digital music

*4 lessons*

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# Year 6

Information Technology
Computer Science
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## Graphing

Understanding the benefits of creating common graph types digitally. Using appropriate features to present data in the best possible way.
- Creating a range of graph types
- Incorporating multiple datasets
- Using graphs to solve a problem
- Exporting and importing files

*4 lessons*

## Blogging

Understanding blogs and their features and how they can be used to engage an audience affectively.
- Planning a theme
- Writing, editing and publishing a blog post
- Understanding blog moderation
- Reviewing and commenting on blog posts

*4 lessons*

## Data Detectives

Using the Data Detectives tool to work with large datasets to analyse complex data and answer questions.
- Filtering and sorting data
- Grouping data
- Linking tables

*4 lessons*

## Networks

Learning what networks do and how they connect devices. Considering safety aspects of networks and collaboration.
- Identifying examples of networks
- Recognising types of networks
- Understanding internet services
- Discussing positive and negative use of networks

*4 lessons*

## Coding

Developing coding skills using 2Code
- Using functions
- Understanding flowcharts and control simulations
- Coding for user input

*6 lessons*

## Micro:bits

Coding using Micro:bits as an external deice
- Using Micro:bits as a data logger
- Measuring, recording and analysing environmental data
- Collecting data and exporting to graphical software

*4 lessons*

## Spreadsheets

Using industry standard software to work with spreadsheets.
- Preforming calculations
- Entering and using formulae
- Presenting data
- Solving real life problems

*6 lessons*

## 3D Modelling

Exploring computer aided design in 3D using the 2Design and Make tool.
- Working with viewpoints of 3D objects
- Adding and editing points on a model
- Designing for a purpose

*4 lessons*

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