# Declarative and Procedural Knowledge

# Year 3

# Contents

# Introduction

**It is important to note that for simplicity and to demonstrate strand coverage, units have been put into their 'best fit' strand as per the Scheme of Work Overview document**.

### Key Stage 1

- In many units, children will be furthering online understanding and concepts of technology (DL) through making digital content (IT and CS)

### Key Stage 2

- Children will develop an understanding of the capabilities of the World Wide Web (CS) while searching online (IT).
- They will be developing their understanding of appropriate behaviour online (DL) skills while learning how to search the Internet (IT).

### Both Key Stages

- At all times children will be learning about using technology safely and respectfully (DL).
- In most units for all strands, children will be developing their general information technology skills (IT).
- This overlap, repetition and reinforcement helps give children a deeper understanding of the knowledge and skills across all strands, and of their integrated nature in the real world.

*For more detailed information to assess pupils, see the assessment statements at the end of each unit and repeated in the Assessment document for each year group.

# Introduction to Purple Mash

| National Curriculum Links | **Dominant objectives for this unit:**<br>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. |
|---|---|

| **Declarative** - By the end of the unit the students **will know that**: | **Procedural** – By the end of the unit the students **will know how to**: |
|---|---|
| • It is important to log in to a site, the importance of keeping passwords safe and the need to log out at the end of a session. | • Access Purple Mash from home and school.<br>• Log out of Purple Mash.<br>• Give reasons why it is important to keep a password safe and not share it with other people. |
| • An avatar is a virtual representation of a person suitable for use online. | • Make and edit their own avatar. |
| • The 2Do system is used to set work for children within Purple Mash. | • Open 2Dos.<br>• Save 2Dos.<br>• Hand in 2Dos and communicate with their teacher via the 2Do. |
| • Online sites have a main page called the ***homepage***. | • Access the Purple Mash homepage when on the site. |
| • Online sites often use an alert system to communicate with the user. | • Access alerts within Purple Mash. |
| • To move to a different activity in Purple Mash, you must close the current activity. | • Close activities in Purple Mash. |
| • Many online sites, including Purple Mash, have an area for an individual's work that is accessible only to the individual (and in Purple Mash to their teacher as well). | • Access their work area.<br>• Save work in their work area.<br>• Locate and open work they have done previously in their work folder. |
| • To access Purple Mash programs, you use the Tools area. | • Open a specified tool. |
| • You can access non-visible parts of a screen using scrolling. | • Scroll up and down and from side to side where applicable. |

# Route Planners

| National Curriculum Links | **Dominant objectives for this unit:**<br>• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.<br>• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.<br>• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. |
|---|---|

| **Declarative -** By the end of the unit the students **will know that**: | **Procedural** – By the end of the unit the students **will know how to**: |
|---|---|
| • The combination of a direction and a distance is known as a command in 2Go. | • Input commands |
| • Commands can be input into 2Go to control the movement of a screen turtle in four directions. | • Input purposeful commands in 2Go to make the turtle move in a particular direction towards a goal. |
| • The turtle can be set to rotate by angles of 90° or 45° both clockwise and anticlockwise. | • Input commands that rotate the turtle to face the desired direction for movement using both 90° and 45° angles. |
| • Planning a route is important to ensure the correct commands are input. | • Use techniques such as finger movements to plan a route. |
| • A list of instructions for a route is called an algorithm. | • Plan the route by first writing the algorithm and then inputting the code commands. |
| • Routes can be programmed to perform more than one command in a sequence. | • Input several commands into a sequential algorithm layout and run this code to move the turtle along the programmed route.<br>• Reset the turtle to the starting position to re-run the code. |
| • Routes can be programmed to repeat a sequence of commands a set number of times. | • Use the repeat algorithm layout for 2Go commands.<br>• Anticipate the effect of the repeat and use logical reasoning to decide upon when this layout is useful to accomplish a task. |
| • Errors (bugs) occur because commands have been input incorrectly.<br>• Fixing the errors is called debugging. | • Make logical attempts to debug code for routes.<br>• Reset, debug and re-run the code to test routes. |

# Email

| National Curriculum Links | **Dominant objectives for this unit:**<br>• Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.<br>• 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. |
|---|---|

| **Declarative -** By the end of the unit the students **will know that**: | **Procedural** – By the end of the unit the students **will know how to**: |
|---|---|
| • There are different methods of communication and they each have strengths and weaknesses. | • Explain the advantages and disadvantages of different communication methods.<br>• Choose an appropriate communication method for a task. |
| • Emails are a form of digital communication.<br>• They can be sent and received almost instantly to anyone with an email address. | • Make use of 2Email to communicate within school. |
| • Common features of email software are the inbox, the 'To' address field, the sender email address, the subject, the message text, compose and reply functions. | • Make use of these common features of email software to communicate digitally. |
| • Alerts can be used to notify a person that they have unread email. | • Check alerts for new messages and respond to these. |
| • Address books can be saved in the email software. This provides a convenient way to send emails without typing the full email address each time. | • Use the address book within 2Email to find contacts.<br>• Send emails to multiple contacts using the address book. |
| • Pictures, documents and other file types can be attached to emails. | • Identify the attachment icon.<br>• Select files to attach to an email and send.<br>• Be cautious of emails that have attachments.<br>• Discuss the advantages and disadvantages of being able to send attachments with emails. |
| • There are risks related to use of email. | • Recognise a concerning email/contact.<br>• Identify who a trusted contact is.<br>• Report any concern to a trusted adult and use the report to teacher feature in 2Email.<br>• Consider consent when sharing content digitally.<br>• Recognise personal and private information and know what is not appropriate to share with the recipient. |

# Branching Databases

| National Curriculum Links | **Dominant objectives for this unit:**<br>• 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. |
|---|---|

| **Declarative -** By the end of the unit the students **will know that**: | **Procedural** – By the end of the unit the students **will know how to**: |
|---|---|
| • A database is a collection of data organised in a way that it can be searched, and information found easily. | • Explain what a database is.<br>• Provide examples of common uses of a database such as the school's attendance database. |
| • Branching databases are structured using binary choices.<br>• A binary question is one that can be answered with 'yes' or 'no'. | • Identify binary questions that could be used to sort items.<br>• |
| • When using a binary database, the questions eliminate data until just one record is left, the item can then be identified. | • Use a binary database in 2Question to identify items. |
| • Branching databases can be created using programs such as 2Question. | • Add records to a 2Question database then sort the record using binary questioning to create the database. |
| • It is important to test and debug when creating branching databases so that it works as intended. | • Work through all routes of a branching database to test whether it works as intended.<br>• Identify and fix bugs in the database. |