Declarative and Procedural Knowledge

Year 1

Contents

Introduction

It is important to note that for simplicity and to demonstrate strand coverage, units have been put into their 'best-fit' strand in line with 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 online behaviour (DL) 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:** Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology safely and respectfully, keeping personal information private.

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. • Log out of Purple Mash. • 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 allows teachers to assign tasks to children within Purple Mash.	• Open 2Dos. • Save 2Dos. • 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 first 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. • Save work in their work area. • 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.
• You can use a physical or on-screen keyboard to type upper and lower-case letters and spaces.	• Type upper and lower-case letters and spaces using the device available.

Creative Computing

National Curriculum Links	**Dominant objectives for this unit:** Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

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**:
• Art can be created using digital tools.	• Select colours and painting effects in 2Paint. • Control a computer mouse. • Use a mouse or finger (device dependent) to perform tasks.
• Digital tools can be used to play and make simple games.	• Use drag and drop methods to complete games, including 2DIY jigsaws and placing activities. • Use the image gallery to create jigsaw images. • Use hotspots in 2DIY Placing games.
• Extension: Purple Mash allows a user to share work for others to use on digital display boards.	• Share work to a Purple Mash Display Board. • Access shared work on a Purple Mash Display Board.

Data Explorers

National Curriculum Links	**Dominant objectives for this unit:** Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

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**:
• Items can be grouped using a range of criteria, and a logical process should be used when doing so.	• Identify criteria that can be used to sort items into groups. • Sort items using criteria. • Describe how to logically sort items into groups.
• Digital tools can be used to group images of items.	• Complete grouping questions in 2Quiz using given criteria.
• Sorting is a way to organise items.	• Complete sequencing questions in 2Quiz using given sorting criteria.
• Sorting and grouping have different meanings.	• Decide whether it is better to sort or group items to organise them.
• Data is information that can be collected and used.	• Identify items to be grouped or sorted as examples of data that can be organised. • Use data grouping and sorting to answer questions.
• Data can be represented digitally using pictures.	• Create a pictogram using data from the class in 2Count. • Answer questions about the class using the pictogram.
• Before collecting data, you must think about how it can be used and what information to collect.	• Collect and record data. • Input the data into the 2Count tool. • Make a pictogram using 2Count. • Answer questions using the pictogram.

Declarative and Procedural Knowledge

Year 2

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 online behaviour (DL) skills while learning about searching 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:** Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology safely and respectfully, keeping personal information private.

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. • Log out of Purple Mash. • 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. • Save 2Dos. • 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 first close the current one.	• 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. • Save work in their work area. • 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.
• You can use a physical or on-screen keyboard to type upper and lower-case letters and spaces.	• Type upper- and lower-case letters and spaces using the device provided.

Route Explorers

National Curriculum Links	**Dominant objectives for this unit:** • Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Create and debug simple programs. • Use logical reasoning to predict the behaviour of simple 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 move the turtle in a specific direction towards a goal.
• Planning a route is important in order to input the correct commands.	• Use techniques such as finger movements to plan a route.
• 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. • Reset the turtle to the starting position to re-run the code.
• A list of instructions for a route is the algorithm for the route.	• Plan the route by writing the algorithm first and then inputting the commands.
• Errors (bugs) occur because commands have been input incorrectly. • Fixing the errors is called debugging.	• Make logical attempts to debug code for routes. • Reset, debug and re-run the code to test routes.

The Internet

National Curriculum Links	**Dominant objectives for this unit:** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content. • Recognise common uses of information technology beyond school.

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 Internet is a global network of connected computers around the world.	• Explain the difference between the Internet and the World Wide Web, recognising that they describe different things.
• An internet connection allows people to communicate with others over the internet. This in commonly known as being online. • An internet connection can be made using wires or wirelessly.	• Explain that wi-fi describes a wireless internet connection.
• A browser is used to access websites and webpages of the World Wide Web	• Recognise a web browser.
• The World Wide Web refers to the documents and pages someone sees when using a browser.	• Find information on the school's website by viewing the different webpages.
• Smart devices are those that can connect to the internet.	• Decide whether a device is a smart device. • Give examples of smart devices.
• The 'front page' of a website is known as the home page	• Navigate to the Purple Mash homepage and to the school's website homepage.
• Webpages have links that, when clicked, display other webpages.	• Use a link on a webpage of the school's website.
• Websites can be found using a browser that contains a search engine.	• Use keywords to search for information using a search engine.

Creating Pictures

National Curriculum Links	**Dominant objectives for this unit:** • Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

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**:
• Digital art tools usually have a choice of painting effects. Painting effects can be combined to help a user make pictures of varying styles.	• Explore the range of painting effects in 2Paint. • Observe how the painting effects give different results. • Produce digital images in traditional art styles using digital painting effects.
• The size of an onscreen painting tool brush stroke can be manipulated.	• Use the brush tool slider to change the size of brush strokes to achieve the desired effects.
• Intensity of colours can be manipulated digitally.	• Use the dilute tool to manipulate the intensity of any selected colour.
• Outline features in a digital art program help a user compose an image.	• Make use of outline features, such as selecting, resizing, and editing outlines, to enhance their digital art.

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:** 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. • Log out of Purple Mash. • 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. • Save 2Dos. • 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. • Save work in their work area. • 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:** • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • 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. • 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. • 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. • Fixing the errors is called debugging.	• Make logical attempts to debug code for routes. • Reset, debug and re-run the code to test routes.

Email

National Curriculum Links	**Dominant objectives for this unit:** • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. • 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. • Choose an appropriate communication method for a task.
• Emails are a form of digital communication. • 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. • Send emails to multiple contacts using the address book.
• Pictures, documents and other file types can be attached to emails.	• Identify the attachment icon. • Select files to attach to an email and send. • Be cautious of emails that have attachments. • 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. • Identify who a trusted contact is. • Report any concern to a trusted adult and use the report to teacher feature in 2Email. • Consider consent when sharing content digitally. • 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:** • 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. • Provide examples of common uses of a database such as the school's attendance database.
• Branching databases are structured using binary choices. • A binary question is one that can be answered with 'yes' or 'no'.	• Identify binary questions that could be used to sort items. •
• 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. • Identify and fix bugs in the database.

Declarative and Procedural Knowledge

Year 4

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 to 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:** 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. • Log out of Purple Mash. • 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. • Save 2Dos. • 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. • Save work in their work area. • 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.

Unpacking Hardware and Software

National Curriculum Links	**Dominant objectives for this unit:** • 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**:
• Technology describes using scientific knowledge to design and make tools, systems or machines that help solve problems or make tasks easier.	• Identify whether an item is an example of technology.
• Electrical, digital and smart technology are sub-sets of technology.	• Decide whether an item is an example of electrical, digital or smart technology.
• Hardware describes the physical parts of a computer.	• Define what is meant by hardware, components and peripherals. • Name hardware components of a computer system. • Describe the function of these different parts.
• Software describes the programs that instruct a computer to complete computational tasks.	• Identify the functions and common components of different software tools and relate them to the tasks those tools perform.
• Software and hardware operate together to follow processes that assist in completing tasks.	• Describe a process in terms of inputs, hardware and software processing and outputs.

Animation

National Curriculum Links	**Dominant objectives for this unit:** • 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**:
• Some animations are created by hand and others with the help of technology.	• Describe how hand drawn animation is created. • Make a simple flick animation book. • Contrast the process of animating by hand to the use of animation technology.
• Animation software has specific functions that support the animation of still images such as static backgrounds, onion skinning and copying frames.	• Use 2Animate to make simple animations using the specific animation functionality.
• Choices of sound effects, their timing and frames per second settings can enhance an animation	• Choose appropriate sound effects and speeds for animations.
• Storyboarding is a process that supports planning an animation.	• Use storyboarding to plan an animation.

Logo

National Curriculum Links	**Dominant objectives for this unit:** • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • 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**:
• Logo is a text-based coding language in which commands are written to control the movement of a screen turtle.	• Input commands in the Logo tool to make the turtle move in a particular direction towards a goal.
• Commands in Logo consist of directional or rotational commands that include a direction and a distance in spaces or degrees, and operational commands that alter how the output looks or how the code runs.	• Input directional commands (FD, BK, RT, LT) and more abstract, non-directional commands (such as PU and PD).
• Spacing of commands in Logo is important	• Space commands correctly and debug with a consideration for spacing when errors occur.
• Visual effects can be achieved by using the PU, PD, SETPC and SETPS commands.	• Alter line properties to explore visual effects. • Use the line commands to achieve desired visual effects from the code.
• Logo commands can be repeated a set number of times using the repeat command.	• Identify where the repeat command would be an efficient coding structure to use. • Create regular shapes using the repeat command. • Anticipate the effect of the repeat when used in example code.
• A procedure is a named set of Logo commands that will be run in the program when referred to by name.	• Write and save Logo procedures. • Call the procedures within their code. • Consider how best to use procedures to make their code efficient.
• Errors (bugs) occur because commands have been input incorrectly. • Fixing the errors is called debugging.	• Make logical attempts to debug Logo code. • Make use of multi-line mode for more complex code to enable easier debugging.

Declarative and Procedural Knowledge

Year 5

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 about searching 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 to 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:** 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. • Log out of Purple Mash. • 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. • Save 2Dos. • 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. • Save work in their work area. • 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.
• To access activities related to a specific topic, you can use the Topics area.	• Find activities on a specified topic.
• You can access non-visible parts of a screen using scrolling.	• Scroll up and down and from side to side where applicable.
• Purple Mash includes collaborative tools.	• Recommend a tool to use for collaborative group or class work.

Quizzing

National Curriculum Links	**Dominant objectives for this unit:** • 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**:
• There are different types of quiz, suitable for different purposes.	• Select the best type of quiz to make for the task.
• Within 2Quiz, there are different types of quiz questions, suitable for different purposes.	• Select the most suitable type of quiz question based on topic and variety.
• The success of a quiz can be determined by considering the level, interests and capability of the audience, the subject matter, the enjoyability, visual variety and feedback to the user.	• Design successful quizzes that meet a specific brief by making use of the full functionality within 2Quiz.
• Additional features and enhancements, including title screens, feedback screens, and content screens can maximise the success of a quiz.	• Explore the additional features, selecting which to use and how to make best use of these.
• Settings, including quiz style, time limits, feedback settings and feedback sounds change the look and feel of a quiz.	• Explore the settings, selecting which to use to create the best outcome for a quiz.

Databases

National Curriculum Links	**Dominant objectives for this unit:** • 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 contains a set of data that can be searched and sorted to retrieve information.	• Use the functionality of the 2Investigate database tool to work with data.
• A table-based database contains records and fields.	• Identify, create and edit records and fields of a database.
• Database tools support interpreting data using functionality including sorting, filtering, grouping and searching.	• Sort, group and arrange information in a database. • Search for information in a database. • Answer questions involving the interrogation of a database.
• Collaborative databases allow multiple people to work on one set of data at the same time.	• Add records to a collaborative database. Interrogate the data of a collaborative database.
• A well-designed database has built-in validation to ensure correct data formatting.	• Design a database with validation included.
• Queries can be built using the database tools to answer specific questions about the data.	• Use the query builder to specify conditions for the data returned. • Use conditional operators correctly when building a database query.
• Some table-based databases have multiple tables of related data. These can be linked on common fields to build complex queries across multiple tables.	• Build complex queries across multiple tables to answer questions about the data.
• Databases support the production of automated reports using fields within the data.	• Produce automated reports using fields within the data.

Game Creator

National Curriculum Links	**Dominant objectives for this unit:** • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • 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**:
• There are criteria which determine the playability of a video game.	• Evaluate the playability of a video game.
• 3D games can be made using the 2DIY 3D tool.	• Make a 3D game using the key functions of the 2DIY 3D game creator tool.
• To maximise playability, it is important to plan and design a game before making it.	• Use a design document to plan the theme and aim, characters and game world, game features, timing, character movement and interaction for a 3D game.
• The visual properties of a game should fit with the theme and add a feeling of immersion to the experience.	• Choose and design appropriate textures for the game world walls, floors, lighting, hazards and scenery.
• The audio properties of a game should fit with the theme and add a feeling of immersion to the experience.	• Choose or compose appropriate sound effects and music for the game.
• The design of baddie sprites and collectable quest items is a key aspect of game creation.	• Design the collectable quest items and add movement, sound effects and actions. • Consider where to place the collectable quest items so it is possible to finish the game. • Place sprites in the game in such a way as to provide challenge but not make it impossible to play. • Select appropriate penalties for encountering an enemy.
• It is important to give the player good instructions to enable them to enjoy playing the game.	• Create useful instruction screens for players.
• Evaluation is important so a game can be improved.	• Evaluate games made by their peers using given criteria. • Read evaluations of their game from others. • Make appropriate improvements to their game.

Declarative and Procedural Knowledge

Year 6

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 about searching 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 to 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:** 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. • Log out of Purple Mash. • 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. • Save 2Dos. • 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. • Save work in their work area. • 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.
• To access activities related to a specific topic, you can use the Topics area.	• Find activities on a specified topic.
• You can access non-visible parts of a screen using scrolling.	• Scroll up and down and from side to side where applicable.
• Purple Mash includes collaborative tools.	• Recommend a tool to use for collaborative group or class work.

Graphing

National Curriculum Links	**Dominant objectives for this unit:** • 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**:
• Graphing helps to make sense of datasets and draw conclusions related to the collected data	• Create a variety of graphs and interpret these to draw conclusions.
• There are different types of graphs. The data and the question that needs answering will determine the best graph type to produce.	• Create a variety of graph types and determine the best format to represent specified data.
• Comparative bar charts can be used to visually compare several datasets.	• Create a comparative bar chart using the 2Graph tool. • Present the graph with a title, key and axis labels.
• Graphs can be exported from a graphing tool such as 2Graph and imported into other documents.	• Export graphs from 2Graph and import them into a 2Publish file.
• Pie charts represent data as parts of a whole.	• Use 2Graph and 2Calculate to create pie charts and then interpret what they show. • Compare the use of each tool in relation to graph production.
• Line graphs are used to represent the relationship between two variables as they change over time.	• Decide when a line graph would be the most appropriate graphing format. • Create line graphs and use a graphing tool to add titles, labels and select the best scale for display. • Create line graphs showing multiple datasets and use these to draw conclusions about the data.

Blogging

National Curriculum Links	**Dominant objectives for this unit:** • 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 blog is a regularly updated webpage, written about a particular topic.	• Give examples of topics for existing or prospective blogs.
• Blogs consist of several blog posts	• Create a blog post.
• A well written blog post has certain features that make the blog clear and easy to understand and increase reader engagement.	• Plan the hook, look and feel, conclusion and reader engagement for a blog post.
• The 'hook' draws the reader into the blog.	• Use an appropriate hook for a blog post by including either a quote, a story, a question or an observation to grab the reader's interest.
• The look and feel of a blog post makes it clear for the reader to access the information.	• Write a blog post that is easy to follow, uses lists or bullets, bolds key information and uses an appropriate conversational style.
• The conclusion of a blog post ties the information in the post together.	• Write a conclusion that summarises the main points of the post and might give the reader advice.
• The process of writing a blog post requires planning, drafting, revising and editing before publication.	• Follow the plan, draft, revise and edit process before publishing a blog post.
• Engaging with readers is crucial to the success of a blog.	• Read and respond to comments on their blog post. • Use commenting to increase engagement and guide future blog posts.
• Moderation exists to make the blogging environment a safe place for its readership and authors.	• Decide whether content conforms to appropriate netiquette guidance. • Report posts or comments that violate community or legal guidelines.

Networks

National Curriculum Links	**Dominant objectives for this unit:** • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • 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**:
• A network describes a group of connected computers that can share information and hardware resources.	• Identify types of computer networks locally and globally. • Explain the hardware resources that a network might share.
• LAN and WAN are different kinds of networks,	• Explain the difference between LAN and WAN.
• Certain hardware is required to create a network.	• Create a network diagram that include hardware such as a router and connected devices and peripherals.
• Networks can be wired or wireless or a combination of both.	• Identify the terms wi-fi, mobile data and 5G as pertaining to wireless network connections.
• The difference between the World Wide Web and the Internet.	• Describe the difference between the Internet and World Wide Web giving examples of the services that both provide.
• Web browsers are used to access the World Wide Web.	• Give examples of web browser tools.
• The existence of networks has opened online communication	• Give examples of online communication. • Give safety tips related to online communication
• Internet filtering and censorship are both used to make parts of the internet less accessible for different reasons.	• Explain the differences between Internet filtering and censorship and why they are used.