



Digital Literacy

Year 6

Online Safety

- A game can be created to encourage the player to think about online safety.
- A digital footprint leaves a trail online to show their behaviour and this can have a negative impact.
- It is important to balance game and screen time with other parts of our lives.

Blogging

- A blog is an online vehicle for displaying thoughts and ideas in an informal style.
- It is important to plan out the theme and content of a blog before writing it.
- People can contribute to blogs by adding their own posts.
- Blog posts written by others can be commented on.

Year 5

Online Safety

- The SMART rules are designed to keep children safe online.
- Passwords need to be kept secure.
- Care needs to be given when sharing content online.
- Sources should be referenced in work.
- Different forms of communication are best used for specific purposes.

Year 4

Online Safety

- Safe protocols can be developed to protect people when using email.
- Everything put online leaves a trail known as a digital footprint.
- There are risks and benefits of installing software including apps.
- Copying the work of others and presenting it as their own is called 'plagiarism'.
- There are positive and negative influences of technology on health and the environment.

Year 3

Online Safety

- Passwords are private and should never be shared.
- Blogs can help us to communicate our thoughts and ideas.
- Not everything online is factually correct, and some websites can be referred to as spoof websites.
- PEGI / BBFC ratings exist to keep young people safe and steps can be taken should students see inappropriate content.
-

Email

- There are different methods of communication and they each have strengths and weaknesses.
- Emails are electronic versions of letters, and they can be sent and received almost instantly to anyone with an email address.
- It's important to use email systems safely and that there are things people can do to try to keep themselves safe.
- Pictures, documents and other file types can be attached to emails.
- Address books can be made in email clients which store known contacts' email addresses. When sending an email we can use an address and send to multiple people.

Year 2

Online Safety

- Searches can be refined so it is easier to find something.
- Work can be shared in a variety of ways.
- Email is a way of communicating and know that in this form of communication, as with others, you need to be considerate of the user.
- The term digital footprint relates to information that a user puts online, and that this footprint may remain even when we think we have removed the information.

Effective Searching

- The Internet is a global network of connected computers around the World.
- The World Wide Web refers to the documents and pages someone sees when using a browser. Websites can be found using a browser that contains a search engine.
- Search engines use millions of people's digital footprints to help provide more accurate results.
- To find results that we want on a search engine, we need to search effectively.

Year 1

Online Safety

- It is important to log in to a site safely and the importance of keeping passwords safe.
- Many online sites, including Purple Mash, have an area for their work that is accessible only to the user.
- An avatar is a virtual representation of them suitable for use online.
- Work can be loaded and saved in an online area in platforms children have access to, including Purple Mash, can be accessed by teachers.
- Online platforms, such as Purple Mash, have search functionality which allows users to efficiently find resources and tools.
- Different icons in a tools bar carry out different functions.
- Many of the tools in sites such as Purple Mash will have a common design theme, and which means familiarity of the functionality of icons across different applications.
- It is important to log out when they have finished working as a way of securing personal accounts.

Technology Outside School

- Technology is science and engineering knowledge put into practical use to solve problems or invent useful tools.
- Technology is used within school.
- Technology is used outside of school.

Computer Science

Year 6

Coding

- Number elements combined with a number variable and an if/else statement can be used to create an onscreen countdown timer. Selection can be achieved through the use of if/else statements.
- The coordinates of objects can be used in code such as moving the position of them. The position of an object on the screen in 2Code is referenced using x and y coordinates.
- The launch command can be used within 2Code to open another Purple Mash file or an external website when it is called in a program.
- 2Code contains tabs in the coding view. Tabs can be used to help organise code.
- Using functions helps with making programs more efficient. Instead of writing the same sequence of code repeatedly when needed, a function can be created and called when required. Procedures are an independent piece of code. In 2Code, a procedure might be coded as a function.
- Flowcharts can represent procedures within a program. Flowcharts can be referenced when a program is executed to test whether a program is running as expected according to the flowchart.
- Input is defined by information going into a computer. Inputs could consist of pressing a key, swiping a screen, clicking an object on the screen with a mouse or typing using the keyboard. All of these can be used to increase user interaction within a program. Prompt for input and get input are both defined as user input.
- Text adventures are computer games that have been created using text instead of graphics. Players use text commands to control characters and influence the environment.

Text Adventures

- A text adventure is a computer game that uses text instead of graphics.
- Concept map plans for a story adventure can be used to plan the text-based adventure game.
- It is important to have a good level of coding comprehension in order to understand how a text adventure works.
- Debugging is a key part of coding and essential if code is to run properly.

Networks

- The difference between the World Wide Web and the Internet.
- LAN and WAN are different kinds of networks.
- The Internet has changed our lives in many ways.

Year 5

Coding

- Code can be simplified to complete the same process with less lines of code. Simplified code runs faster and uses less processing memory, it is said to be more efficient. Computer generated variables in 2Code are tags given to objects and these can be used to control object types meaning less lines of code are needed.
- A simulation is a model that represents a real or imaginary situation. Plans of an algorithm that represents a real or imaginary situation can be created and then used to program a simulation in 2Code.
- The timer every command can be used to make code repeat forever.
- Decomposition is a method of breaking down a task into manageable components. This makes coding easier as the components can then be coded separately and then brought back together in the program.
- Abstraction is a way of de-cluttering and removing unnecessary details to get a program functioning.
- A function is a block or sequence of code that can be accessed when it is needed. This means code doesn't have to be rewritten every time it is needed. Instead, the function can be called each time it is needed.
- Strings are text or a combination of text characters and numbers within programs. An example could be a program that has a string type variable that is used to keep a player informed of their progress in a game.
- Concatenation is the name given to the action of linking things together in a series. For example, in programs we might want to link words together to form random phrases that are seen by a user of a program.

Game Creator

- It is important to plan out a game before commencing on making it.
- A game design program has specific functions for the designer to use.
- The design of characters and quest items is a key aspect of game creation.
- A finished game must be playable and possible for the player to complete.
- Evaluation is important so a game can be improved and made more playable and exciting.

External Devices

- External devices can be used to control a coded program.
- An external device can be used as a game controller.
- Text can be outputted to an external device.
- An external device can be used to model real life situations.
- A program can be written for the external device to meet a specific design brief.

Year 4

Coding

- There are objects in 2Code and that there are different types and these have attributes (properties) that can be changed.
- Backgrounds can be changed and manipulated.
- Selection is a term used in computer programming. That it is a decision command that will be run dependent on whether a condition is met.
- If statements are used to create selection in 2Code and that they are bits of code that will run only if a condition is true.
- Coordinates are used in computer programming to determine the position of a point, shape or object and that these change according to where they are positioned on the screen.
- Repeat until is a control block and that blocks of code will repeat until a condition is met.
- If/else statements are a conditional command that tests a statement. If a condition is true, commands inside the if block will run. If a condition is false, commands inside the else block will run.
- Variables are a virtual container (A place in computer memory) that contain a value that can change. The value is normally in the format of a number or letter. Variables are used in programming to keep track of things that can change such as the score in a computer game. There are 3 main types that be created using 2Code.

Logo

- 2Logo has its own language with specific instructions.
- Representations of shapes, letters and flowers can be created in 2Logo using the repeat command.
- The repeat command is a more efficient way to code in 2Logo.
- It is important to test and debug code in 2Logo as with other coding platforms to ensure it runs effectively.

Hardware Investigators

- Different parts make up a computer.

Year 3

Coding

- Flowcharts are a type of diagram that use specifically shaped labelled boxes and arrows to represent an algorithm as a diagram.
- Timers are used in coding to help control when a block of commands are run. Timer commands can be run after a timed delay or at regular intervals. In 2Code there are two timer options, timer every or timer after. These can be altered by changing the number of seconds/quarter seconds.
- Repeat is a control block and blocks of commands can be set to repeat a specified number of times using the repeat control block.
- Testing, debugging and fixing are an important part of the process of making computer programs. Understanding what nesting is and the effect it has on a program can help when trying to debug a program.

Microbits

- A micro:bit is a tiny computer which needs instructions in code to make it work.
- A micro:bit can produce outputs.
- A micro:bit can receive inputs.
- Code from the coding environment can be transferred onto a micro:bit.
- The order (sequence) of instructions is important when coding.

Year 2

Coding

- In computing, a set of instructions is known as an algorithm. Steps in an algorithm must be followed in order to achieve the intended outcome.
- Code can be created that detects when two objects have collided. This code can have an action associated with it. For example, if an alien ship (object) collides with a planet (object) a crash sound is heard (Action). We call this collision detection in 2Code.
- Programs follow a sequence of instructions (commands) in order. Timers can be introduced into programs to make parts of the program run after a set time. In 2Code, you can use a timer after command to delay the number of seconds until specific parts of a program are run.
- A computer program in 2Code can include objects that are different types. Each object type will have attributes (properties) that can be modified.
- Events in computer programs cause a block of code to be run. Events could be the result of a user pressing a key or clicking the screen. Event commands in 2Code are used to create blocks of code that are run when an event happens. There are different event command blocks in 2Code.
- Buttons are an object type in 2Code. Buttons use the 'When Clicked' event and will run a piece of code when they are clicked on.
- Bugs when referring to computer programs, are bits of code that are stopping a program from working how it was intended. Debugging is the process of looking for any problems in code, fixing the problems and repeatedly testing them.

Year 1

Coding

- Tasks can be given to people and computers by using instructions. Computer programs work by following instructions called code known as algorithms. In both cases, these need to be clear and concise.
- There are objects and action code block in the 2Code environment and that you can make a simple program using these. Each single instruction such as 'Object Right' is called a command.
- An event is something that makes a block of code run such as a user pressing a key or clicking a screen. Event, object and action code blocks can be used together.
- When code is run this is known as code being executed.
- Debugging is when we fix code that isn't working how it was designed to.
- Scenes can be made using backgrounds and objects. Backgrounds can be changed as well as objects and that these have attributes (properties) that can be modified.
- A well thought out program should be made from a plan.

Lego Builder

- To achieve a specific effect when building something, accurate instructions must be followed.
- Computer programs need precise instructions to follow, and these are called algorithms. If instructions are vague, outcomes will vary for any given task.
- The order of instructions for a task affects the results.
- Correcting errors in an algorithm or program is called debugging.

Maze Explorers

- You can move a character (turtle) within specific computer programs around a computer screen such as 2Go by using direction keys. When a direction key is used it is known as a command.
- On screen direction keys can have eight possible directions which includes diagonal movements.
- Number keys can be combined with direction keys to give a program more accurate instructions and avoid less command clicks. Each square on a grid relates to 1 unit and that when using number keys this should be referenced.
- Lists can be made with directional instructions within 2Go and these are known as algorithms. These lists can be changed to improve the instructions which is known as debugging.

Grouping and Sorting

- Items can be sorted using a range of criteria. When sorting items, a logical process should be used.
- An algorithm is a precise, step-by-step set of instructions used to solve a problem or achieve an objective. Computer programs need clear instructions, in steps, to follow. The instructions written for a computer program are called algorithms. Humans can follow algorithms to sort items such as shapes, just as computer programs can.
- Computers can be used as a way of sorting on screen objects.



Information Technology

Year 6

Spreadsheets

- A spreadsheet can be used to investigate a problem such as the frequency of a number rolled on a collection of die.
- A formula can be used to work out the new prices in a shop sale.
- A spreadsheet can be used to plan how to spend pocket money.
- A spreadsheet can be used to plan out a school charity day.

Year 5

Word Processing

- A word processing tool can be used to create a range of documents.
- Images can be added to a document.
- Images can be edited in Word using Word Wrap.
- The look of text within a document can be changed.
- Various features within the program will enhance the documents look and usability.
- Tables can be used to present information within a document.
- A template can be used to create a document.
- Page layout can be improved by using headings and columns.

Year 4

Effective Searching

- Information can be located on a search engine page.
- There are different skills needed to research effectively.
- Web Pages need to be evaluated to see if the information contained is true and reliable.

Writing for Different Audience

- Formatting including the style of font can affect the impact of a text.
- Editing the formatting of the text makes a document fit for purpose.
- Producing documents to meet a brief involves using appropriate formatting.

Year 3

Presenting with Google Slides

- Presentation software is a way of creating and displaying information to an audience that is clear and engaging.
- Simple presentations can be made quickly by using features such as textboxes, word art and images.
- Presentations can include additional slides, video and audio.
- Shapes and lines can be added to slides.
- Animations can be incorporated within Google Slides files.
- Transitions can be applied between slides.
- Designs of slides can be changed.

Graphing

- Computer programs such as 2Graph can be used to present data in more meaningful ways.
- It's important to use the most appropriate graph type according to the information entered into it.
- Graphing programs can be used to help solve questions.

Year 2

Creating Pictures

- Computer drawing programs contain palettes. Palettes are the range of colours or shapes available to the users.
- Computer drawing programs may have a choice of painting effects. Painting effects can be combined to help a user make pictures.
- The size of an onscreen painting tool brush stroke can be manipulated.
- Intensity of colours can be manipulated.
- Outline features in drawing programs help a user with the formation of paintings.
- Fill tools speed up the process of colouring enclosed areas on a painting.
- Pattern tools can be used to create repeating patterns and manipulate how a pattern is arranged.
- An e-Collage template is available in programs like 2Paint that lets a user create stamps that can be used to add to a picture or build up a picture.

Presenting ideas

- Digital content can be presented in many forms.
- Quizzes can be made using programs such as 2Quiz.
- Digital content should be presented using a suitable format.
- Digital content in one format can be re-used in other formats to present to audiences.

Year 1

Pictograms

- Data is a collection of information, used to help answer questions.
- A pictogram is a visual way of representing data.
- We can look at data represented in pictograms and ask questions as a way of interrogating data.
- Programs such as 2Count enable people to create pictograms on a computer. This has the advantage of being able to easily modify data and share it with lots of people.

Animated Story Books

- There are differences between traditional books and e-books.
- Images can be created within e-book software.
- Animations can be included in e-books.
- E-book software allows pages to be added and overwriting of work.
- Audio such as sound effects, voice recordings and music can be included within e-books.
- Backgrounds can be included in e-books to help engage an audience.
- Text fonts and sizes can be changed in e-books to suit an intended audience.
- Copy and paste features in e-book software can be used to speed up creation of additional pages