North East
Learning Trust

COMPUTING

SCHEME OF WORK

Our Vision

Diamond Hall Junior Academy aims to provide an inspiring, inclusive, challenging and real-world curriculum that the children will enjoy. Inspiring future thinkers, innovators and problem solvers in an environment that stimulates and supports high quality learning. To ensure that all learners exceed their potential academically, socially, emotionally and spiritually with their families, in their communities as well as the wider world ensuring they become ambitious lifelong learners.

Principles and Purpose

Our curriculum has been customised, personalised and structured so that the development of knowledge, skills and vocabulary is completed in a systematic and logical sequence, with big ideas being reintroduced throughout Key Stage in a variety of projects, making links between subjects and content. The curriculum is organised to support pupils growing depth of learning using a project based, thematic approach, it provides children with a range and breadth of rich and memorable learning experiences which promotes SMSC and British Values. When designing our curriculum, we have ensured a well-planned program which recognises the knowledge and skills, pupils will need for later life taking into consideration our diverse community and local ship building, pottery and coal mining heritage. Diamond Hall Junior Academy places the community at the heart of all it does, we strive to leave a legacy of future learners for generations to come.

Aims

- Understand the purpose and value of their learning and see its relevance to their past, present and future
- Opportunities to enrich children's lives through a broad and diverse range of exciting experiences
- Make meaningful links between subjects.
- Develop children's skills, knowledge and understanding of a range of themes and concepts.
- Develop a rich and deep subject knowledge
- Make effective connections to the real world.
- Help children to think both systematically and creatively to solve problems.
- Develop children's capacities to work independently and collaboratively.
- Enable children to make informed choices about their learning. Taking into account children's interests and fascinations.
- Make a positive contribution to the school and local community.

Our approach:

- To learn within a coherent and progressive framework
- Helps children to find their passions and interests
- Facilitates children's acquisition of knowledge, skills and understanding
- Helps children to develop intellectually, emotionally, socially, physically and morally
- Assists all children in becoming resilient, independent, responsible, useful, confident and considerate members of the community
- Promotes a positive attitude towards learning, so children enjoy coming to school
- Helps children to acquire essential knowledge and skills to become lifelong learners
- Creates and maintains an exciting and stimulating learning environment
- Ensures that each child's education has continuity and progression
- Enables all children to contribute positively within a culturally diverse society
- Promotes innovation and entrepreneurialism
- Opportunities to learn in different environments.

Computing Intent

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

The national curriculum for computing aims to ensure that all pupils:

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Computing skills will be taught discretely using Purple Mash and as an integrated part of a theme-based curriculum, with skills being applied in relation to each class' current topic.

Y3 - 6 Curriculum Overview

Theme Key:							
Coding and Computational thinking	Spreadsheets	Internet and Email	Art and Design	Music	Databases and graphing	Writing and Presenting	Communication and networks

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
YEAR 3	**Unit 3.1 Coding** **Number of Weeks – 6** **Main Programs – 2Code**						**Unit 3.2 Online safety** **Weeks – 3** **Programs –** Various			**Unit 3.3 Spreadsheets** **Weeks – 3** **Programs –** 2Calculate			**Unit 3.4 Touch Typing** **Weeks – 4** **Programs –** 2Type				**Unit 3.5 Email** (including email safety) **Weeks – 6** **Programs –** 2Email, 2Connect, 2DIY						**Unit 3.6 Branching Databases** **Weeks – 4** **Programs –** 2Question				**Unit 3.7 Simulations** **Weeks – 3** **Programs –** 2Simulate, 2Publish			**Unit 3.8 Graphing** **Weeks – 3** **Programs –** 2Graph		

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
YEAR 4	**Unit 4.1 Coding** **Number of Weeks – 6** **Main Programs – 2Code**						**Unit 4.2 Online safety** **Weeks – 4** **Programs –** Various				**Unit 4.3 Spreadsheets** **Weeks – 6** **Programs –** 2Calculate						**Unit 4.4 Writing for different audiences** **Weeks – 5** **Programs –** 2Email, 2Connect, 2DIY						**Unit 4.5 Logo** **Weeks – 4** **Programs –** Logo				**Unit 4.6 Animation** **Weeks – 3** **Programs –** 2Animate			**Unit 4.7 Effective Search** **Weeks – 3** **Programs –** Browser			**Unit 4.8 Hardware Investigators** **Weeks – 2**		

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
YEAR 5	**Unit 5.1 Coding** **Number of Weeks – 6** **Main Programs – 2Code**						**Unit 5.2 Online safety** **Weeks – 3** **Programs -** Various			**Unit 5.3 Spreadsheets** **Weeks – 6** **Programs –** 2Calculate						**Unit 5.4 Databases** **Weeks – 4** **Programs –** 2Question, 2Investigate			**Unit 5.5 Game Creator** **Weeks – 5** **Programs –** 2DIY 3D				**Unit 5.6 3D Modelling** **Weeks – 4** **Programs –** 2Design and Make				**Unit 5.7 Concept Maps** **Weeks – 4** **Programs –** 2Connect			

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
YEAR 6*	**Unit 6.1 Coding** **Number of Weeks** – 6 **Main Programs** – 2Code						**Unit 6.2 Online safety** **Weeks** – 2 **Programs** - Various			**Unit 6.3 Spreadsheets** **Weeks** – 5 **Programs** – 2Calculate					**Unit 6.4 Blogging** **Weeks** – 5 **Programs** – 2Blog					**Unit 6.5 Text Adventures** **Weeks** – 5 **Programs** – 2Code, 2Connect					**Unit 6.6 Networks** **Weeks** – 3			**Unit 6.7 Quizzing** **Weeks** – 6 **Programs** – 2Quiz, 2DIY, Text Toolkit, 2Investigate				

*** There is an optional unit 6.8 – Understanding Binary that can be used in addition to the above units. It is a four week unit.**

	....	Year 3	Year 4	Year 5	Year 6
Computer Science		Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the effect of using a timer command rather than a repeat command when creating repetition effects. Children understand how variables can be used to store information while a program is executing Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to and attach files to emails using 2Email. They can describe appropriate email conventions when communicating in this way.	When turning a real- life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs. Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'if statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. e.g. 2Code. Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. e.g. traffic light algorithm in 2Code. In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately. Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods of communication is improving.	Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of code. Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their algorithm design. When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the naming of variables. Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g. 2Blog, 2Email, Display Boards.	Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and applying skills from previous programs. Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a problem. Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of variables in coding, outputs such as sound and movement, inputs from the user of the program such as button clicks and the value of functions. Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the program as a whole. Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the internet in school.

Information Technology		Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as Purple Mash search or internet-wide search engines. Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (2Question), using software such as 2Graph. Children can consider what software is most appropriate for a given task. They can create purposeful content to attach to emails, e.g. 2Respond	Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level. Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as 2Connect and 2Publish+. Children share digital content within their community, i.e. using Virtual Display Boards.	Children search with greater complexity for digital content when using a search engine. They are able to explain in some detail how credible a webpage is and the information it contains. Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using 2Code. They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode. They are able to use several ways of sharing digital content, i.e. 2Blog, Display Boards and 2Email.	Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and accuracy. Children use critical thinking skills in everyday use of online communication. Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the internet, e.g. 2Blog. They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.
Digital Literacy		Children demonstrate the importance of having a secure password and not sharing this with anyone else. Furthermore, children can explain the negative implications of failure to keep passwords safe and secure. They understand the importance of staying safe and the importance of their conduct when using familiar communication tools such as 2Email in Purple Mash. They know more than one way to report unacceptable content and contact	Children can explore key concepts relating to online safety using concept mapping such as 2Connect. They can help others to understand the importance of online safety. Children know a range of ways of reporting inappropriate content and contact	Children have a secure knowledge of common online safety rules and can apply this by demonstrating the safe and respectful use of a few different technologies and online services. Children implicitly relate appropriate online behaviour to their right to personal privacy and mental wellbeing of themselves and others.	Children demonstrate the safe and respectful use of a range of different technologies and online services. They identify more discreet inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. They recognise the value in preserving their privacy when online for their own and other people's safety.

Tools By Unit

Year	Unit	Title	Tools used
Y3	3.1	Coding	2Code
	3.2	Online Safety	2Connect (Mind Map)
			2Blog (Blogging)
			Writing Templates
			Displayboards
	3.3	Spreadsheets	2Calculate
	3.4	Typing	2Type
	3.5	Email	2Email
	3.6	Branching Databases	2Question (Binary Databases)
	3.7	Simulations	2Simulate
			Writing Templates
	3.8	Graphing	2Graph
			Writing Templates
			2Blog (Blogging)

Year	Unit	Title	Tools used
Y4	4.1	Coding	2Code
	4.2	Online Safety	2Connect (Mind Map)
			2Publish Plus
			Displayboards
	4.3	Spreadsheets	2Calculate
	4.4	Writing for Different Audiences	Writing Templates
			2Simulate
			2Connect (Mind Map)
			2Publish Plus
	4.5	Logo	2Logo (text-based coding)
	4.6	Animation	2Animate
	4.7	Effective Searching	2Quiz
			2Connect (Mind Map)
	4.8	Hardware Investigators	2Quiz
			2Connect (Mind Map)
			Writing Templates

Year	Unit	Title	Tools used
Y5	5.1	Coding	2Code
	5.2	Online Safety	2Publish Plus
			Writing Templates
			Displayboards
			2Connect (Mind Map)
	5.3	Spreadsheets	2Calculate
	5.4	Databases	2Investigate (database)
			Avatar creator
	5.5	Game Creator	2DIY 3D
			Writing Templates
			2Blog (Blogging)
	5.6	3D Modelling	2Design and Make
			Writing Templates
	5.7	Concept Maps	2Connect (Mind Map)

Year	Unit	Title	Tools used
Y6	6.1	Coding	2Code
	6.2	Online Safety	2DIY 3D
			2DIY
			2Code
			2Blog (Blogging)
	6.3	Spreadsheets	2Calculate
	6.4	Blogging	2Blog (Blogging)
	6.5	Text Adventures	2Code
			2Connect (Mind Map)
			Writing Templates
	6.6	Networks	2Connect (Mind Map)
			Writing Templates
	6.7	Quizzing	2DIY
			2Quiz
			Text Toolkit
			2Investigate (database)
	6.8 (optional)	Understanding Binary	2Connect (Mind Map)
			2Question (Binary Databases)
			Writing Templates
			2Code

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.1 – Coding

Key Learning

To design algorithms using flowcharts.

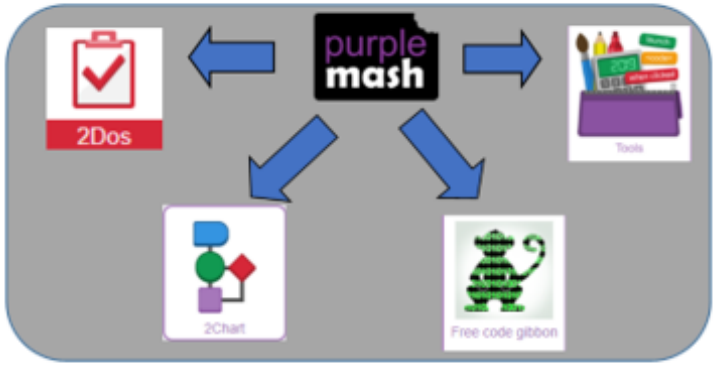
To design an algorithm that represents a physical system and code this representation.

To use selection in coding with the 'if' command.

To understand and use variables in 2Code.

To deepen understanding of the different between timers and repeat commands.

Key Resources



Key Vocabulary

Action - Types of commands, which are run on an object. They could be used to move an object or change a property.
Algorithm - a precise step by step set of instructions used to solve a problem or achieve an objective.
Bug - A problem in a computer program that stops it working the way it was designed.
Code block - A group of commands that are joined together and are run when a specific condition is met or when an event occurs.
Code Design – Design what your program will look like and what it will do.
Command - A single instruction in a computer program.
Control - These commands determine whether parts of the program will run, how often and sometimes, when.
Debug/Debugging - Looking for any problems in the code, fixing and testing them.
Design Mode - Used to create the look of a 2Code computer program when it is run.
Event – Something that causes a block of code to be run.
If - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.

Input - Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.
Output - Information that comes out of the computer e.g. sound.
Object - An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects.
Properties – All objects have properties that can be changed in design or by writing code e.g. image, colour and scale properties.
Repeat - This command can be used to make a block of commands run a set number of times or forever.
Computer simulation - A program that models a real-life situation.
Selection - This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition.
Timer - Use this command to run a block of commands after a timed delay or at regular intervals.

Variable – A named area in computer memory. A variable has a name and a value. The program can change this variable value.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.1 – Coding

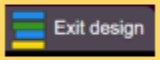
Key Images

Open the main menu

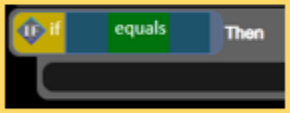
Save your work

Open design mode in 2Code

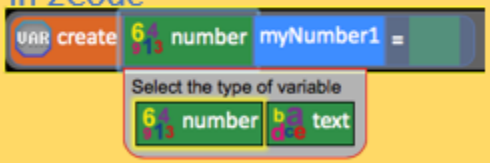
Switch to code mode in 2Code



An 'if' command



Creating a variable in 2Code



A change variable block

Key Questions

What is the difference between the different object types in 2Code Gibbon level?

The different objects have different properties. This makes then suitable for different type of programs.

- Buttons can only be clicked and have their colour and text changed.
- Vehicles have speed and angle.
- Characters have movement in 4 directions
- Turtles have rotation, pen up and down.

What does selection mean in coding and how can you achieve this in 2Code?

The code will contain commands that require a decision and the next code to run will depend upon the outcome of this decision. In 2Code we used the 'if' command for selection.

Give an example of how you could use a variable in coding.

Some examples are:

- A timer that counts every second and displays the value.
- A value that changes depending upon whether a switch is on or off.
- Storing how many times a user has clicked on an object.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.2 – Online Safety

Key Learning

To know what makes a safe password.

Methods for keeping passwords safe.

To understand how the Internet can be used in effective communication.

To understand how a blog can be used to communicate with a wider audience.

To consider the truth of the content of websites.

To learn about the meaning of age restrictions symbols on digital media and devices.

Key Vocabulary

Password – A secret word, phrase or combination of letters, numbers and symbols that must be used to gain admission to a site or application such as a website.

Internet – A global computer network providing a variety of information and communication facilities, consisting of interconnected networks and computers.

Blog – A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or conversational style.

Concept map – A diagram that shows how different objects or ideas are related and connected.

Username – An identification used by a person with access to a computer, network, or online service.

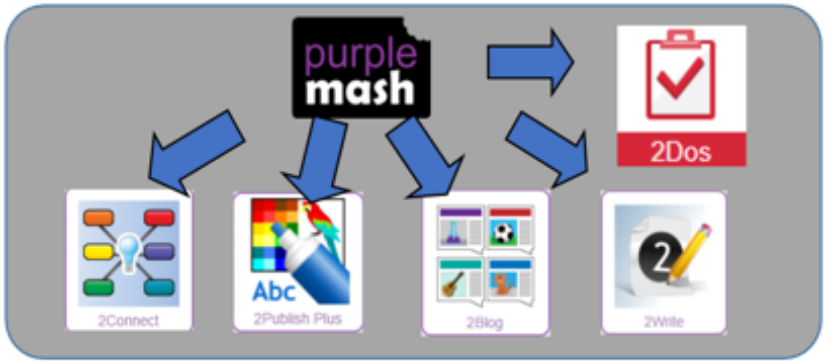
Website – A set of related web pages located under a single name.

Webpage – A page online that makes up one screen of a website.

Spoof website – A website that uses dishonest designs to trick users into thinking that it represents the truth.

PEGI rating – A rating that shows what age a game is suitable for.

Key Resources

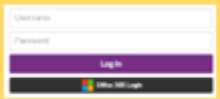


Key Images

2Connect screen with nodes added.

2Blog header

Username and Password screen



What is a password and why should we keep them safe?

A password is a secret word or phrase that allows a user to access a website. Passwords are like toothbrushes in that they should not be shared with anyone else.

Is everything I read on the Internet true?

Just because something is on the Internet doesn't mean that it is true. Some people create spoof websites that pretend to be something else such a bank website or to provide misleading information.

How do I know if I am old enough to play a computer game?

Computer games, like films, are often not suitable for children. PEGI ratings will show how old a person must be to play a game.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.3 – Spreadsheets

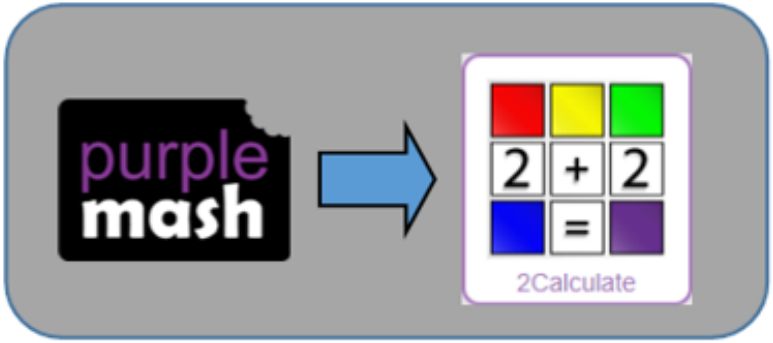
Key Learning

To use the symbols more than, less than and equal to, to compare values.

To use 2Calculate to collect data and produce a variety of graphs.

To use the advanced mode of 2Calculate to learn about cell references.

Key Resources



Key Vocabulary

< > = – Symbols used to represent comparing two values. a < b means 'a is less than b'. a > b means 'a is greater than b'. a = b means 'a is equal to b'. These can be combined, for example a =< b means 'a is equal to or less than b'.

Advance mode – A mode of 2Calculate in which the cells have references and can include formulae.

Copy and Paste – A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.

Columns – Vertical reference points for the cells in a spreadsheet.

Cells – An individual section of a spreadsheet grid. It contains data or calculations.

Delete key - Use this key to remove the contents of a cell.

Equals tool – tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.

Move cell tool – This tool makes a cell's contents moveable by drag-and-drop methods.

Rows - Vertical reference points for the cells in a spreadsheet.

Spin Tool – Clicking on this in a cell will increase or decrease the value in the cell to the right by 1.

Spreadsheet - A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

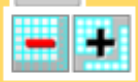
Unit: 3.3 – Spreadsheets

Key Images

Open the main menu 

Save your work 

Open a previously saved file 

Increase or decrease spreadsheet size 

2Calculate toolbox 

Chart control 

2Calculate control toolbox 

Move Cell 

Logic 

Equals 

Spin 

Is less than 

Is more than 

Is equal to 

Advanced mode 

Key Questions

Explain how you would collect data to find out children's favourite school subjects. What sort of graph would you create?

Label one column 'Subject' and list the subjects in this column. In the cells to the right put in the number of children who like this subject. Use the chart button to automatically create a chart. A pie chart would be a suitable choice.

How can you make a 3 times table machine using the spin tool? Could you use the equals tool to check your answer

Put the spin tool in the left most cell of a row. Type 0 x 3 in the next three cells. Put an equals tool in the next cell in the row. When you spin the spin tool, the question will change. Enter the answer and the equals tool will tell you if it is correct.

Explain how you would locate a cell in the advanced mode?

Cells in advanced mode have rows labelled with numbers, and columns labelled with letters. So, each cell has a number and letter. For example, A1 or D7.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.4 – Touch Typing

Key Learning

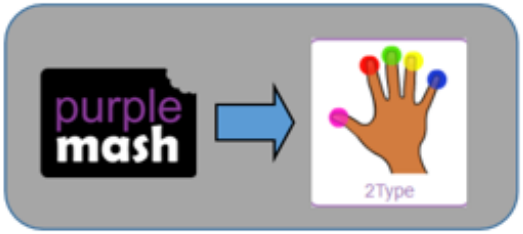
To introduce typing terminology.

To understand the correct way to sit at the keyboard.

To learn how to use the home, top and bottom row keys.

To practice typing with the left and right hand.

Key Resources



Key Vocabulary

Posture – The correct way to sit at the computer.

Top row keys – The keys on the top row of the keyboard.

Home row keys – The keys on the middle row of the keyboard.

Bottom row keys – The keys on the bottom row of the keyboard.

Space bar – The bar at the bottom of the keyboard.

Key Images

Posture

Top Row

Home Row

Bottom Row

Space Bar

Key Questions

Why should I have a good posture at the computer?

A good posture is important to help you avoid any injuries that come from repeatedly using the computer incorrectly.

Why should I type certain keys with certain fingers.?

Using specific fingers for specific keys allows you to type more quickly.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.5 – Email

Key Learning

To think about different methods of communication.

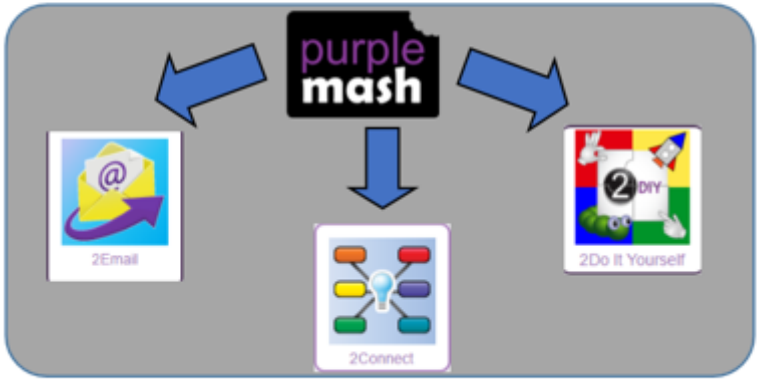
To open and respond to an email using an address book.

To learn how to use email safely.

To add an attachment to an email.

To explore a simulated email scenario.

Key Resources



Key Vocabulary

Communication – The sharing or exchanging of information by speaking, writing, or using some other medium such as email.

Email – Messages sent by electronic means from one device to one or more people.

Compose – To write or create something.

Send – To make an email be delivered to the email address it is addressed to.

Report to the teacher – A way in 2Email to tell the teacher if you have received an email that makes you feel upset or scared.

Attachment – A file, which could be a piece of work or a picture, that is sent with the email.

Address book – A list of people who you regularly send an email to.

Save to draft – Allows you to save an email that you are working on and send it later.

Password – A secret word, phrase or combination of letters, numbers and symbols that must be used to gain admission to a site or application such as email.

CC – A way of sending a copy of your email to other people so they can see the information in it.

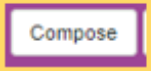
Formatting – Allows you to change the way the text of an email looks. For example, you can make the text bold or underline it.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.5 – Email

Key Images

Click here to write your email.

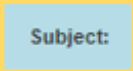


A list of people you have sent emails to before.

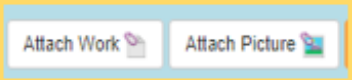
Who is the email to be sent to?

Who else will the email be sent to?

What is the email about?



Allows you to attach work and pictures to the email.



Click the button to send the email.

Formatting bar where you can change how the message looks.

Key Questions

What is email?

Email is a method of sending electronic communication from one device to another.

What should I do if I receive an email that makes me upset or scared?

If you are at school, you should tell the teacher immediately. If you receive the message at home, then you should tell a parent or guardian.

What information can I send in an email?

As well as sending a message, files such as photographs, videos, music and other resources can be attached to the email and sent to the receiver.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.6 – Branching Databases

Key Learning

To sort objects using just 'yes' or 'no' questions.

To complete a branching database using 2Question.

To create a branching database of the children's choice.

Key Vocabulary

Branching database – A way to sort information by asking questions that are normally answered 'yes' or 'no'.

Data – Facts and statistics collected together for information.

Database – A collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers.

Question – Something that is asked or written to try and gain information.

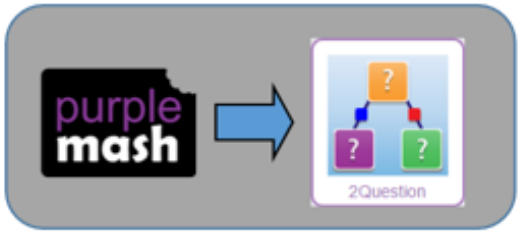
Key Images

Open, save and share files.

Give the database a name.

Add a question to begin to sort the information.

Key Resources



Key Questions

What is meant by data?

Facts about something; data can be words, numbers or pictures. For example, the class register contains data about the names, addresses and attendance of the children in the class.

What is a database?

A collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers

What is a branching database?

Used to classify groups of objects. It is used to help identify the objects by answering questions with either 'yes' or 'no'. Branching databases can also be called binary trees.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.7 – Simulations

Key Learning

To consider what simulations are.

To explore a simulation.

To analyse and evaluate a simulation.

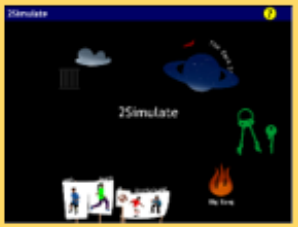
Key Resources

Key Vocabulary

Simulation – A computer simulation is a program that models a real-life situation. They let you try things out that would be too difficult or dangerous to do in real life.

Key Images

2Simulate Main screen.



Locked Out: A lively dog causes problems for Mariza, her baby brother Sam and her mum.

The Dark Side of Elpmis: Trainee astronauts get ready for a mission to the planet Elpmis.

Key Questions

What is a computer simulation?

A program that models a real-life situation. They let you try things out that would be too difficult or dangerous to do in real life.

What kind of simulations are there?

Some simulations represent dangerous situations for training such as flying in space, carrying out medical operations or piloting an aeroplane. Others simulate activities for fun, such as racing simulations.

Are there any problems with simulations?

Simulations are often too simple; and unexpected problems can still occur in real life that are difficult to simulate. Simulations can also be very expensive.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 3.8 – Graphing

Key Learning

To enter data into a graph and answer questions.

To solve an investigation and present the results in graphic form.

Key Resources

Key Vocabulary

Graph – a diagram showing the value of objects.

Field – a part of a record.

Data – facts and statistics collected together for reference

Bar chart – a graph in which the numerical amounts are shown by the height or length of lines or rectangles of equal width.

Block graph – a graph where a block represents one item.

Line graph – a graph where a line is used to show an amount.

Key Images

Insert the name of the graph here.

Add and remove a row from the graph.

Vertical Bar Chart

Horizontal Bar Chart

Block Graph

Line Graph

Pie Chart

Data entry table

Key Questions

What is a graph?	A diagram representing part of a set of data. Graphs can be drawn by hand or on the computer. There are different types of graphs.
What are the frame lines on the graph called?	They are the axes. The axis that goes up and down (vertical) is called the 'y' axis and usually shows the amount. The axis that goes across (horizontal) is called the 'x' axis and shows what is being measured.
What different kinds of graphs are there?	There are lots of different types of graphs including line graph, bar chart and pie chart.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.1 – Coding

Key Learning

To use selection in coding with the 'if/else' command.

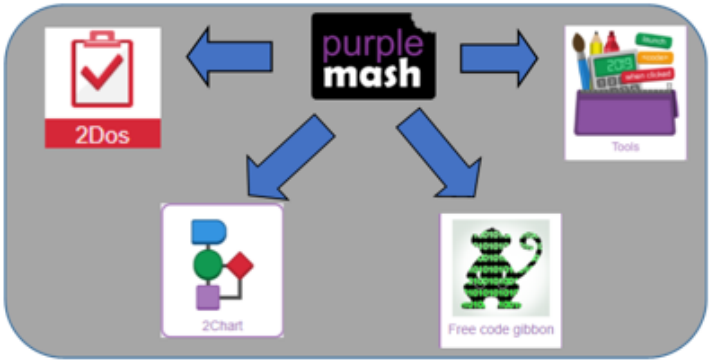
To understand and use variables in 2Code.

To use flowcharts for design of algorithms including selection.

To use the 'repeat until' with variables to determine the repeat.

To learn about and use computational thinking terms decomposition and abstraction.

Key Resources



Key Vocabulary

Action - Types of commands, which are run on an object. They could be used to move an object or change a property.
Alert - This is a type of output. It shows a pop-up of text on the screen.
Algorithm - a precise step by step set of instructions used to solve a problem or achieve an objective.
Bug - A problem in a computer program that stops it working the way it was designed.
Code Design – Design what a program will look like and what it will do.
Command - A single instruction in a computer program.
Control - These commands determine whether parts of the program will run, how often and sometimes, when.
Debug/Debugging - Looking for any problems in the code, fixing and testing them.
Design Mode - Used to create the look of a 2Code computer program when it is run.
Event – Something that causes a block of code to be run.
Get Input - This puts the text that a user types into the computer's temporary memory to be used to control the program flow.
If - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.

If/Else - A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.
Input - Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.
Output - Information that comes out of the computer e.g. sound.
Object - An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects.
Repeat - This command can be used to make a block of commands run a set number of times or forever.
Selection - This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition.
Simulation - A model that represents a real or imaginary situation.
Timer - Use this command to run a block of commands after a timed delay or at regular intervals.
Variable – A named area in computer memory. A variable has a name and a value. The program can change this variable value.

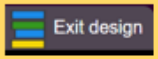
PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.1 – Coding

Key Images

Open design mode in 2Code

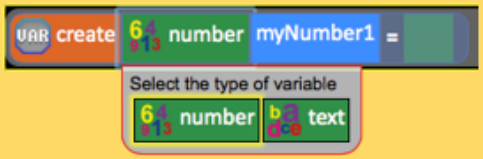
Switch to code mode in 2Code



An 'if/else' command

Repeat until command

Creating a variable in 2Code



A change variable block

Key Questions

Explain the stages of the design, code, test, debug coding process.

This is a process to go through as you create a program using coding

- Design: Create a design which could be a flowchart, a labelled diagram or a storyboard. This helps to think through the algorithms required
- Code: code the algorithms usbng9in and adapting the design.
- Test and Debug: see if the program works and fix any errors.

How can variables and if/else statements be useful when coding programs with selection?

The variable could be set either to 0 or 1 and this could be changed by user action or a timer. If/else statement outcomes could depend upon the value of the variable.

What do the terms decomposition and abstraction mean. Use examples to explain them.

Decomposition is breaking a task into its component parts so that each part can be coded separately.
If you were coding a game of chess, you could decompose into the moves of the different pieces and the setup of the playing space.
Abstraction is removing unnecessary details to get the program functioning. In the example, the colour and size of the squares is not important to game play.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.2 – Online Safety

Key Learning

To understand how children can protect themselves from online identity theft.

Understand that information put online leaves a digital footprint or trail and that this can aid identity theft.

To Identify the risks and benefits of installing software including apps.

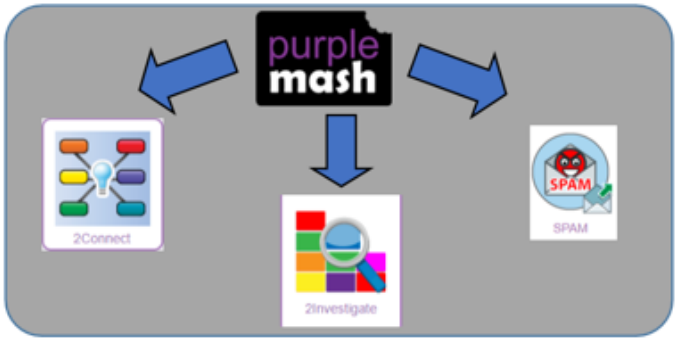
To understand that copying the work of others and presenting it as their own is called 'plagiarism' and to consider the consequences of plagiarism.

To identify appropriate behaviour when participating or contributing to collaborative online projects for learning.

To identify the positive and negative influences of technology on health and the environment.

To understand the importance of balancing game and screen time with other parts of their lives.

Key Resources



Key Vocabulary

Computer virus – A piece of code which can copy itself and typically has a damaging effect on the device, such as corrupting the system or destroying data.

Cookies – A small amount of data generated by a website and saved by a web browser. Its purpose is to remember information about the user.

Copyright –When the rights to something belong to a specific person.

Digital footprint – The information about a person that exists on the Internet as a result of their online activity.

Email – Messages sent by electronic means from one device to one or more people.

Identity theft – When a person pretends to be someone else.

Malware – Software that is specifically designed to disrupt, damage, or gain unauthorized access to a computer system.

Phishing – Practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and credit cards numbers.

Plagiarism – When you use someone else's words or ideas and pass them off as your own.

Spam - Messages sent over the Internet, typically to many users, for the purposes of advertising, phishing or spreading malware.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.2 – Online Safety

Key Questions

What is meant by a digital footprint?

A digital footprint is the information that exists about a person based upon sites that they have visited, searches that they have done, information that they have shared and other online behaviours.

What is SPAM?

SPAM messages are emails or online messages sent from a computer to many other users. The users are sent the email without requesting it. The purpose of SPAM is for advertising, phishing or malware.

What is meant by plagiarism?

Plagiarism refers to using someone else's work and claiming it to be your own.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.3 – Spreadsheets

Key Learning

Formatting cells as currency, percentage, decimal to different decimal places or fraction.

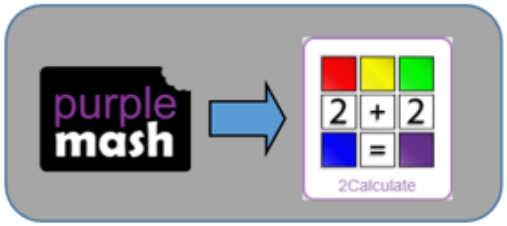
Using the formula wizard to calculate averages.

Combining tools to make spreadsheet activities such as timed times tables tests.

Using a spreadsheet to model a real-life situation.

To add a formula to a cell to automatically make a calculation in that cell.

Key Resources



Key Vocabulary

Average – Symbols used to represent comparing two values

Advance mode – A mode of 2Calculate in which the cells have references and can include formulae.

Copy and Paste – A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.

Columns – Vertical reference points for the cells in a spreadsheet.

Cells – An individual section of a spreadsheet grid. It contains data or calculations.

Charts – Use this button to create a variety of graph types for the data in the spreadsheet.

Equals tool – tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.

Formula – Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.

Formula Wizard – The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.

Move cell tool – This tool makes a cell's contents moveable by drag-and-drop methods.

Random tool – Click to give a random value between 0 and 9 to the cell.

Rows - Vertical reference points for the cells in a spreadsheet.

Spin Tool – Adds or subtracts 1 from the value of the cell to its right.

Spreadsheet - A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.

Timer – When placed in the spreadsheet, click the timer to adds 1 to the value of the cell to its right every second until it is clicked again.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

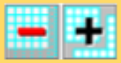
Unit: 4.3 – Spreadsheets

Key Images

Open the main menu 

Save your work 

Open a previously saved file 

Increase or decrease spreadsheet size 

Advanced mode 

Formula wizard 

Format cell toolbox 

Charts 

Totals toolbox 

Image Tools 

Controls Toolbox 

Random number 

Spin 

Equals 

Timer 

To copy 

To cut 

To paste 

Key Questions

How would you add a formula so that the cell shows the percentage score for a test?

Click on the cell where you want the percentage score to be displayed then click the formula wizard button. Click on the cell that contains the score. Choose the ÷ operation then click on the cell that shows what the test was out of. Click OK.

Which tools would you use to create a timed times tables test in 2Calculate?

You could use the random tool, the spin tool, the equal tool and the timer tool.

Give an example of the data that could be best represented by a line graph.

Data where both axes will contain continuous data so that you can see trends in the data. Such as ages and heights, time and temperature, years and costs.

Explain what a spreadsheet model of a real-life situation is and what it can be used for?

It represents the data of a situations for example budgeting for a party, working out how big a field needs to be for a certain number of animals, working out how to spend your pocket money over time.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.4 – Writing for different audiences.

Key Learning

To explore how font size and style can affect the impact of a text.

To use a simulated scenario to produce a news report.

To use a simulated scenario to write for a community campaign.

Key Vocabulary

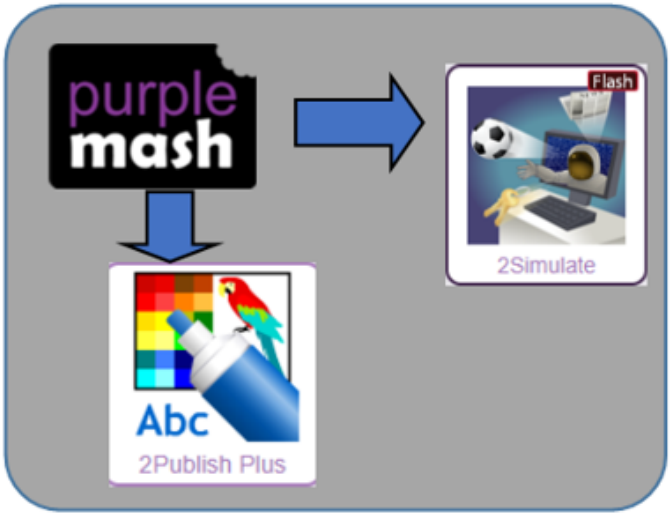
Font – the style of writing one can uses when typing on a document.

Bold – the make the text stand out

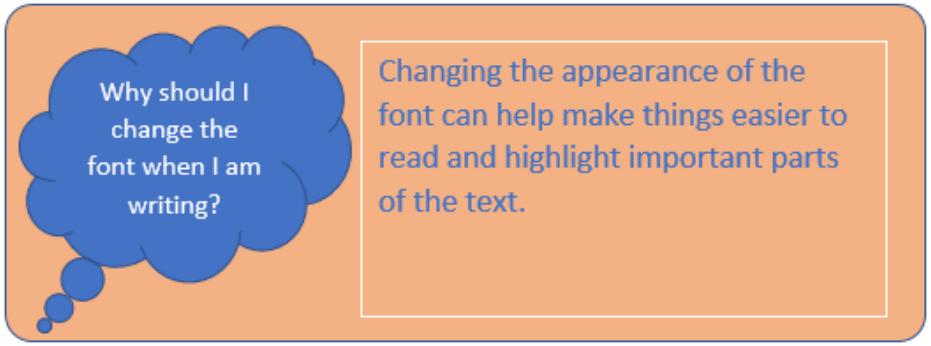
Italic – a style of formatting when the text is at an angle.

Underline – to draw a line underneath the font.

Key Resources



Key Questions



Key Images

Text Toolbar. Click here to format your text.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.5 – Logo

Key Learning

To learn the structure of the coding language of Logo.

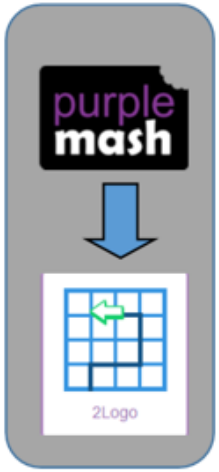
To input simple instructions in Logo.

Using 2Logo to create letter shapes.

To use the Repeat function in Logo to create shapes.

To use and build procedures in Logo.

Key Resources



Key Vocabulary

LOGO – a text-based coding language used to control an on-screen turtle to create mathematical patterns.

BK – move backwards a distance of units.

FD – move forward a distance of units.

RT – turn right a given number of degrees.

LT – turn left a given number of degrees.

REPEAT – repeat a set of instructions a specified number of times.

SETPC – set pen colour to a given colour.

SETPS – set the pen thickness.

PU – lift the pen up off the screen.

PD - put the pen back down on the screen.

Key Images

Open, save and share work

Choose the turtle style

Choose a background

Switch the grid on and off

Press and the logo mouse follows the instructions

Reset the mouse to the start position

Change the speed at which the mouse moves.

Write the Logo instructions here

Key Questions

What is Logo?

Logo is a text-based coding language used to control an on-screen turtle to create mathematical patterns.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.6 – Animation

Key Learning

To discuss what makes a good animated film or cartoon.

To learn how animations are created by hand.

To find out how 2Animate can be created in a similar way using the computer.

To learn about onion skinning in animation.

To add backgrounds and sounds to animations.

To be introduced to 'stop motion' animation.

To share animation on the class display board and by blogging.

Key Vocabulary

Animation – A process by which still pictures appear to move.

Flipbook – A book with pictures drawn in a way that makes them appear to move when the pages are flicked.

Frame – A single image in an animation.

Onion skinning – A process where the shadow image of the previous frame is present to help you line up the objects of the animation correctly.

Background – A non-moving image that appears behind the animated images.

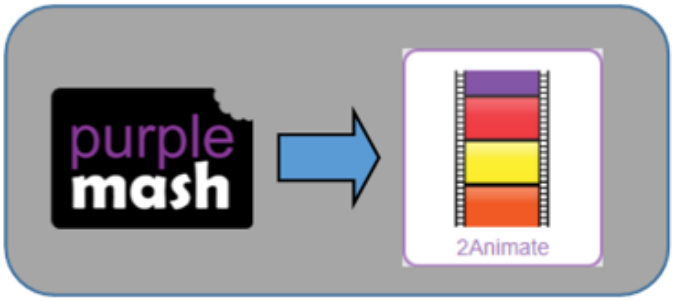
Play – Press this button to make the animation start.

Sound – Music or oral effects that can be added to the animation.

Stop motion – A technique whereby the camera is repeatedly stopped and started, for example to give animated figures the impression of movement.

Video clip – A short piece of film or animation.

Key Resources



PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.6 – Animation

Key Images

Open, save and share animation.

Add or delete a frame from the animation.

Play the animation.

Switch onion skinning on or off.

Add a background picture to the animation.

Insert a photograph from a webcam into the animation.

Insert a sound file into the animation.

Number of frames in the animation.

Key Questions

What is an animation?

Animation is the process of giving the illusion of movement to drawings, models, or inanimate objects. Animated motion pictures and television shows are highly popular forms of entertainment.

What is meant by onion skinning?

Onion skinning is a 2D computer graphics term for a technique used in creating animated cartoons and editing movies to see several frames at once.

What is meant by stop frame animation?

Stop motion animation is a filming technique in which objects (such as clay models) are photographed in a series of slightly different positions so that the objects seem to move.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 4.7 – Effective Searching

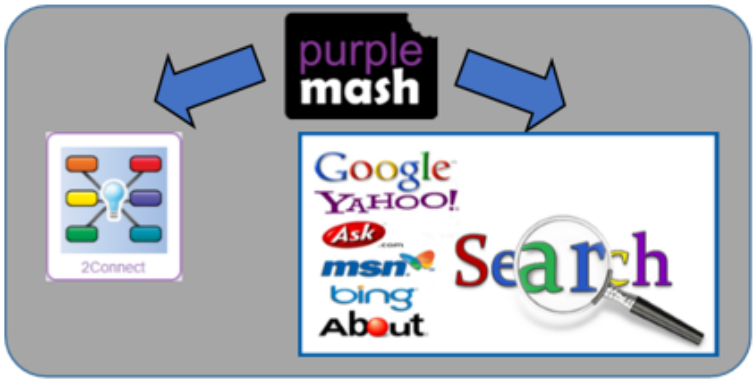
Key Learning

To locate information on the search results page.

To use search effectively to find out information.

To assess whether an information source is true and reliable.

Key Resources



Key Vocabulary

Easter egg – An unexpected or undocumented feature in a piece of computer software or on a DVD, included as a joke or a bonus.

Internet – A global computer network providing a variety of information and communication facilities.

Internet browser – A software application used to locate and display Web pages.

Search – To look for information. In this case on the Internet.

Search engine – A program that searches for and identifies items in a database. Used especially for finding sites on the World Wide Web.

Spoof website – Website spoofing is the act of creating a website, as a hoax, with the intention of misleading readers that the website has been created by a different person or organisation.

Website – A set of related web pages located under a single domain name.

Key Questions

What is a search engine?

A search engine is a piece of software that allows the user to find and then display pages from the World Wide Web.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

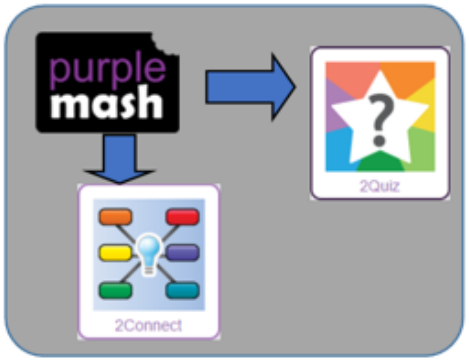
Unit: 4.8 – Hardware Investigators

Key Learning

To understand the different parts that make up a computer.

To recall the different parts that make up a computer.

Key Resources



Key Vocabulary

Motherboard – a printed circuit board containing the main parts of a computer or other device, with connectors for other circuit boards to be slotted into.

CPU – the part of a computer in which operations are controlled.

RAM –allows programs to store information to help the computer run more quickly.

Graphics card – a printed circuit board that controls the output to a display screen.

Network card – an electronic device that connects a computer to a computer network.

Monitor– a screen which displays an image generated by a computer.

Speakers – a device for letting you hear sounds generated by the computer.

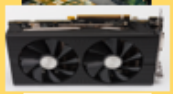
Keyboard and mouse – external devices

Key Images

Motherboard 

CPU 

RAM 

Graphics card 

Network card 

Monitor 

Speakers 

Keyboard and mouse 

Key Questions

What is the difference between hardware and software?

Hardware refers to the physical parts of a computer or device. The parts inside the computer casing are often called the components. The parts that are attached to the computer case are called peripherals. Software describes the programs that run on the computer.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.1 – Coding

Key Learning

To represent a program design and algorithm.

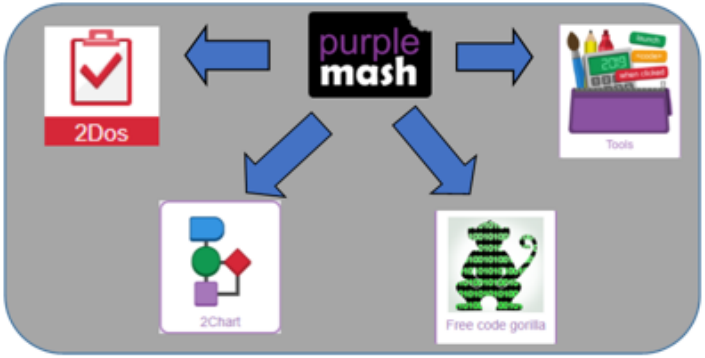
To create a program that simulates a physical system using decomposition.

To explore string and text variable types so that the most appropriate can be used in programs.

To use the Launch command in 2Code Gorilla

To program a playable game with timers and scorepad.

Key Resources



Key Vocabulary

Action - Types of commands, which are run on an object. They could be used to move an object or change a property.
Alert - This is a type of output. It shows a pop-up of text on the screen.
Algorithm - a precise step by step set of instructions used to solve a problem or achieve an objective.
Bug - A problem in a computer program that stops it working the way it was designed.
Code Design – Design what a program will look like and what it will do.
Command - A single instruction in a computer program.
Control - These commands determine whether parts of the program will run, how often and sometimes, when.
Debug/Debugging - Looking for any problems in the code, fixing and testing them.
Design Mode - Used to create the look of a 2Code computer program when it is run.
Event – Something that causes a block of code to be run.
Get Input - This puts the text that a user types into the computer's temporary memory to be used to control the program flow.
If - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.
If/Else - A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.
Input - Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.
Output - Information that comes out of the computer e.g. sound.
Object - An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects.
Repeat - This command can be used to make a block of commands run a set number of times or forever.
Sequence - This is when a computer program runs commands in order. In 2Code this can also include "repeat" or a timer.
Selection - This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition.
Simulation - A model that represents a real or imaginary situation.
Timer - Use this command to run a block of commands after a timed delay or at regular intervals.
Variable – A named area in computer memory. A variable has a name and a value. The program can change this variable value.

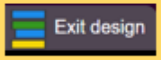
PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.1 – Coding

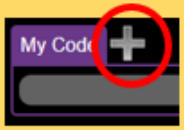
Key Images

Open design mode in 2Code

Switch to code mode in 2Code

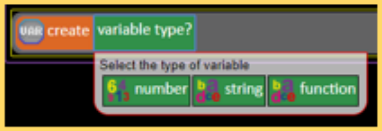


Add a new Tab to your code



Creating a variable in 2Code

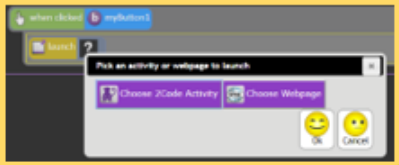
Gorilla



Example of combining variables and strings to print to the screen

A change variable block

The Launch command block



Key Questions

What does simulating a physical system mean?

Creating a program where the objects behave as they would in the real world. For example, a football program that uses angles, speed and friction to simulate kicking a football. When simulating a physical system, you first must break the system down into parts that can be coded (decomposition). The different parts will come together to make the full simulation.

Describe how you would use variables to make a timer countdown and a scorepad for a game.

Timer countdown: Create a timer variable and set it to the starting number of seconds. Add a Timer command that repeats and subtracts 1 every second. Add a text object in design view to display this number.
Score: create a variable to store the score, each time the user gains a point, change and display the value of the variable.

Give examples of how you could use the Launch command in 2Code.

Clicking on a button or other object in the program to opens another 2Code program or a webpage.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.2 – Online Safety

Key Learning

To gain a greater understanding of the impact that sharing digital content can have.

To review sources of support when using technology and children's responsibility to one another in their online behaviour.

To know how to maintain secure passwords.

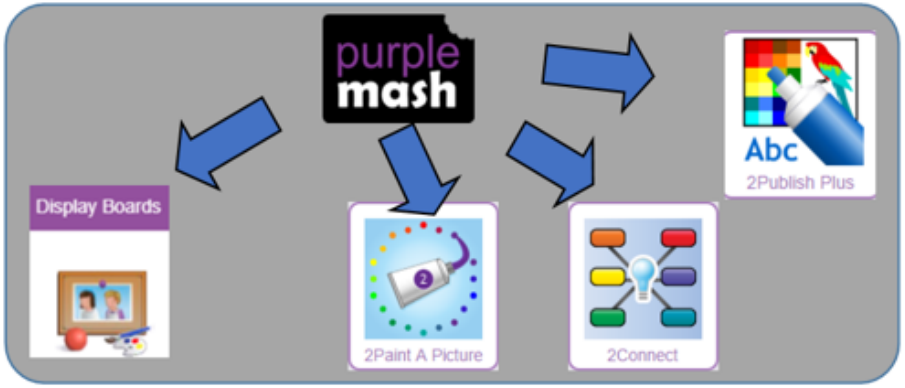
To understand the advantages, disadvantages, permissions and purposes of altering an image digitally and the reasons for this.

To be aware of appropriate and inappropriate text, photographs and videos and the impact of sharing these online.

To learn about how to reference sources in their work

To search the Internet with a consideration for the reliability of the results of sources to check validity and understand the impact of incorrect information.

Key Resources



Key Vocabulary

Online safety – Refers to staying safe when having a presence online.

Smart rules – A set of rules based around the word SMART designed to help you stay safe when online.

Password – A string of characters that allows access to a computer system or service.

Reputable – Having a good reputation.

Encryption – The process of converting information or data into a code, especially to prevent unauthorized access.

Identity theft – The practice of using another person's name and personal information in order to obtain credit, loans, etc.

Shared image – A picture that is shared online for other people to see.

Plagiarism – The practice of taking someone else's work or ideas and passing them off as one's own.

Citations – A quotation from or reference to a book, paper, or author, especially in an academic work

Reference – A mention of a source of information in a book or article including online.

Bibliography – A list of all the books and articles used in a piece of work.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.2 – Online Safety

SMART rules - S

SMART rules - M

SMART rules - A

SMART rules - R

SMART rules - T

Who do I tell if I see anything online that makes me upset or scared?

When you are at school you should tell the teacher or another adult. At home you should tell your parent or guardian or another adult that you trust.

Why are passwords so important?

Passwords protect your information and stop other people accessing it. Passwords are like a toothbrush; they should not be shared with anyone else.

Why is it important to reference sources in my work?

If you use a book or article written by someone else, then you must reference it, so people know where you got the information from. If you don't do this then it is known as plagiarism.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.3 – Spreadsheets

Key Learning

Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell.

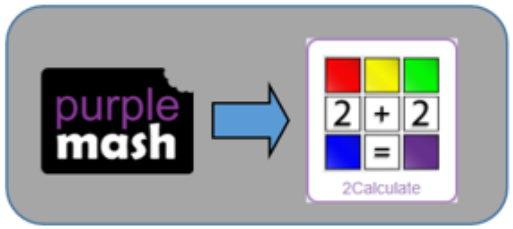
To copy and paste within 2Calculate.

Using 2Calculate tools to test a hypothesis.

To add a formula to a cell to automatically make a calculation in that cell.

Using a spreadsheet to model a real-life situation and answer questions.

Key Resources



Key Vocabulary

Average – Symbols used to represent comparing two values

Advance mode – A mode of 2Calculate in which the cells have references and can include formulae.

Copy and Paste – A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.

Columns – Vertical reference points for the cells in a spreadsheet.

Cells – An individual section of a spreadsheet grid. It contains data or calculations.

Charts – Use this button to create a variety of graph types for the data in the spreadsheet.

Equals tool – tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.

Formula – Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.

Formula Wizard – The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.

Move cell tool – This tool makes a cell's contents moveable by drag-and-drop methods.

Random tool – Click to give a random value between 0 and 9 to the cell.

Rows - Vertical reference points for the cells in a spreadsheet.

Spin Tool – Adds or subtracts 1 from the value of the cell to its right.

Spreadsheet - A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.

Timer – When placed in the spreadsheet, click the timer to adds 1 to the value of the cell to its right every second until it is clicked again.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

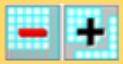
Unit: 5.3 – Spreadsheets

Key Images

Open the main menu 

Save your work 

Open a previously saved file 

Increase or decrease spreadsheet size 

Advanced mode 

Formula wizard 

Format cell toolbox 

Charts 

Totals toolbox 

Image Tools 

Controls Toolbox 

Random number 

Count 

Equals 

Timer 

To copy 

To cut 

To paste 

Key Questions

How would you add a formula so that the cell shows the product of two other cells?

Click on the cell where you want the product to be displayed then click the formula wizard button. Click on the cell that contains the first number. Choose the x operation then click on the second number. Click OK.

What would you use in 2Calculate to have a cell that automatically calculates the number of days since a certain date?

You could use formulae and the totalling tools. To make the spreadsheet easier to understand, you could use named variables.

Explain what a spreadsheet model of a real-life situation is and what it can be used for?

It represents the data of a situations for example budgeting for a party, working out how big a field needs to be for a certain number of animals, working out how to spend your pocket money over time. Using the existing data to predict what time your shadow will be a certain length etc.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.4 – Databases

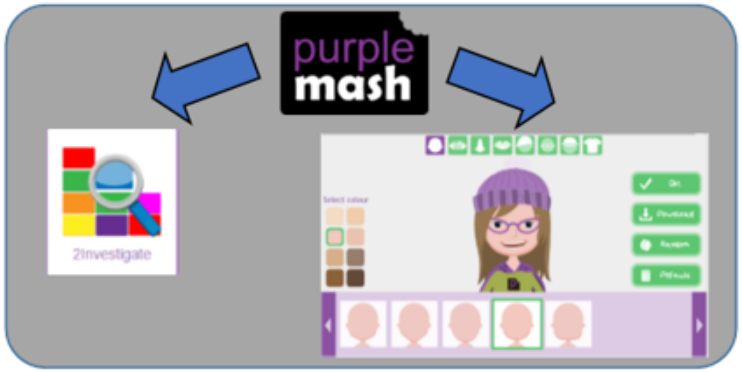
Key Learning

To learn how to search for information in a database.

To contribute to a class database.

To create a database around a chosen topic.

Key Resources



Key Vocabulary

Avatar – An icon or figure representing a person in a video game, Internet forum, etc.

Binary tree (branching database) – A way to sort information by dividing the information into groups based upon questions with yes or no answers.

Charts – Representing information in a pictorial form.

Collaborative – Produced by, or involving, two or more parties working together.

Data –Facts and statistics collected together for information.

Database – A set of data that can be held in a computer in a format that can be searched and sorted for information.

Find - Search for information in a database.

Record – A collection of data about one item entered into a database.

Sort, Group and Arrange – Different ways to sort information in a database to it is easy to read, understand and interpret.

Statistics and reports – To produce information about data in a database.

Table –Sorting information into rows and columns.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.4 – Databases

Key Images

Avatar creator 

Open, save or share a file. 

Design a new database 

Add a record to the database 

Find information in the database 

Sort, group and arrange information. 

Statistics and reports 

Represent the information as a chart 

Key Questions

What is a database?

A collection of data organised in such a way that it can be searched, and information found easily. Database usually refers to data stored on computers.

Why is the collaborative feature important?

Making a database collaborative allows lots of people to enter information into the database at the same time. This is a lot quicker than one person entering the data by themselves.

In what ways can I sort information in a database?

A database can hold lots of information so it is essential that information can be effectively investigated. In 2Investigate, data can be searched and sorted in a variety of ways. It can also be presented pictorially.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.5 – Game creator

Key Learning

To set the scene.

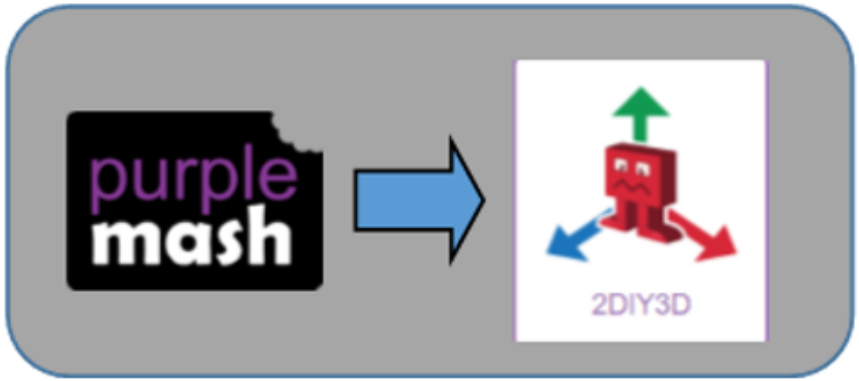
To create the game environment.

To create the game quest.

To finish and share the game.

To evaluate their and peers' games.

Key Resources



Key Vocabulary

Animation – Creating an illusion of movement.

Computer game – A game played using a computer, typically a video game.

Customise – Modify (something) to suit an individual or task.

Evaluation – The making of a judgement about the value of something.

Image – In this case, a picture displayed on the computer screen.

Instructions – Detailed information about how something should be done or operated.

Interactive – Responding to a user's input on a computer or device.

Screenshot – An image of the data displayed on the screen of a computer or mobile device.

Texture – High frequency detail or colour information on a computer-generated graphic.

Perspective – Representing three-dimensional objects on a two-dimensional surface to give the right impression of their height, width, depth, and position in relation to each other.

Playability – A measure of either the ease by which a video game may be played, or of the overall quality of its gameplay.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.5 – Game creator

Key Images

Open, save or share your file

Change the settings of your game

Add images to your game

Insert treasure into you game

Insert enemies into your game

Drag to set the start position of your game

Play your game

Key Questions

What is the 2DIY3D tool on Purple Mash?

2DIY 3D allows users to create a playing area, such as a maze, in 2D and then turn it into a 3D computer game. The aim is to avoid the 'baddies' and collect 'treasure'.

What makes a good computer game?

A good game designer gives the player continuous challenges in a visually stimulating environment, each of which leads to another challenge, to keep the game challenging and fun.

Why is it important to continually evaluate your game?

Evaluating your game as you make it allows you to think about ways in which it can be improved. Evaluation may also involve the views of other people who play your game.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.6 – 3D modelling

Key Learning

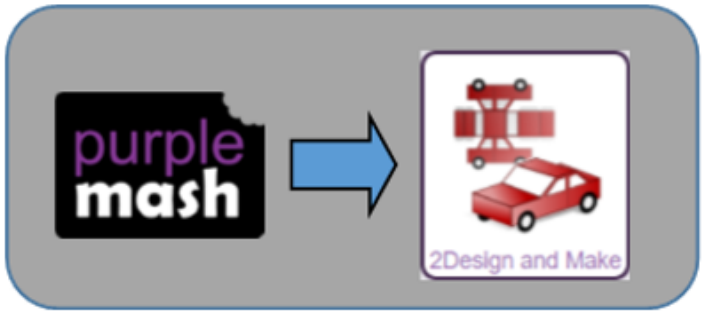
To be introduced to 2Design and Make and the skills of computer aided design.

To explore the effect of moving points when designing.

To understand designing for a purpose.

To understand printing and making.

Key Resources



Key Vocabulary

CAD – Computer aided Design – A CAD computer program or app allows you to design a 3D object or environment in 2D and visualise it in 3D on the screen from many angles.

Modelling - The activity of making models.

3D – Something that has three dimensions; height, width and depth.

Viewpoint - A person's opinion or point of view.

Polygon - An object with at least three straight sides and angles, and typically five or more.

2D – Something that has only two dimensions; height and width.

Net - A pattern that you can cut and fold to make a model of a solid shape.

3D Printing - The action or process of making a physical object from a three-dimensional digital model, typically by laying down many thin layers of a material in succession.

Points - An exact position or location on a 2Dsurface.

Template - Something that serves as a model for others to copy.

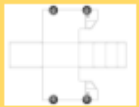
PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.6 – 3D modelling

Key Images

2D Image 

3D Image 

Net View 

Colour palette 

Clear, Undo and Redo 

Fill options 

Magnify 

Key Questions

What are the different view of an object available in 2Design and Make?

Net, Points and 3D.

How can the objects designed in 2Design and Make be turned into 3D objects?

You can print the net and then cut and fold this into shape or you can convert the file into a format recognised by 3D printers.

How is CAD software used in industry?

It is used to design 3D objects in a 2D environment.

Some examples are; Architectural plans for buildings; designing layouts for interiors; designing objects such as packaging and designing mechanical components; designing shoes and clothing.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.7 – Concept Maps

Key Learning

To understand the need for visual representation when generating and discussing complex ideas.

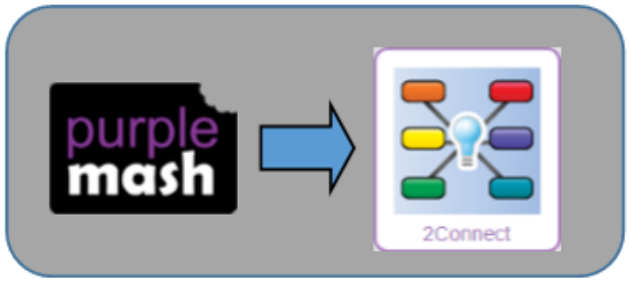
To understand and use the correct vocabulary when creating a concept map.

To create a concept map.

To understand how a concept map can be used to retell stories and present information.

To create a collaborative concept map and present this to an audience.

Key Resources



Key Vocabulary

Audience - People giving attention to something.

Collaboratively - Something that is produced by, or involves, two or more parties working together.

Concept – An idea.

Concept Map - A tool for organising and representing knowledge. They form a web of ideas which are all interconnected.

Connection - A relationship or link between two nodes or ideas.

Idea - An opinion or belief.

Node – A way to represent concepts or ideas.

Thought - An idea or opinion produced by thinking or occurring suddenly in the mind.

Visual - A picture, piece of film or display used to illustrate or accompany something.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 5.7 – Concept Maps

Key Images

Node 

Connection 

Resize node 

Edit node 

Show story 

Begin presentation 

Collaboration off 

Collaboration on 

Key Questions

What is a concept map?

A concept map is a pictorial way of showing relationships between concepts and ideas. A concept map allows you to show information, pictures and links to support an idea or concept.

How is information arranged on a concept map?

On a concept map ideas or concepts are organised into nodes which are linked together with lines to show how the concepts and ideas link together.

How does a concept map help share ideas?

A concept map in 2Connect allows many users to contribute to the map which means that ideas or concepts can be quickly amended or additional information provided.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.1 – Coding

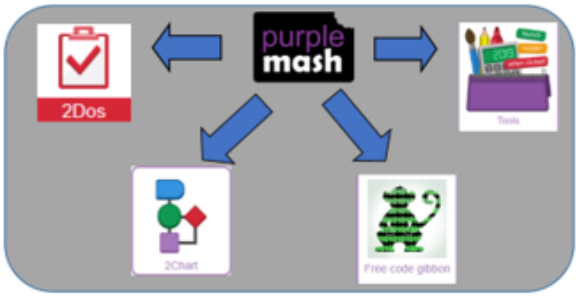
Key Learning

To use the program design process, including flowcharts, to develop algorithms for more complex programs using and understanding of abstraction and decomposition to define the important aspects of the program.

To code, test and debug from these designs.

To use functions and tabs in 2Code to improve the quality of the code.

Key Resources



Key Vocabulary

Action - Types of commands, which are run on an object. They could be used to move an object or change a property.
Alert - This is a type of output. It shows a pop-up of text on the screen.
Algorithm - a precise step by step set of instructions used to solve a problem or achieve an objective.
Bug - A problem in a computer program that stops it working the way it was designed.
Code Design – Design what a program will look like and what it will do.
Command - A single instruction in a computer program.
Control - These commands determine whether parts of the program will run, how often and sometimes, when.
Debug/Debugging - Looking for any problems in the code, fixing and testing them.
Event – Something that causes a block of code to be run.
Function -
Get Input - This puts the text that a user types into the computer's temporary memory to be used to control the program flow.
If - A conditional command. This tests a statement. If the condition is true, then the commands inside the block will be run.
If/Else - A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.
Input - Information going into the computer. Can include moving or clicking the mouse, using the keyboard, swiping and tilting the device.
Output - Information that comes out of the computer e.g. sound.
Object - An element in a computer program that can be changed using actions or properties. In 2Code, buttons, characters and vehicles are types of objects.
Repeat - This command can be used to make a block of commands run a set number of times or forever.
Sequence - This is when a computer program runs commands in order. In 2Code this can also include "repeat" or a timer.
Selection - This is a conditional/decision command. When selection is used, a program will choose a different outcome depending on a condition.
Simulation - A model that represents a real or imaginary situation.
Tabs -
Timer - Use this command to run a block of commands after a timed delay or at regular intervals.
Variable – A named area in computer memory. A variable has a name and a value. The program can change this variable value.

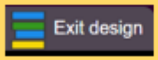
PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.1 – Coding

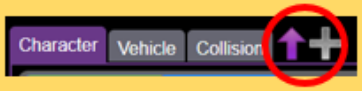
Key Images

Open design mode in 2Code

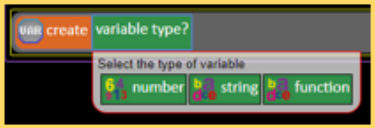
Switch to code mode in 2Code



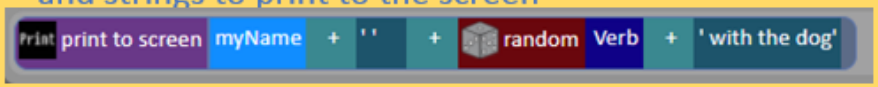
Add a new Tab to your code or move code blocks between tabs



Creating a variable or function in 2Code Gorilla



Example of combining variables and strings to print to the screen



A change variable block. Also used to call a function

A function called 'square' that is called by clicking on a button called btnSquare.

Key Questions

How can you use Tabs in 2Code Gorilla?

Tabs are used to organise you code and make it more readable. This also makes it easier to debug. Give the Tabs useful names to help with this.

What is a function in coding? Give an example that you have used in 2Code Gorilla.

A **function** is a block of code that you can access when you need it, so you don't have to rewrite the same block repeatedly. You **call** the function each time you want it. In a turtle program you could have a button that will make the turtle draw a square each time you click it. In the text adventure, there were functions for each room that were called when the user navigated to the room.

In 2Code Gorilla, how can a program receive user input?

When the user clicks on an object, when the user presses keys or swipes the screen with the mouse, the 'Get Input' and 'Prompt for input' commands.
On a touchscreen: when the screen is touched or swiped.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit:6.2 – Online Safety

Key Learning

Identify benefits and risks of mobile devices broadcasting the location of the user/device.

Identify secure sites by looking for privacy seals of approval.

Identify the benefits and risks of giving personal information.

To review the meaning of a digital footprint.

To have a clear idea of appropriate online behaviour.

To begin to understand how information online can persist.

To understand the importance of balancing game and screen time with other parts of their lives.

To identify the positive and negative influences of technology on health and the environment.

Key Vocabulary

Digital footprint – The information about a person that exists on the Internet as a result of their online activity.

Password - A string of characters that allow access to a computer system or service.

PEGI rating – A rating that shows what age a game is suitable for.

Phishing – The practice of sending email pretending to be from reputable companies in order to persuade individuals to reveal personal information, such as passwords and credit cards numbers

Screen time - Time spent using a device such as a computer, television, or games console.

Spoof website – A website that uses dishonest design to trick users into thinking that it represents the truth.

Key Questions

Why do I need to be aware of the dangers of being online?

Although the Internet is a brilliant resource for learning and entertainment some people use the Internet to cause you harm. Being aware of these dangers can help keep you safe and protect your privacy.

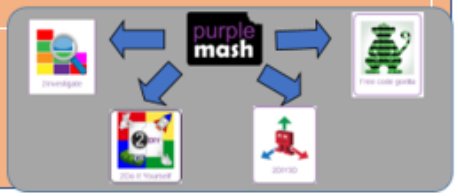
What is meant by my digital footprint?

The term digital footprint is used to describe the traces that people leave behind when they have visited a website or used social media. Your digital footprint is unique to you.

Why is it important to think about how much time use a screen for?

Using a screen can help you surf the Internet or enjoy computer games but you need to be careful how much time you spend using a screen. For instance, using a screen at night can damage your sleep patterns. Turn your screen off regularly and enjoy the world outside.

Key Resources:



PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.3 – Spreadsheets

Key Learning

To use a spreadsheet to investigate the probability of the results of throwing many dice.

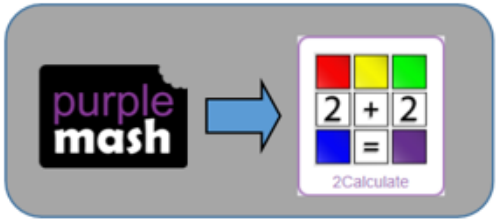
Using the formula wizard to add a formula to a cell to automatically make a calculation in that cell.

To create graphs showing the data collected.

To type in a formula for a cell to automatically make a calculation in that cell.

Using a spreadsheet to create computational models and answer questions.

Key Resources



Key Vocabulary

Average – Symbols used to represent comparing two values

Advance mode – A mode of 2Calculate in which the cells have references and can include formulae.

Copy and Paste – A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.

Columns – Vertical reference points for the cells in a spreadsheet.

Cells – An individual section of a spreadsheet grid. It contains data or calculations.

Charts – Use this button to create a variety of graph types for the data in the spreadsheet.

Count (how many) tool – Counts the number of whatever value object is in the cell to its immediate left and puts the answer in the cell to its immediate right.

Dice – When clicked, this will simulate a dice roll by switching to one of the faces of a die.

Equals tool – tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.

Formula – Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.

Formula Wizard – The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.

Move cell tool – This tool makes a cell's contents moveable by drag-and-drop methods.

Random tool – Click to give a random value between 0 and 9 to the cell.

Rows - Vertical reference points for the cells in a spreadsheet.

Spin Tool – Adds or subtracts 1 from the value of the cell to its right.

Spreadsheet - A computer program that represents information in a grid of rows and columns. Any cell in the grid may contain either data or a formula that describes the value to be inserted based on the values in other cells.

Timer – When placed in the spreadsheet, click the timer to adds 1 to the value of the cell to its right every second until it is clicked again.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

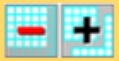
Unit: 6.3 – Spreadsheets

Key Images

Open the main menu 

Save your work 

Open a previously saved file 

Increase or decrease spreadsheet size 

Advanced mode 

Formula wizard 

Format cell toolbox 

Charts 

Totals toolbox 

Image Tools 

Controls Toolbox 

Move 

Dice 

Equals 

Count 

To copy 

To cut 

To paste 

Key Questions

How would you add a formula so that the cell shows the total of a column of cells?

Use the formula wizard advanced total tool or type a formula into the cell by using the '=' symbol, mathematical operators and cell references.

What is a computational model and what it can be used for?

Modelling in Computing means creating or using a simulation (a model) of a real-life situation, on a computer. It represents the data of a situation. For example; budgeting for a party; working out how big a field needs to be for a certain number of animals; working out the best price for an item or using the existing data to predict what time your shadow will be a certain length.

If you were going to use a spreadsheet to plan your dream holiday. What data would you collect to cost the trip?

Ideas could include:

Include travel; comparing the cost of different methods, airports, airlines, different companies and discounts such as rail cards.

Cost of accommodation of different types, trips out, food, passports, immunisations.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.4 – Blogging

Key Learning

To identify the purpose of writing a blog and its key features.

To plan the theme and content for a blog and write the content.

To consider the effect upon the audience of changing the visual properties of the blog.

To understand the importance of regularly updating the content of a blog.

To understand how to contribute to an existing blog.

To understand how and why blog posts are approved by the teacher.

Key Vocabulary

Audience – In this case the readership of the blog.

Blog - A regularly updated website or web page, typically one run by an individual or small group, that is written in an informal or conversational style.

Blog page – A webpage onto which blog posts are hosted.

Blog post - A piece of writing or other item of content published on a blog.

Collaborative - Produced by or involving two or more parties working together.

Icon - A symbol or graphic representation on a screen.

Key Images

Create a new blog

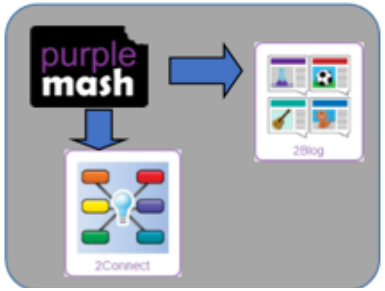
Title of the blog — Name

A description the tell the reader what the blog is about — Description

An image to illustrate what the blog is about — Icon

Cover image to go in the blogging header

Key Resources



Key Questions

What is a blog?

A blog is a website or webpage that is regularly updated by the author. A blog also allows the reader to post comments or opinion based on what is written.

What can a blog be about?

A blog can be written about any subject. You could write a blog about school such as information about the subject you are studying. Alternatively, you could write a blog about your favourite team or movie.

How are the audience involved in a blog?

A key feature of blogs is that the audience can leave a comment or opinion about what they have read on the blog.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.5 – Text Adventures

Key Learning

To find out what a text adventure is.

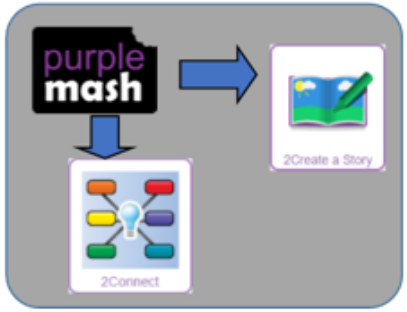
To plan a story adventure.

To make a story-based adventure.

To introduce map-based text adventures.

To code a map-based text adventure.

Key Resources



Key Vocabulary

Text-based adventure - A computer game that uses text instead of graphics.

Concept map - A tool for organising and representing knowledge. They form a web of ideas which are all interconnected.

Debug - Identify and remove errors from (computer hardware or software).

Sprite - A computer graphic which may be moved on-screen.

Function – In this context, a section of code that gets run when it is called from the main code. A function in a program is usually a piece of code that gets run lots of times.

Key Images

Create an adventure story in 2Create a Story 

Plan out your story 

Add a button to the story 

Add a sprite to the story 

Add sound to the story 

Choose a background 

Undo or redo the last action 

Play your text based adventure 

Key Questions

What is a text based adventure?

A text based adventure is a type of game that uses text rather than graphics to tell the story. The player normally selects the next move from a series of text based options.

Why is it important to plan a text based adventure?

Text based adventures can often be complicated and give the player lots of options about what to do next. Planning the game ensures the player doesn't make a decision that has no outcome.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.6 – Networks

Key Learning

To learn about what the Internet consists of.

To find out what a LAN and a WAN are.

To find out how the Internet is accessed in school.

To research and find out about the age of the Internet.

To think about what the future might hold.

Key Vocabulary

Internet - A global computer network providing a variety of information and communication facilities consisting of interconnected networks using standardized communication protocols.

World Wide Web - An information system on the Internet which allows documents to be connected to other documents by hypertext links, enabling the user to search for information by moving from one document to another.

Network - Several interconnected computers, machines, or operations.

Local area network (LAN)- A computer network that links devices within a building or group of adjacent buildings, especially one with a radius of less than 1 km.

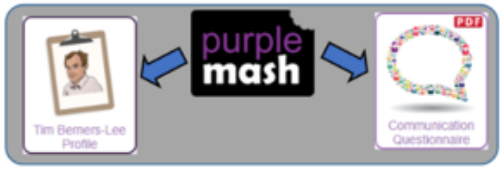
Wide area network (WAN) - A computer network in which the computers connected may be far apart, generally having a radius of more than 1 km.

Router - A device which forwards data packets to the appropriate parts of a computer network.

Network cables - Used to connect and transfer data and information between computers and routers.

Wireless – The ability to transmit data from one device to another without using wires.

Key Resources



Key Questions

What is the difference between the Internet and the World Wide Web?

The Internet is a global network of networks while the Web, also referred formally as the World Wide Web (www) is collection of information which is accessed via the Internet.

What is the difference between a LAN and a WAN?

Both are networks that connect computers together. A LAN (Local Area Network) is normally for computers connected less than 1KM I distance whilst a WAN (Wide Area Network) refers to computers connected more than 1KM away.

Who is Tim Berners-Lee?

Tim Berners-Lee is the inventor of the World Wide Web. The WWW is the system that delivers webpages over the internet.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.7 – Quizzing

Key Learning

To create a picture-based quiz for young children.

To learn how to use the question types within 2Quiz.

To explore the grammar quizzes.

To make a quiz that requires the player to search a database.

Key Vocabulary

Audience - the people giving attention to something.

Collaboration - the action of working with someone to produce something.

Concept map - a tool for organising and representing knowledge. They form a web of ideas which are all interconnected.

Database - a structured set of data held in a computer, especially one that is accessible in various ways.

Quiz - a test of knowledge, especially as a competition between individuals or teams as a form of entertainment.

Key Images

Create a quiz using 2Do It Yourself

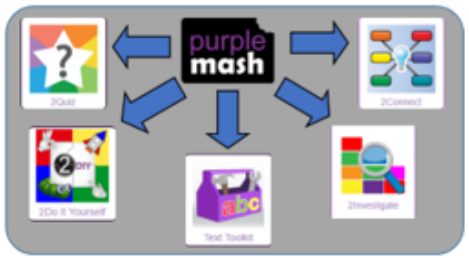
Create a quiz using Text Toolkit

Choose a question type in 2Quiz

Create a concept map from a blank or a template

Create a blank database

Key Resources



Key Questions

What factors do you need to consider when creating a quiz

The intended audience; age and reading ability and interests.

The aim of the quiz; is it for fun like a game, or to make sure that the user has learnt something?

Name three question types in 2Quiz

- Sequencing
- Grouping and Sorting
- Text based
- Multiple-choice
- Labelling

Apart from the questions, what else does a quiz need to contain?

A title screen and instructions for the user.
Feedback for the user (some quizzes).
Time limits (some quizzes)

Images for interest as well as part of the questions

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.8 – Binary

Key Learning

To know what the terms binary and denary mean and how they relate to the number system, the digital system and the terms base-10 and base-2

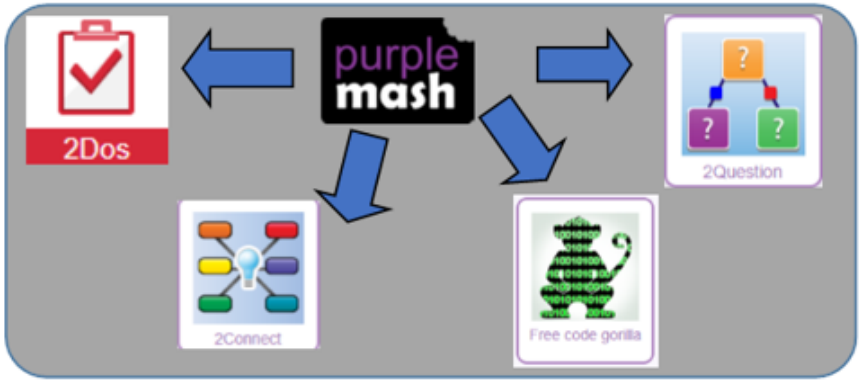
To relate binary to the on and off states of electrical switches.

To convert numbers from decimal to binary.

To convert numbers from binary to decimal.

To represent states of object in their own program using binary.

Key Resources



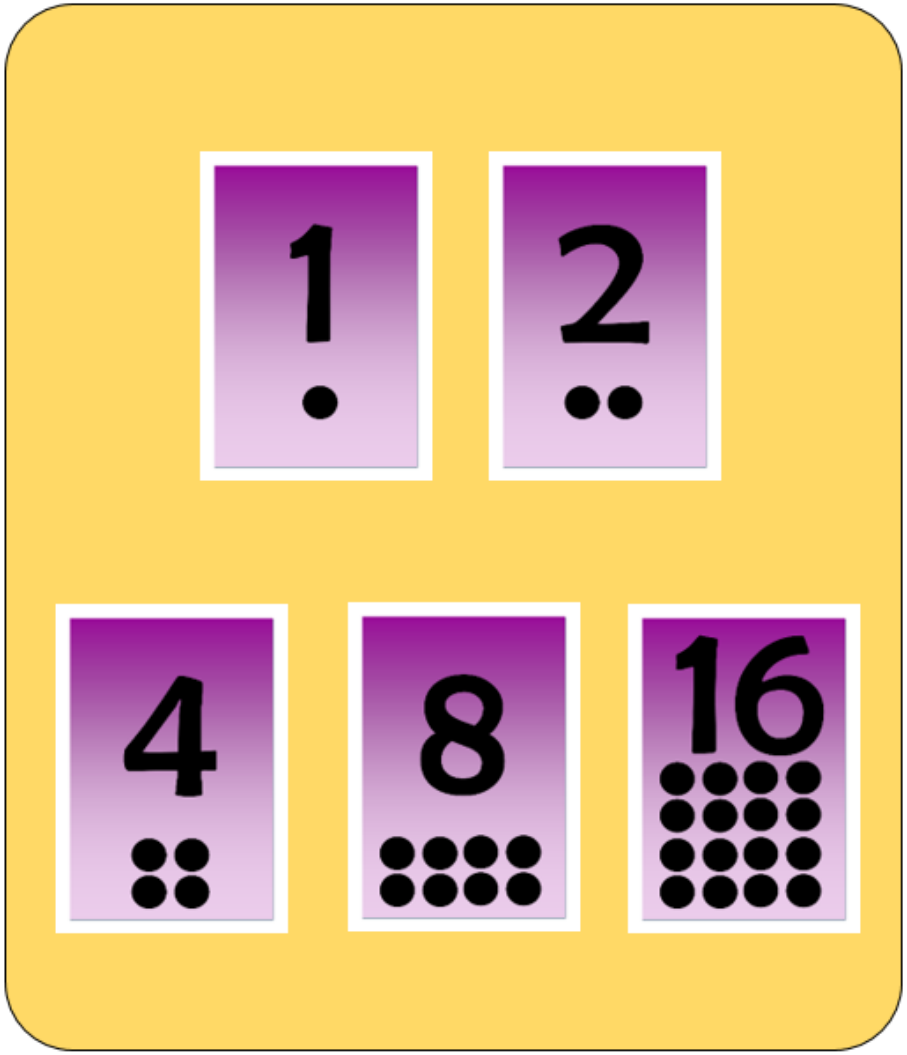
Key Vocabulary

Base 10 – The number system commonly used in day-to-day life. Using the digits 0,1,2,3,4,5,6,7,8,9 to make. Also known as decimal or denary.
Base 2 – A number system based only on the numerals 0 and 1. Also known as binary. The digits 1 and 0 used in binary reflect the on and off states of transistors.
Binary – See *Base-2.*
Bit – A single 0 or 1 in the binary system.
Byte – 8 bits.
Decimal – See *Base-10.*
Denary – See *Base-10.*
Digit – A single integer used to show a number.
Gigabyte (GB) – 1024 MB.
Integer – Any whole number. This includes negative and positive numbers but not fractions or decimals.
Kilobyte (KB) – 1024 bytes.
Machine code – The code that signals to a computer which transistors should be on or off. Machine code is written in binary.
Megabyte (MB) – 1024 KB.
Nibble – 4 bits.
Switch – A component that can be one of two states at any time: on or off.
Tetrabyte (TB) – 1024 GB
Transistor – A tiny switch that is activated by the electronic signals it receives.
Variable - A variable is used in programming to keep track of things that can change while a program is running. A variable must have a name. The *value* of the variable is the information to store.

PURPLE MASH COMPUTING SCHEME OF WORK - KNOWLEDGE ORGANISER

Unit: 6.8 – Binary

Key Images



Key Questions

How does binary relate to the programs that you use or create?

In a computer everything is translated into binary stored by on and off switches that pass electronic signals that the computer interprets. It can then pass the correct signals to the components of the computer such as the sound card to make the requested sound. Or graphics card to make images appear on the screen.

How does binary relate to computer memory.

A single 0 or 1 is called a bit. The word comes from **B**inary Dig**it.**
The bigger the program, the more bits are used so more memory space is taken up. For example, 1 byte is 8 bits, 1 megabyte (Mb) or 8,388,608 bits, 1 gigabyte (GB) is 8,589,934,592 bits!

How would you write the numbers 0 to 10 in binary?

0, 1, 10, 11, 100,101,110,111,1000, 1001, 1010.

Computing Impact

The curriculum at Sacriston Academy is well planned and thought-through to enable a wide range of engagement, so to develop knowledge and skills cross the curriculum, not only within class but in providing out of class opportunities to enable children to develop themselves as learners and encourage each child to be as independent as possible. Pupil voice feedback, specific whole staff planning time and moderation during staff meetings allows the staff to regularly review and assess the impact that the curriculum is having.

Regular and robust monitoring and scrutiny by SLT and Subject leaders provide first-hand evidence of how pupils are doing and ensures that high expectation and demanding outcomes are maintained. In-school and cross-school moderation is quality assured.

We are working with NELT primary schools to develop, monitor and quality assure our curriculum quality and provision.

The impact of our curriculum is measured through a range of different strategies:

- Data which is produced from summative tests as well as on-going teacher assessments
- Displays
- Work scrutinies
- Learning walks
- Pupil voice
- Lesson observations

Monitoring is conducted by members of the senior leadership team and subject leaders. Governors are invited to work alongside us with our monitoring.

Computing Memorable Experiences

Year Group	Experience	Impact
3		
4		
5		
6		

Computing Glossary

Algorithm	A step by step logical procedure which is created to solve a problem.
AUP	Acceptable Use Policy
Cached	Files and web pages which are temporarily stored in a computer memory.
Cloud computing	Integrated remote servers which host and store software, applications and users data.
Copyright	Legal protection of intellectual property to prevent plagiarism.
De-bug	A process of testing a procedure or routine to establish and fix errors.
Field	A category which a data base record- eg Name, Age
File Extension	Three letters at the end of a file name which denote the type of file – eg ppt = Powerpoint
Input	A command or action which controls a sensor.
Intellectual Property	Written material, sound, images or resources which have been created by and belongs to others.
Iteration	Repetition or a cycle of repeated commands within a procedure
Logo	A computer programming language.
Nested Procedures	Where minor procedures are embedded within a major procedure.
Online Etiquette	Accepted and acceptable standards of online communication.
Outputs	An action or change of state from a sensor or switch as a result of an input.
Password protocols	The rules and routines which are used to establish secure protocols – eg length of passwords, mix of numbers, letters and symbols.
Phishing	Online techniques which are used to find out personal and confidential information which can lead to "identity theft".
Procedure	A set of instructions which, if programmed correctly, will complete a process.
Remote servers	Computers which are located outside the physical environment of an organisation.
Roamer	A programmable electronic device devised by Valiant Technology.
Scratch	A computer programming language developed by MIT.
Search Engine	A web based software application which undertakes online searches for specified information
Search Engine Optimisation	A process used by web developers to raise the profile of a website within online searches.
Sensors	An electronic device which can be programmed to react to certain conditions – eg changing light.
Spam	Unsolicited email which blocks up email and computer systems.
Spreadsheet	A programme which enables the manipulation of figures to undertake modelling exercises.
Sprite	A character or icon which can be programmed to undertake defined actions. Sprites are found within the game "Scratch".
Technical Infrastructure and architecture	The design and construction of computers including local and remote computer networks.
Variable	A numerical value which can be changed.
Virtual Environments	Worlds and locations which have been created by computer programs.