Tywardreath School

Computing Overview
Key Knowledge, Skills and Vocabulary
Year B

What makes Tywardreath Curriculum unique? A clear focus on local, national and global communities, developing skills for life, celebrating responsible citizens and providing opportunities to debate and reflect.

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Autumn 1	Explorers Through Time	Who are you going to call?	A Child's war
	Unit 1.1 – Online Safety	Unit 4.2 – Online Safety	Unit 6.2 – Online Safety
National Curriculum Objectives	Pupils should be taught to: -Use technology safely and respectfully, keeping personal information private -Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.	Pupils should be taught to: -Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour. -Identify a range of ways to report concern about content and contact.	Pupils should be taught to: -Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour -Identify a range of ways to report concern about content and contact
Key Knowledge	-Understand the importance of keeping information, such as their usernames and passwords, private. -Take ownership of their work and save this in their own private space such as their My Work folder on Purple Mash. -Know who to contact if they have seen something upsetting or have concerns -Know how to keep their login information safe.	-Explore key concepts relating to online safety using concept mapping such as 2Connect. -Know how to help others to understand the importance of online safety. -Know a range of ways of reporting inappropriate content and contact	-Demonstrate the safe and respectful use of a range of different technologies and online services. -Identify more discreet, inappropriate behaviours through developing critical thinking, e.g. 2Respond activities. -Recognise the value in preserving their privacy when online for their own and other people's safety.

Key Skills and Sequence of learning	-To log in safely. -To learn how to find saved work in the Online -Work area and find teacher comments. -To learn how to search Purple Mash to find resources. -To become familiar with the icons and types of resources available in the Topics section. -To explore the Tools and Games section of Purple Mash. Can I explain how to keep personal information safe? Do I know how to save my work ? Can I use the search engine in Purple mash to find resources? Do I know all the icons in the Topic section?	-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. Do I understand how to protect myself from identity theft? Can I explain how a digital footprint is created? Can I explain the benefits and risks of installing software?	-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. Can I demonstrate the safe and respectful use of a range of different technologies and online services? Can I recognise inappropriate behaviours? Can I identify secure sites? Can I explain the benefits/risks of haring personal information? Can I demonstrate appropriate behaviour whilst on line?
Key Vocabulary	Log in , Avatar ,Log out , Save , Username , My Work , Notification , Password , Topic , Tools	Password, Internet, Blog , Concept map , Username , Website , Password , Spoof Website , PEGI rating	Online safety , Reputable , Password , Smart rules , Plagiarism , Encryption , Identity theft , Shared reference, Bibliography , Citations , Shared image

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Autumn 2	Where is Our Kingdom?	Where can we go?	Is there anybody out there?
	Unit 2.2 – Online Safety Unit 1.4 – Lego Builders	Unit 3.3 - Spreadsheets Unit 3.7 - Simulations	Unit 5.3 -Spreadsheets
National Curriculum Objectives	Pupils should be taught to: -Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Key Knowledge	-Know the implications of inappropriate online searches. -Begin to understand how things are shared electronically such as posting work to the Purple Mash display board. -Develop an understanding of using email safely by using 2Respond activities on Purple Mash and know ways of reporting inappropriate behaviours and content	-Know how to collect, analyse, evaluate and present data and information using a selection of software -Consider what software is most appropriate for a given task.	-Know how 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 2Calculate. -Know how to collaboratively create content and solutions using digital features within software such as collaborative mode.

	-Able to sort, collate, edit and store simple digital content e.g. children can name, save and retrieve their work and follow simple instructions to access online resources, use Purple Mash 2Quiz example (sorting shapes), 2Code design mode (manipulating backgrounds) or using pictogram software such as 2Count.		
Key Skills and sequence of learning	-To refine searches using the Search tool. -To use digital technology to share work on Purple Mash to communicate and connect with others locally. -To have some knowledge and understanding about sharing more globally on the Internet. -To introduce Email as a communication tool using 2Respond simulations. -To understand how we should talk to others in an online situation. -To open and send simple online communications in the form of email. -To understand that information put online leaves a digital footprint or trail. -To identify the steps that can be taken to keep personal data and hardware secure. -To compare the effects of adhering strictly to instructions to completing tasks without complete instructions. -To follow and create simple instructions on the computer. -To consider how the order of instructions affects the result.	-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 -To consider what simulations are. -To explore a simulation. -To analyse and evaluate a simulation.	-Use a formula wizard to add a formula to a cell to automatically make a calculation in that cell. -To copy and paste within 2Calculate. -Use tools to test a hypothesis. -To add a formula to a cell to automatically make a calculation in that cell. -Use a spreadsheet to model a real life situation and answer questions.
Key Vocabulary	Search , Display board , Sharing , Internet , email, digital footprint or trail, personal data	Symbols, Advanced mode, Copy and paste , Columns ,Cells , Delete key , Equal cell, Move cell, Rows , Spin tool , Spreadsheets	Advanced mode, Copy and paste , Columns , Cells , Delete key , Equal cell, Move cell, Rows , Spin tool , Spreadsheets, Formula , Formula wizard

	Algorithm , Computer , Instruction , Program , Computer, Debug		

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Spring 1	Traps, Trams and Trains	Davy Shines the Light!	Ancient Egyptians – Original Farmers?
	Unit 2.5 - Effective Searching Unit 2.7 – Making Music	Unit 4.3 - Spreadsheets	Unit 5.4 - Databases
National Curriculum Objectives	Pupils should be taught to: -Recognise common uses of information technology beyond school. -Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Pupils should be taught to -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Key Knowledge	-Effectively retrieve relevant, purposeful digital content using a search engine. They can apply their learning of effective searching beyond the classroom. -Know how to share this knowledge, e.g. 2Publish example template. -Know how to make links between technology they see around them, coding and multimedia work they do in school e.g. animations, interactive code and programs -Know how to edit more complex digital data such as music compositions within 2Sequence. -Know how to create, name, save and retrieve content. Use a range of media in their digital content including photos, text and sound.	-Know how to make improvements to digital solutions based on feedback. -Make informed software choices when presenting information and data. -Know how to create linked content using a range of software such as 2Calculate -Know how to share digital content within their community, i.e. using Virtual Display Boards.	-Know how 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 2Investigate. -Know how to objectively review solutions from others. -Know how to collaboratively create content and solutions using digital features within software such as collaborative mode.
Key Skills and sequence of learning	-To understand the terminology associated with searching. -To gain a better understanding of searching on the Internet. -To create a leaflet to help someone search for information on the Internet. -To make music digitally using 2Sequence. -To explore, edit and combine sounds using 2Sequence.	-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.	-To learn how to search for information in a database. -To contribute to a class database. -To create a database around a chosen topic.

	-To edit and refine composed music. -To think about how music can be used to express feelings and create tunes which depict feelings. -To upload a sound from a bank of sounds into the Sounds section. -To record and upload environmental sounds into Purple Mash. -To use these sounds to create tunes in 2Sequence.		
Key Vocabulary	Internet, Search, Search Engine BPM, Composition, Digitally, Instrument, Music, Sound Effects (sfx), Soundtrack, Volume	Symbols, Advanced mode, Copy and paste , Columns , Cells , Delete key , Equal cell, Move cell, Rows , Spin tool , Spreadsheets	Avatar, Binary tree, Charts , Collaborative , Data , Database , Find , Record , Sort, , group, arrange , Statistics and reports , Table

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Spring 2	A Land Down Under	How Mighty are Mountains?	Who lives in Rio?
	Unit 2.3 - Spreadsheets	Unit 4.5 – Logo Unit 4.6 - Animation	Unit 5.5 – Game Creator
National Curriculum Objectives	Pupils should be taught to: -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Key Knowledge	-Demonstrate an ability to organise data using, for example, a database and can retrieve specific data for conducting simple searches. -Know how to create, name, save and retrieve content.	-Know how to make improvements to digital solutions based on feedback. Make informed software choices when presenting information and data. -Know how to create linked content using a range of software such as Logo and 2Animate -Know how to share digital content within their community, i.e. using Virtual Display Boards.	-Know how 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 2DIY. -Know how to objectively review solutions from others. -Know how to collaboratively create content and solutions using digital features within software such as collaborative mode.
Key Skills and sequence of learning	-To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. -To learn how to copy and paste in 2Calculate. -To use the totalling tools. -To use a spreadsheet for money calculations. -To use the 2Calculate equals tool to check calculations. -To use 2Calculate to collect data and produce a graph.	-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. -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 set the scene. -To create the game environment. -To create the game quest. -To finish and share the game. -To evaluate their and peers' game

		-To be introduced to 'stop motion' animation. -To share animation on the class display board and by blogging.	
Key Vocabulary	Backspace key , Copy and paste , Columns , Cells , Count tool , Delete , Lock tool , Image toolbox, Move cells , Spreadsheet	Logo, , BK, FD, RT, LT, Repeat, PU, PD, SETPC, SETPT Animation, Flipbook , Frame , Onion skinning, , Background, Play , Sound , Stop motion	Animation, Computer game , Customise , Evaluation , Image , Instructions , Interactive, Screenshot , Texture , Perspective, Playability

	Year 1 and 2	Year 3 and 4	Year 5 and 6
Summer 1	The Unsinkable Ship?	What did the Greeks ever do for us?	Stone Age- Carving the way Forward?
	Unit 2.4 - Questioning	Unit 4.4 – Writing for Different Audiences	Unit 6.7 – Quizzing
National Curriculum Objectives	Pupils should be taught to: -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Key Knowledge	-Demonstrate an ability to organise data using, for example, a database and can retrieve specific data for conducting simple searches. -Know how to create, name, save and retrieve content.	-Know how to make improvements to digital solutions based on feedback. -Make informed software choices when presenting information and data. -Know how to create linked content using a range of software such as 2Publish+. -Know how to share digital content within their community, i.e. using Virtual Display Boards.	-Know how 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 2Quiz. -Know how to objectively review solutions from others. -Able to collaboratively create content and solutions using digital features within software such as collaborative mode.
Key Skills and sequence of learning	-To learn about data handling tools that can give more information than pictograms. -To use yes/no questions to separate information. To construct a binary tree to identify items. -To use 2Question (a binary tree database) to answer questions. -To use a database to answer more complex search questions. -To use the Search tool to find information	-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.	-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. -To make a quiz to test your teachers or parents.
Key Vocabulary	Pictogram, Question , Data , Collate , Binary tree, Avatar , Database,	Font, Bold , Italic , Underline	Audience , Collaboration, Database , Quiz , Concept map

	Year 1 and 2	Year 3 and 4	Year 5 and 6

Summer 2	My Ocean, Your Ocean, Our Ocean	Can we live anywhere?	Who are the Guardians of the Rainforest?
	Unit 2..8 – Presenting Ideas	Unit 3.4 - Typing	Unit 5.6 – 3D Modelling
National Curriculum Objectives	Pupils should be taught to: -Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information	Pupils should be taught to: -Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Key Knowledge	-Demonstrate an ability to organise data using, for example, a database and can retrieve specific data for conducting simple searches. -Know how to create, name, save and retrieve content.	-Know how to input and present data effectively	-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 2 Design. -Objectively review solutions from others. -Able to collaboratively create content and solutions using digital features within software such as collaborative mode.
Key Skills and sequence of learning	-To explore how a story can be presented in different ways. -To make a quiz about a story or class topic. To make a fact file on a non-fiction topic. -To make a presentation to the class.	-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 practise typing with the left and right hand.	-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 Vocabulary	Concept map , Node , Animated, Quiz , Narrative , Audience	Top row keys , Home row keys , Bottom row keys , Posture , Space bar	CAD , Modelling , 3D , View point , Polygon, Net , 2D, 3D Printing , Points , Template