Kentmere Academy and Nursery- Knowledge and Skills- Computing

Early Years

Year Group	Learning Objective	Knowledge	Skills
Early Years	To understand that computers give information. To complete a simple computer program. To be able to use different technological tools e.g. pulls, levers, buttons. To operate simple equipment. To recognise that a range of technology can be found in different places.	To know that an action happens when a button is pressed/knob is turned. To know that information can be found on a computer. To know where to find different technology.	To turn on different ICT equipment. To press a button. To turn a knob on a wind-up toy. To use a camera to take photographs. To complete a simple program on a computer. To add actions to pictures using a simple program. To use a simple drawing program. To use different apps to create shapes and write letters. To interact with age-appropriate computer software. To recognise the use of technology for different purposes.

Cycle A- Year 1/2

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 1/2	**Dinosaur Planet!** Use technology safely and respectfully	**Autumn 1** **Week 1**	To use technology safely and respectfully. To login safely with their own logins and understand why that is important. To create their own picture and add their name to it.	I know what it means to stay safe online. I understand the rules around E-Safety and know who I can speak to if I'm uncomfortable. I understand the importance of logging in safely.	I can log in to Purple Mash with my own username and password. I can create my own avatar. I can add my name to a picture of a dinosaur I have created. I can save my work in my digital folder.
	Dinosaur Planet! Use technology safely and respectfully	**Autumn 1** **Week 2**	To understand the terminology associated with searching.	I know what the internet is. I know the meaning of 'search' and 'search engine'.	I have completed a quiz about the Internet. I can recall the meaning of key Internet terms.
	Dinosaur Planet! Use technology safely and respectfully	**Autumn 1** **Week 3**	To gain a better understanding of searching on the Internet.	I know how to read a web search results page.	I can identify the basic parts of a web search engine search page. I can search for answers to a quiz about dinosaurs on the Internet.

Year 1/2	**Muck, Mess and Mixtures** **Use technology to create digital content**	**Autumn 2** **Week 1**	To use a template to create digital content.	I know what is meant by impressionist art. I know who Monet is. I know what a template is.	I can use 2Paint a Picture to create my own art based upon this style. I can use a given template. I can select appropriate colours for my picture using the colour palette. I can choose the style I want to use for my picture.
	Muck, Mess and Mixtures **Use technology to create digital content**	**Autumn 2** **Week 2**	To use software and tools to select appropriate tools and style.	I know what pointillism is. I know who Seurat is. I know the different tools I can use.	I can use appropriate software to create my own art based upon pointillism style. I can recognise Seurat's work. I can select the style I want to paint in. I can undo and redo mistakes. I can create a pattern or picture.
	Muck, Mess and Mixtures **Use technology to create digital content**	**Autumn 2** **Week 3**	To combine effects to enhance my work. To use repetition.	I know the main features of art that use repeating patterns. I know who William Morris is. I know that I can combine more than one effect to enhance my work.	I can use software to create my own art by repeating patterns. I can combine more than one effect.
	Muck, Mess and Mixtures	**Autumn 2** **Week 4**	To explore collage software.	I know what surrealist art is. I know what the term 'collage means'. I know how I can create art using drawing and clipart.	I can add clipart to my drawing. I can select appropriate tools for my collage. I can use specific collage software.

	Use technology to create digital content				
Year 1/2	**Bright Lights, Big City** **Recognise common uses of information technology beyond school**	**Spring 1** **Week 1**	To walk around the local community and find examples of where technology is used.	I understand what is meant by 'technology'. I know what types of technology are used in school and out of school.	I can recognise technology in the classroom. I can use a camera to record my findings.
	Bright Lights, Big City **Recognise common uses of information technology beyond school**	**Spring 1** **Week 2**	To record examples of technology outside school.	I know where technology could be used outside school.	I can record 4 examples of where technology is used away from school.
	Bright Lights, Big City	**Spring 1** **Week 3**	To sort items using a range of criteria. To sort items on the computer.	I know what it means to sort objects. I know what 'criteria' means. I know different ways to sort objects.	I can sort items using a range of criteria. I can use technology to sort various items online using a variety of criteria

	Recognise common uses of information technology beyond school			I know the features objects have in common.	
Year 1/2	**Bright Lights, Big City** Understand what algorithms are create and debug simple programs	**Spring 2** **Week 1**	To emphasise the importance of following instructions.	I know the importance of following accurate instructions. I know that following instructions carefully gives the correct result. I know the term 'algorithm'.	I can use lego to build a London landmark. I can follow instructions carefully. I can give my partner an algorithm to build a model. I can give an example of an algorithm I use in real life.
	Bright Lights, Big City Understand what algorithms are	**Spring 2** **Week 2**	To follow and create simple instructions on the computer.	I know that computers need precise instructions to follow. I know that an algorithm written for a computer to follow is called a program.	I can follow instructions on a computer program. I can explain the effect of carrying out a task with no instructions. I can create program code.

	create and debug simple programs				
	Bright Lights, Big City understand what algorithms are create and debug simple programs	**Spring 2** **Week 3**	To consider how the order of instructions affects the result.	I know the term 'debug'. I know that code needs to be error free to work correctly.	I can identify what errors have been made in a recipe. I can debug an algorithm.
Year 1/2	**The Scented Garden** Understand what algorithms are Create and debug simple programs	**Summer 1** **Week 1**	To understand what coding means in computing.	I know what coding means. I know that for the computer to make something happen, it needs to follow clear instructions.	I can build one- and two-step instructions using printable code cards. I can create unambiguous instructions like those required by a computer.

	The Scented Garden **Understand what algorithms are** **Create and debug simple programs**	**Summer 1** **Week 2**	To introduce Block Coding.	I can explain what a block of code is.	I can read through combined blocks of code.
	The Scented Garden **Understand what algorithms are** **Create and debug simple programs**	**Summer 1** **Week 3**	To use Design Mode to add and change backgrounds and characters.	I know that backgrounds and characters can be changed in Design Mode.	I can use the properties table to change the look of objects. I can add characters. I can change backgrounds using a drop-down menu.
Year 1/2	**Bounce** **Use logical reasoning to predict the behaviour of**	**Summer 2** **Week 1**	To design a scene for a program.	I know key coding vocabulary; Code Action Background Block Button	I can complete a quiz on key coding vocabulary. I can use code blocks to make the characters move automatically when the green Play button is clicked.

	simple programs			Character Coder Command Input Object	I can write a program that controls how a character will move. I can add an additional character who moves when clicked.
	Bounce **Use logical reasoning to predict the behaviour of simple programs**	**Summer 2** **Week 2**	To explore the When Key and When Swiped commands (on tablets).	To know when to use appropriate commands. To know that different technologies can be used.	I can use the Stop button. I can program a character to move given a variety of input events.
	Bounce **Use logical reasoning to predict the behaviour of simple programs**	**Summer 2** **Week 3**	To explore a method to code interactivity between objects.	To know the term 'Collision Detection'. To know the purpose of the 'sound' property.	I can use collision detection to make objects interact. I can program a sound to play when objects collide.

Cycle B- Year 1/2

Year Group	Topic	Week	Learning Objective	Knowledge	Skills

Year 1/2	**Moon Zoom** **Use technology safely and respectfully**	**Autumn 1** **Week 1**	To use technology safely and respectfully. To login safely with their own logins and understand why that is important. To create their own picture and add their name to it.	I know what it means to stay safe online. I understand the rules around E-Safety and know who I can speak to if I'm uncomfortable. I understand the importance of logging in safely.	I can log in to Purple Mash with my own username and password. I can create my own avatar. I can add my name to a picture of a dinosaur I have created. I can save my work in my digital folder.
	Moon Zoom **Use technology safely and respectfully**	**Autumn 1** **Week 2**	To learn how to find saved work, messages and resources.	I know that my work is stored in an Online Work area on Purple Mash. I know I can search on Purple Mash.	I can find my work in my digital folder. I can search for Dinosaur resources using Purple Mash.
	Moon Zoom **Use technology safely and respectfully**	**Autumn 1** **Week 3**	To learn the common icons 'save, print, open, new'.	I know the terminology 'save, print, open and new'.	I can explore the Tools section on Purple Mash. I can use the icons; save, print, open and new.
Year 1/2	**Memory Box** **Understand what algorithms are**	**Autumn 2** **Week 1**	To understand what an algorithm is.	I know that an algorithm is a set of instructions.	I can describe the algorithm I have created. I can explain that for the computer to make something happen it needs to follow clear instructions.

	Create and debug simple programs				
	Memory Box **Understand what algorithms are** **Create and debug simple programs**	**Autumn 2** **Week 2**	To use the Repeat and Timer commands.	I know that objects have different properties. I understand how to use the Repeat command. I understand how to use the Timer command.	I can select the appropriate object to use. I can use the Repeat button. I can use the Timer button.
	Memory Box **Understand what algorithms are** **Create and debug simple programs**	**Autumn 2** **Week 3**	To know what debugging means.	I know what debugging means. I know I need to test and debug a program repeatedly.	I can explain what debug means. I can debug a simple program. I can explain why it is important to save my work after each change to my program.
	Memory Box	**Autumn 2** **Week 4**	To use logical reasoning to understand specific actions.	I know that objects can only behave in certain ways. I know what different objects are able to do.	I can make predictions about what programs will be able to do based on my knowledge of the objects.

	Understand what algorithms are Use logical reasoning				I can explain how objects can only move in certain ways.
Year 1/2	Towers, Tunnels and Turrets Use technology purposefully to create, organise, store, manipulate and retrieve digital content	Spring 1 Week 1	To introduce e-books and 2Create a Story.	I know the difference between a traditional book and an e-book.	I can create characters for my traditional tale E-book. I can use the different drawing tools to create a picture on the page. I can add text to a page and change the colour, font and size of the text. I can save my work.
	Towers, Tunnels and Turrets Use technology	Spring 1 Week 2	To add animation to my work.	I know what animation is. I know how to find my existing work.	I can open work that I saved in my last lesson. I can add an animation to my picture. I can play the pages I have created. I can save my changes and overwrite the file.

	purposefully to create, organise, store, manipulate and retrieve digital content				
	Towers, Tunnels and Turrets Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Spring 1** **Week 3**	To add sound to a story, including voice recording and music.	I know what a sound effect is. I know when it is appropriate to use a sound effect.	I can add a sound to the page. I can add my own voice recording to the page. I can create my own music and add it to my page.
Year 1/2	**Towers, Tunnels and Turrets**	**Spring 2** **Week 1**	To be introduced to making music digitally. To explore, edit and combine Sounds.	I know that different sounds are used to create a tune. I understand what happens to the tune when sounds are moved.	I can use 2Sequence to create a tune. I can speed up and slow down tunes. I can move tunes.

	Use technology purposefully to create, organise, store, manipulate and retrieve digital content				
	Towers, Tunnels and Turrets **Use technology purposefully to create, organise, store, manipulate and retrieve digital content**	**Spring 2** **Week 2**	To think about how music can be used to express feelings and create tunes which depict feelings.	I know how music can be used to express feelings. I know how to edit a tune I've already created to change it.	I can change the volume of the background sounds. I can create two tunes which depict two feelings. I can add sounds to a tune I've already created to change it.
	Towers, Tunnels	**Spring 2** **Week 3**	To record your own sound.	I know the meaning of digital composition.	I can upload and use their own sound from a bank of sounds. I can create, upload and use my own recorded sound.

	and Turrets Use technology purposefully to create, organise, store, manipulate and retrieve digital content				I can create my own tune using some of the chosen sounds.
Year 1/2	**Splendid Skies** Recognise common uses of information technology beyond school	**Summer 1** **Week 1**	To understand that data can be represented in picture format.	I know what a pictogram is. I know what data is. I know why we might use a pictogram.	I can contribute to the collection of class data. I can use illustrations to create a simple pictogram.
	Splendid Skies Recognise common uses of information	**Summer 1** **Week 2**	To contribute to a class pictogram.	I know what collate means.	I can contribute to a class pictogram. I can discuss what the pictogram shows.

	technology beyond school				
	Splendid Skies Recognise common uses of information technology beyond school	**Summer 1** **Week 3**	To use a pictogram to record the results of an experiment.	I know how to represent data.	I can collect data about the weather. I can represent my results in a pictogram.
Year 1/2	**Coastline** Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Summer 2** **Week 1**	To explore how a story can be presented in different ways.	I know that digital content can be represented in many forms. I know what an e-book is. I know what a concept map is. I know what a quiz is. I know what a fact file is.	I can suggest different ways to present a story. I can explain why a concept map is useful.
	Coastline Use technology	**Summer 2** **Week 2**	To make a quiz about a story or class topic.	I know what questions to include in my quiz. I know how to add questions.	I can make a quiz about our class story. I can select appropriate question types. I can talk about my work and make improvements.

	purposefully to create, organise, store, manipulate and retrieve digital content				
	Coastline Use technology purposefully to create, organise, store, manipulate and retrieve digital content	**Summer 2** **Week 3**	To make a fact file on a non-fiction topic.	I know that data can be structured in tables to make it useful.	I can make a fact file. I can add appropriate clipart. I can add an appropriate photo.

Cycle A- Year 3/4

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 3/4	Tremors Use technology safely.	**Autumn 1** **Week 1**	To know what makes a safe password, how to keep passwords safe and the consequences of giving your passwords away.	I understand what makes a good password for use on the Internet. I understand the outcomes of not keeping passwords safe. I know the purpose of a blog.	I can contribute to a class blog with clear and appropriate messages. I can use my own password.

	respectfully and responsibly		To understand how a blog can be used to help us communicate with a wider audience.		
	Tremors **Use technology safely, respectfully and responsibly**	**Autumn 1** **Week 2**	To think about how to check that information on the internet is accurate.	I understand that some information held on websites may not be accurate or true. I understand the need to think critically about results on a search page.	I can access and assess a 'spoof' website. I can create my own 'spoof' webpage mock-up. I can share my 'spoof' web page on a class display board.
	Tremors **Use technology safely, respectfully and responsibly**	**Autumn 1** **Week 3**	To learn about the meaning of age restrictions symbols on digital media and devices.	I understand why PEGI restrictions exist. I know where to turn for help if I see inappropriate content or have inappropriate contact from others.	I can identify some physical and emotional effects of playing/watching inappropriate content/games. I can relate cyberbullying to bullying in the real-world. I have strategies for dealing with online bullying including screenshot and reporting.
Year 3/4	Potions **Use logical reasoning to explain how some algorithms work**	**Autumn 2** **Week 1**	To learn the structure of the language of Logo.	I know what common instructions are in Logo.	I can input simple instructions in Logo. I can follow simple Logo instructions to create shapes on paper. I can follow simple instructions to create shapes in Logo.

	Potions Use logical reasoning to explain how some algorithms work	**Autumn 2** **Week 2**	To use 2Logo to create letter shapes.	I understand the pu and pd commands.	I can write Logo instructions for a word of four letters. I can create Logo instructions to draw patterns of increasing complexity.
	Potions Use logical reasoning to explain how some algorithms work	**Autumn 2** **Week 3**	To use the Repeat function in Logo to create shapes.	I know when to use the Repeat function.	I can follow Logo code to predict the outcome. I can create shapes using the Repeat Function. I can find the most efficient way to draw shapes.
	Potions Use logical reasoning to explain how some algorithms work	**Autumn 2** **Week 4**	To use and build procedures in Logo.	I understand the procedure feature.	I can create 'crystals' using Logo.
Year 3/4	Gods and Mortals Design and debug programs Use sequence, selection and	**Spring 1** **Week 1**	To explain what coding is.	I know what coding is.	I can explain that coding is how computer programs are created. I can navigate around the 2Code interface, dragging and dropping code blocks and running code.

	repetition in programs				
	Gods and Mortals Design and debug programs Use sequence, selection and repetition in programs	**Spring 1** **Week 2**	To create a program with an object that repeats actions indefinitely.	I know the purpose of a 'timer' and 'repeat command'. I know how the 'timer' and 'repeat command' differ.	I can show how the character repeats an action. I can explain how I caused a character to repeat an action. I can experiment with different methods of repeating blocks of code. I can explain how I made objects repeat actions.
	Gods and Mortals Design and debug programs Use sequence, selection and repetition in programs	**Spring 1** **Week 3**	To introduce If statements to allow selection in a program.	I know the purpose of an 'if' statement.	I can create an 'if' statement in my program. I can use a timer and 'if' statement to respond to the actions of a character. I can change the characters actions.
Year 3/4	Gods and Mortals Design and debug programs	**Spring 2** **Week 1**	To introduce variables.	I know what a variable is in programming.	I can explain why variables need to be named. I can create a variable in a program. I can set/change the variable values appropriately to create a timer.

	Use sequence, selection and repetition in programs				
	Gods and Mortals **Design and debug programs** **Use sequence, selection and repetition in programs**	**Spring 2** **Week 2**	To create a program using the 'repeat' commands.	I know how to use the 'repeat until' command.	I can show how a character repeats an action and explain how I caused it to do so. I can make a character respond to user keyboard input.
	Gods and Mortals **Design and debug programs** **Use sequence, selection and repetition in programs**	**Spring 2** **Week 3**	To go through the design, code, execute, refine process.	I know how to design a functioning program.	I can use the coding skills I have been taught to create my own program. I can use: timer, repeat, 'if', variables.
Year 3/4	Tribal Tales	**Summer 1**	To discuss what makes a good animated film or cartoon and what their favourites are.	I understand what animation frames are. I know how animations are made by hand.	I can put together a simple animation using paper to create a flick book. I can make a simple animation.

	Select, use and combine a variety of software	**Week 1**			
	Tribal Tales **Select, use and combine a variety of software**	**Summer 1** **Week 2**	To learn about the Onion Skinning process of animation.	I know what the Onion Skin tool does in animation.	I can use the Onion Skin tool to create an animated image linked to my topic. I can add backgrounds and sounds to animations.
	Tribal Tales **Select, use and combine a variety of software**	**Summer 1** **Week 3**	To learn about 'stop motion' animation. To use a range of devices.	I know what 'stop motion' animation is and how it is created.	I can use ideas from existing 'stop motion' films to create my own animation on 2animate. I can use iPad apps to create stop motion animation. I can share my animation and comment on other's work.
Year 3/4	Burps, Bottoms and Bile **Understand computer networks**	**Summer 2** **Week 1**	To sort objects using just 'yes' or 'no' questions.	I understand how YES/NO questions are structured and answered.	I can use YES/NO questioning to play a simple game.

	Burps, Bottoms and Bile **Understand computer networks**	**Summer 2** **Week 2**	To complete a branching database.	I understand what a branching database. I know the purpose of a branching database.	I can contribute to a class branching database about fruit. I can complete a branching database about vegetables.
	Burps, Bottoms and Bile **Understand computer networks**	**Summer 2** **Week 3**	To create a branching database of the children's choice.	I know how to use and debug my own branching database.	I can choose a suitable topic for a branching database. I can select and save appropriate images. I can create a branching database. I can debug my own branching database.

Cycle B- Year 3/4

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 3/4	Scrumdiddl yumptious	**Autumn 1**	To locate information on the search results page.	I know the meaning of 'search'. I know where to find 'search engines'.	I can structure search queries to locate specific information.

	Use search technologies effectively	**Week 1**		I know the types of information that can be found on a search engine.	
	Scrumdiddlyumptious **Use search technologies effectively**	**Autumn 1** **Week 2**	To use search effectively to find out information.	I know how to use key words in a search engine. I know what it means to search effectively.	I can use search to answer a series of questions (Google). I can write search questions for a friend to solve (linked to my topic).
	Scrumdiddlyumptious **Use search technologies effectively**	**Autumn 1** **Week 3**	To assess whether an information source is true and reliable.	I know the meaning of reliable. I know what clues to look for to find out if a website is reliable.	I can analyse the contents of a web page for clues about credibility of the information. I can make the connection to SMART rules of Online Safety.
Year 3/4	I am Warrior **Use technology safely**	**Autumn 2** **Week 1**	To understand how children can protect themselves from online identity theft.	I understand that information put online leaves a digital footprint or trail and that this can aid identity theft. I know that security symbols such as a padlock protect your identity online.	I can explain what a digital footprint is and how it relates to identity theft. I can give examples of things I wouldn't want to be in my digital footprint.
	I am Warrior **Use technology safely**	**Autumn 2** **Week 2**	To identify the risks and benefits of installing software including apps.	I know what malware is. I know what a computer virus is.	I can identify possible risks of installing free and paid for software. I can make the connection to SMART rules for Online Safety.
	I am Warrior	**Autumn 2**	To understand that copying the work of others and presenting it as their own is called 'plagiarism' and	I know the difference between researching and using information and copying it.	I can identify appropriate behaviour when contributing to online projects. I can complete a plagiarism quiz.

	Use technology safely	**Week 3**	to consider the consequences of plagiarism.	I know that you must cite sources that have been used.	
	I am Warrior **Use technology safely**	**Autumn 2** **Week 4**	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.	I know what to do to report on distressing or inappropriate thing I come across online.	I can give reasons for limiting screen time. I can contribute to a real-time database about my screen-time. I can make the connection to SMART rules for Online Safety.
Year 3/4	Traders and Raiders **Design, write and debug programs** **Use logical reasoning**	**Spring 1** **Week 1**	To understand what a micro:bit is.	I know how to connect my micro:bit. I know what a .hex file is.	I can create a program in the online editor. I can connect my micro:bit to the computer to transfer a program.
	Traders and Raiders **Design, write and debug programs** **Use logical reasoning**	**Spring 1** **Week 2**	To know and understand what algorithms are.	I know the roles of 'shower' and 'responder. I know that an algorithm is a set of instructions.	I can write algorithms with clear instructions. I can test and debug algorithms.
	Traders and Raiders **Design, write and debug programs**	**Spring 1** **Week 3**	To write programs that create LED images.	I know the meaning of 'abstraction'. I know what an LED image is. I know how to write a program that creates an LED image.	I can use abstraction when planning LED images. I can write programs that create LED images. I can sequence programs.

	Use logical reasoning				
Year 3/4	Traders and Raiders **Design, write and debug programs** **Use logical reasoning**	**Spring 2** **Week 1**	To identify patterns and solutions to problems.	I know the purpose of 'delays'. I know the meaning of 'debug'.	I can identify the problem with my program. I can debug my program. I can use delays in algorithms and programs. I can use a delay to pause the time between LED images.
	Traders and Raiders **Design, write and debug programs** **Use logical reasoning**	**Spring 2** **Week 2**	To use logical reasoning.	I know the meaning of 'logical reasoning'. I know the meaning of 'tinkering'.	I can tinker (experiment) to develop my understanding. I can create a digital number flashcard.
	Traders and Raiders **Design, write and debug programs** **Use logical reasoning**	**Spring 2** **Week 3**	To follow an algorithm to create a digital number flashcard.	I know the meaning of the key vocabulary from this unit: Sequencing Logical reasoning Patterns Debugging Algorithm Abstraction	I can write and debug a program to meet a design criteria. I can evaluate against design criteria.
Year 3/4	Flow **Solve problems by decomposing**	**Summer 1** **Week 1**	To consider what simulations are.	I know that a computer simulation can represent real and imaginary situations.	I can give examples of simulations used for fun and for work. I can give suggestions of advantages and disadvantages of simulations.

	Flow **Solve problems by decomposing**	**Summer 1** **Week 2**	To explore a simulation.	I know there are different solutions to a simulation.	I can explore a simulation. I can use a simulation to try out different options and to test predictions. I can begin to evaluate simulations by comparing them with real situations and considering their usefulness.
	Flow **Solve problems by decomposing**	**Summer 1** **Week 3**	To work through and evaluate a more complex simulation.	I know how to work as a team to analyse.	I can recognise patterns within simulations and make and test predictions. I can identify the relationships and rules on which the simulations are made. I can evaluate a simulation.
Year 3/4	Mighty Metals **Responsible, competent, confident users of information and communication technology**	**Summer 2** **Week 1**	To introduce typing terminology.	I understand the names of the fingers. I understand what is meant by home, bottom and top rows.	I can develop my ability to touch type the home, bottom and top rows.
	Mighty Metals **Responsible, competent, confident**	**Summer 2** **Week 2**	To practice the keys typed with the left hand.	I know which keys I will use with my left hand.	I can touch type using my left hand.

	users of information and communication technology				
	Mighty Metals Responsible, competent, confident users of information and communication technology	**Summer 2** **Week 3**	To practice the keys typed with the right hand.	I know which keys I will use with my right hand.	I can touch type using my right hand.

Cycle A- Year 5/6

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 5/6	**Tomorrow's World** Understand computer networks including the internet	**Autumn 1** **Week 1**	To discover what the children know about the internet.	I know the difference between the World Wide Web and the internet.	I can discuss what I use the internet for at home and in school. I can create a concept map of how I use the internet at home and at school. I can discuss how life would be different before the internet.

	Tomorrow's World **Understand computer networks including the internet**	**Autumn 1** **Week 2**	To find out what a LAN and a WAN Are. To find out how we access the internet in school.	I know how our school network works. I know the meaning of; router, network cables, modem.	I can discuss the different types of technology we have in the classroom. I can go on a Learning Walk around the school to identify the different devices we have. I can research what a network is using the BBC.
	Tomorrow's World **Understand computer networks including the internet**	**Autumn 1** **Week 3**	To research and find out about the age of the internet. To think about what the future might hold.	I know who Tim Berners-Lee is. I know how technology has significantly changed.	I can research Tim Berners-Lee. I can complete a profile about Tim Berners-Lee. I can consider some of the major changes in technology which have taken place.
Year 5/6	**Stargazers** **Collecting, analysing, evaluating and presenting data and information**	**Autumn 2** **Week 1**	To learn how to search for information in a database	I understand the different ways to search a database. I know the meaning of 'field' and 'data'.	I can search a database in order to answer questions correctly. I can read data in a table. I can sort, group and arrange data. I can look at statistics and reports. I can interpret charts.
	Stargazers **Collecting, analysing, evaluating and presenting data and information**	**Autumn 2** **Week 2**	To contribute to a class database.	I know what information we could record in the databases.	I can design an avatar for a class database. I can enter information into a class database. I can write three questions for my partner to solve.

	Stargazers **Collecting, analysing, evaluating and presenting data and information**	**Autumn 2** **Week 3**	To create a database around a chosen topic.	I know what a database field is. I understand how to word questions so that they can be effectively answered using a search.	I can create my own database. I can add records to my database. I can word questions appropriately.
	Stargazers **Collecting, analysing, evaluating and presenting data and information**	**Autumn 2** **Week 4**	To collect data for my database.	I know how to edit my questions if necessary. I know where to find my existing database.	I can add records to my database. I can view the statistics and reports on my data. I can create and interpret charts for my data.
Year 5/6	**A Child's War** **Design, write and debug programs** **Use logical reasoning**	**Spring 1** **Week 1**	To know and understand what variables are.	I know that variables need to have a set value.	I can create a character description. I can debug a character description. I can use variables to describe a character. I can write algorithms that use variables.
	A Child's War **Design, write and debug programs**	**Spring 1** **Week 2**	To write algorithms that use variables.	I know how variables are used in programs. I know the meaning of 'selection'.	I can sort statements into an algorithm that I have used. I can identify the purpose of each part of a program. I can debug programs containing variables. I can transfer my file to a micro:bit.

	Use logical reasoning				
	A Child's War Design, write and debug programs Use logical reasoning	**Spring 1** **Week 3**	To write an algorithm for a step-counter.	I know the purpose of a step-counter.	I can identify devices that people use to track physical activity. I can write an algorithm for a step-counter. I can program a micro:bit as a step-counter. I can suggest ways to improve my design.
Year 5/6	**A Child's War** Design, write and debug programs Use logical reasoning	**Spring 2** **Week 1**	To predict how variables will be used in programs.	I know how variables are used in programs. I know how to create an algorithm.	I can complete a times table test from a micro:bit. I can identify what variables were used in the program. I can create a random activity selector. I can write an algorithm to instruct how to decide what activity to complete.
	A Child's War Design, write and debug programs Use logical reasoning	**Spring 2** **Week 2**	To write programs that use random number variables (create an activity selector).	I know how to transfer an algorithm to a program.	I can recognise errors in code (debug). I can use my written algorithm to program a micro:bit to be an activity selector. I can create a variable.
	A Child's War	**Spring 2** **Week 3**	To evaluate my program.	I know the purpose of program evaluations. I know how to test my program.	I can complete a written evaluation of my work I can consider the following aspects: Appearance

	Design, write and debug programs **Use logical reasoning**				User ease Portability
Year 5/6	**Hola Mexico** **Use technology safely**	**Summer 1** **Week 1**	To identify the benefits and risks of location access/personal information on apps.	I know the benefits of apps having access to location. I know the risks of apps having access to location. I know the benefits of apps having personal information access. I know the risks of apps having personal information access.	I can complete an Online Safety Game. I can identify the meaning of different symbols (8 risks and 8 safety). I can create a game using online safety as a theme.
	Hola Mexico **Use technology safely**	**Summer 1** **Week 2**	To have a clear idea of appropriate online behaviour.	I know how appropriate online behaviour can protect themselves from possible online dangers, bullying and inappropriate behaviour. I am beginning to understand how information online can give away details of those who share or modify it. I know the meaning of Digital Footprint.	I can create a virtual image of myself as a user. I can use a database to answer questions about the candidates.
	Hola Mexico **Use technology safely**	**Summer 1** **Week 3**	To understand the importance of balancing game and screen time with other parts of their lives.	I know the need to balance between being active and digital activities.	I can identify the positive and negative influences of technology on health and the environment. I can give reasons for limiting screen time. I can talk about the positives and negative aspects of technology and balance these opposing views.

					I can record my screen time.
Year 5/6	**Sow, grow and farm** **Select, use and combine a variety of software**	**Summer 2** **Week 1**	To introduce the idea of concept mapping and the need for it to be represented visually.	I understand the need for visual representation when generating and discussing complex ideas	I can make connections between thoughts and ideas. I can see the importance of recording concept maps visually.
	Sow, grow and farm **Select, use and combine a variety of software**	**Summer 2** **Week 2**	To create a concept map.	I understand and use the correct vocabulary when creating a concept map: - Concept map - Stage - Nodes - Connections	I can create a basic concept map.
	Sow, grow and farm **Select, use and combine a variety of software**	**Summer 2** **Week 3**	To create a collaborative concept map (linked to Topic) and present this to an audience.	I know how to work collaboratively. I know how to present using Kentmere's Top Tips for Talking.	I can create a concept map collaboratively. I can use presentation mode to present my concept map to an audience.

Cycle B- Year 5/6

Year Group	Topic	Week	Learning Objective	Knowledge	Skills
Year 5/6	Off with her head Use technology safely	Autumn 1 Week 1	To gain a greater understanding of the impact that sharing digital content can have.	I know who to tell if I am upset by something that happens online.	I can think critically about the information that I share online both about myself and others. I can use the SMART rules as a source of guidance when online.
	Off with her head	Autumn 1	To be aware of appropriate and	I know what makes a strong password. I understand how images can be edited using digital technology.	I can think critically about what I share online.

	Use technology safely	**Week 2**	inappropriate text, photographs and videos and the impact of sharing these online.	I understand how image manipulation could be used to upset or harm others.	
	Off with her head **Use technology safely**	**Autumn 1** **Week 3**	To learn about to reference sources. To search the internet with a focus on reliability of information.	I understand the advantages and disadvantages of different forms of communication. I know when it is appropriate to use different forms of communication.	I can cite sources when researching. I can explain the importance of citing sources. I can select keywords and search techniques.
Year 5/6	**Frozen Kingdom** **Collecting, analysing, evaluating and presenting data and information**	**Autumn 2** **Week 1**	To learn about spreadsheets.	I know what rows and columns are. I know how to enter data into a cell. I understand the purpose of a simple formulae.	I can navigate around a spreadsheet. I can explain what rows and columns are. I can enter data including text, numbers and images into a cell. I can use the Move Cell and Lock tools. I can enter simple formulae into cells.
	Frozen Kingdom **Collecting, analysing, evaluating and presenting data and information**	**Autumn 2** **Week 2**	To use a spreadsheet to model a real-life situation.	I know that calculations can be used to solve a real-life problem.	I can use a spreadsheet to work out the area and perimeter of rectangles.
	Frozen Kingdom	**Autumn 2** **Week 3**	To use a spreadsheet to convert measurements.	I know how to apply formulas. I know how to create my own formula.	I can create a formula in a spreadsheet to convert m to cm. I can apply this to creating a spreadsheet that converts miles to km.

	Collecting, analysing, evaluating and presenting data and information				I can apply this to creating a spreadsheet that converts km to miles.
Year 5/6	**Revolution** Design, write and debug programs Use sequence, selection and repetition	**Spring 1** **Week 1**	To use a sketch or storyboard to represent a program design and algorithm.	I know the meaning of previously taught coding vocabulary.	I can complete a coding vocabulary quiz. I can use a storyboard to represent an algorithm. I can use sketching to create a program. I can create code to meet my design.
	Revolution Design, write and debug programs Use sequence, selection and repetition	**Spring 1** **Week 2**	To design and write a program that simulates a physical system.	I know the meaning of 'decomposition'. I know the meaning of 'abstraction'.	I can explain how my program simulates a physical system. I can select the relevant features of a situation by using decomposition and abstraction. I can reflect on the effectiveness of my work.
	Revolution Design, write and debug programs	**Spring 1** **Week 3**	To explore text variables.	I know what a 'variable' is in coding. I know some ways that text variables can be used in coding.	I can explain what a variable is in programming. I can set/change the variable values appropriately.

	Use sequence, selection and repetition				
Year 5/6	Revolution Design, write and debug programs Use logical reasoning	Spring 2 Week 1	To create a playable, competitive game.	I know how to read code so that it can be adapted, personalised and improved. I know how to use a combination of variables, if/else statements and repeats.	I can create a fame which has a timer and score pad. I can use variables to control the objects in the game. I can create loops using the timer and if/else statements.
	Revolution Design, write and debug programs Use logical reasoning	Spring 2 Week 2			
	Revolution Design, write and debug programs Use logical reasoning	Spring 2 Week 3	To create a program to inform others about staying safe online.	I understand how my coding knowledge can be used to create a program that launches activities. I know how to use the launch command.	I can include buttons and objects that launch windows to websites and programs. I can code a programme that informs others.

Year 5/6	**Pharaohs** **Use sequence, selection and repetition**	**Summer 1** **Week 1**	To find plan a story-based text adventure.	I know that a text adventure uses text instead of graphics. I know that text adventures were played before graphic-based games.	I can describe what a text adventure is. I can map out a story-based text adventure. I can use 2Connect to record my ideas.
	Pharaohs **Use sequence, selection and repetition**	**Summer 1** **Week 2**	To use plans to create a story-based text adventure.	I know how to transfer my plan to code. I know to use previously created programs to help me design my own.	I can create, test and debug. I can split my adventure-game design into sections.
	Pharaohs **Use sequence, selection and repetition**	**Summer 1** **Week 3**			
Year 5/6	**Scream Machine** **Select, use and combine a variety of software**	**Summer 2** **Week 1**	To begin designing my own game.	I know the elements that make a successful game.	I can review and analyse a computer game. I can describe some of the elements that make a successful game. I can begin the process of designing my own game.
	Scream Machine **Select, use and combine a variety of software**	**Summer 2** **Week 2**	To create the game environment.	I know the theme for my game. I know what I want the setting to look like. I know how to use my design plan effectively.	I can design the setting for my game so that it fits with the selected theme. I can upload images or use the drawing tools to create the walls, floor and roof.

	Scream Machine **Select, use and combine a variety of software**	**Summer 2** **Week 3**	To create the game quest.	I know how to make my game 'playable'.	I can design characters for my game. I can decide upon, and change, the animations and sounds that the characters make.