Curriculum Intent Statement for:

'At Kingsway Primary School, we aim to prepare our children for a rapidly changing world where work and leisure activities are increasingly transformed by technology. Through the study of computing and online safety, we want our children to acquire the knowledge and skills that enable them to become creative and autonomous within a digital world that extends beyond our school gates. We will deliver a robust, accessible curriculum from which children use 'computational thinking' to create a range of content and become responsible digital citizens.'

Year		
	Knowledge	**Skills**
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Year 1	**Online Safety (4 weeks)** To know how to log in safely. To know the icons and types of resources available in the Topics section. To understand the importance of logging out	**Digital Literacy** Children can log in to Purple Mash using their own login. Children have created their own avatar and understand why they are used. Children can add their name to a picture they created on the computer. Children can search Purple Mash to find resources. Children can save work into the My Work folder in Purple Mash and understand that this is a private saving space just for their work.
	Grouping and Sorting (2 weeks) To sort items on the computer using the 'Grouping' activities in Purple Mash. To know that data can be represented in picture format	**Computer Science** Children can sort items using a range of criteria. Children can use Purple Mash to sort various items online.
	Pictograms (3 weeks) To know how to use illustrations to create a simple pictogram To know how to represent results as a pictogram.	**Information Technology** Children can contribute to the collection of class data. Children can represent results as a pictogram. Children can discuss what the pictogram shows.
	Lego Builders (3 weeks) To know how to follow and create simple instructions on the computer. To know how the order of instructions affects the result. To consider how the order of instructions affects the result.	**Computer Science** Children can follow instructions in a computer program. Children can explain the effect of carrying out a task with no instructions. Children can organise instructions for a simple purpose.
	Maze Explorers (3 weeks) To know how to use the direction keys to move a character. To know how to undo their last move. To know how to move their character back to the starting point.	**Computer Science** Children can use the basic direction keys to move the characters Children can use diagonal direction keys to move the characters. Children can use the additional direction keys to create a new algorithm. Children can change the background images in their chosen challenge and save their new challenge.

	Animated Story Books (5 weeks) To know the difference between a traditional book and an e-book To know how to enhance the features of a story book	**Information Technology** Children can use the different drawing tools to create a picture on the page. Children can add text to a page and change the colour, font and size of the text. Children can add an animation to their picture. Children can add a sound to the page. Children can add a background to the page
	Coding (6 weeks) To know what coding means in computing. To know that for the computer to make something happen, it needs to follow clear instructions. To know the save, print, open and new icon.	**Computer Science** Children can explain what a block of code is. Children can design a simple program and then create the program using 2Code. Children can program a character to move given a variety of input events. Children can use collision detection to make objects interact. Children can program a sound to play when objects collide.
	Spreadsheets (3 weeks) To know what a spreadsheet program looks like. To know how to enter data into spreadsheet cells.	**Information Technology** Children can enter data into cells. Children can open the Image toolbox and find and add clipart Children can use the 'move cell' tool so that images can be dragged around the spreadsheet. Children can use the 'lock' tool to prevent changes to cells. Children can give images a value that the spreadsheet can use to count them.
	Technology Outside School (2 weeks) To know examples of where technology is used in the local community. To know how technology makes our lives easier.	**Digital Literacy** Children can explain what is meant by 'technology'. Children can record examples of where technology is used away from school.
Year 2	**Coding (5 weeks)** To understand what an algorithm is. To know what debugging is and debug programs. **Revisit prior learning (from Y1)** To know what coding means in computing. To know that for the computer to make something happen, it needs to follow clear instructions.	**Computer Science** Children can describe the algorithms they created. Children can include a button in their programs. Children can debug simple programs. Children can plan and use algorithms in programs successfully to achieve the desired a result. Children can code a program using a variety of objects, actions, events and outputs successfully. **Revisit prior learning (from Y1)** Children can design a simple program and then create the program using 2Code.
	Online Safety (3 weeks) To know how to refine searches using the Search tool. To have some knowledge and understanding about sharing more globally on the Internet. To understand how we should talk to others in an online situation. To understand that information put online leaves a digital footprint or trail. To know the steps that can be taken to keep personal data and hardware secure.	**Digital Literacy** Children can use the search facility to refine searches on Purple Mash by year group and subject. Children can share the work they have created to a display board. Children can open and send an email to a virtual character. Children can give examples of things that they wouldn't want to be in their digital footprint.
	Spreadsheets (5 weeks) To know what rows and columns are in a spreadsheet To know how to copy and paste in 2Calculate. To learn about data handling tools that can give more information than pictograms	**Information Technology** Children can use copying and pasting to help make spreadsheets. Children can use tools in a spreadsheet to automatically total rows and columns. Children can use a spreadsheet to solve a mathematical puzzle.

		Children can create a table of data on a spreadsheet. Children can use the data to create a block graph manually.
	Revisit prior learning (from Y1) To know what a spreadsheet program looks like. To know how to enter data into spreadsheet cells.	**Revisit prior learning (from Y1)** Children can enter data into cells. Children can give images a value that the spreadsheet can use to count them.
	Questioning (5 weeks) To know that the information on pictograms cannot be used to answer more complicated questions. To know what is meant by a binary tree and that questions are limited to yes and no. To know what is meant by a database.	**Computer Science** Children can use a range of yes/no questions to separate different items. Children can design a binary tree to sort pictures Children use a database to answer simple and more complex search questions
	Effective Searching (3 weeks) To know the meaning of key internet terms. To know the basic parts of a web search engine search page. To know how to read a web search results page.	**Digital Literacy** Children can search for answers to a quiz on the Internet. Children can create a leaflet to consolidate their knowledge of effective Internet searching
	Creating Pictures (5 weeks) To know that art can be developed electronically using a program . To know how to combine more than one effect to enhance a piece of work.	**Information Technology** Children can use 2Paint a Picture to create their own art. Children can use 2Paint a Picture to create their own art by repeating patterns in a variety of ways. Children can use the eCollage function in 2Paint a Picture to create their own art using drawing and clipart.
	Making Music (3 weeks) To know how to edit and refine composed music using 2sequence. To know how to speed up and slow down tunes. To know what happens to the music when sounds are moved.	**Information Technology** Children use different sounds to create a tune. Children can change the volume of background sounds. Children can create their own tune using their own recorded sound.
	Presenting ideas (4 weeks) To know that digital content can be represented in many forms. To know that data can be structured in tables to make it useful.	**Information Technology** Children can use a variety of software to manipulate and present digital content and information. Children can collect, organise and present data and information in digital content. Children can create digital content to achieve a given goal by combining software packages**.**
Year 3	**Coding (6 weeks)** To know how to design an algorithm that represents a physical system, and code this representation. To know what Object, Action, Output, Control and Event are in computer programming. To understand and use variables in 2Code. To understand the difference between timers and repeat commands.	**Computer Science** Children can create a design that represents a sequential algorithm. Children can use a flowchart design to create the code. Children can use a timer and if statement to introduce selection in their program. Children can set/change the variable values appropriately to create a timer. Children can show how their character repeats an action.
	Revisit prior learning (from Year 2) Children know what an algorithm is Children can explain what debug (debugging) means.	**Revisit prior learning (from Year 2)** Children can design a simple algorithm. Children debug simple programs.

	Online Safety (3 weeks) To know what makes a safe password. To understand how the Internet can be used in effective communication. To consider the truth of the content of websites. To know the meaning of age restrictions symbols on digital media and devices. To relate cyberbullying to bullying in the real-world and have strategies for dealing with online bullying including screenshot and reporting.	**Digital Literacy** Children can contribute to a concept map of all the different ways they know that the Internet can help us to communicate. Children can contribute to a class blog with clear and appropriate messages. Children can accessed and assess a 'spoof' website. Children can create their own 'spoof' webpage mock-up. Children can identify some physical and emotional effects of playing/watching inappropriate content/games.
	Spreadsheets (3 weeks) To know how to collect data and produce a variety of graphs. To know how to describe a cell location using the notation of a letter for the column and number for the row. **Revisit prior learning (from Year 2)** To know what rows and columns are in a spreadsheet	**Information Technology** Children can use a spreadsheet program to automatically create charts and graphs from data. Children can use the 'more than', 'less than' and 'equals' tools to compare different numbers and help to work out solutions to sums. Children can use the 'spin' tool to count through times tables **Revisit prior learning (from Year 2)** Children can create a table of data on a spreadsheet.
	Touch Typing (4 weeks) To know the correct way to sit at the keyboard. To know what is meant by – top row, home row, bottom row and space bar.	**Information Technology** Children can use two hands to type the letters on the keyboard. Children can type full words using the correct fingering. Children can type a series of words with speed and accuracy.
	Email (6 weeks) To know how to use email safely. To know how to add an attachment to an email. Children know what CC means and how to use it.	**Information Technology** Children can open an email and respond to it. Children can send emails to other children in the class. Children can attach work to an email. Children can read and respond to a series of email communication.
	Branching Databases (4 weeks) To know how Yes/No questions are structured and answered. To know how to use and debug their own branching database.	**Computer Science** Children can use YES/NO questioning to play a simple game Children can choose a suitable topic for a branching database. Children can select and save appropriate images. Children can create a branching database.
	Graphical Modelling (2 weeks) To know how to set up a graph with a given number of fields. To know how to enter data into a graph and answer questions.	**Information Technology** Children can enter data for a graph. Children can produce and share graphs made on the computer. Children can present the results in a range of graphical formats.
Year 4	**Coding (6 weeks)** To know and use computational thinking terms decomposition and abstraction. To recognise the need to start coding at a basic level of abstraction to remove superfluous details from their program that do not contribute to the aim of the task.	**Computer Science** Children can create code that conforms to their design. Children can show how a character repeats an action and explain how they caused it to do so. Children can make a character respond to user keyboard input. Children can create a timer that prints a new number to the screen every second.

		Children can manipulate graphics in the design view to achieve the desired look for the program. Children can use an algorithm when making a simulation of an event on the computer.
	Revisit prior learning (from Year 3) To understand and use variables in 2Code.	**Revisit prior learning (from Year 3)** Children can set/change the variable values appropriately to create a timer.
	Online Safety (4 weeks) To understand how children can protect themselves from online identity theft. To understand that information put online leaves a digital footprint or trail and that this can aid identity theft. To know that malware is software that is specifically designed to disrupt, damage, or gain access to a computer. 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 know the positive and negative influences of technology on health and the environment.	**Digital Literacy** Children can give examples of things that they wouldn't want to be in their digital footprint. Children can identify possible risks of installing free and paid for software. Children can determine whether activities that they undertake online, infringe another's' copyright. Children can give reasons for limiting screen time
	Spreadsheets (5 weeks) To know how to use the number formatting tools to appropriately format numbers. To know how to format cells as currency, percentage, decimal to different decimal places or fraction. **Revisit prior learning (from Year 3)** To know how to describe a cell location using the notation of a letter for the column and number for the row.	**Information Technology** Children can add a formula to a cell to automatically make a calculation in that cell Children can use a series of data in a spreadsheet to create a line graph Children can allocate values to images and use these to explore place value. **Revisit prior learning (from Year 3)** Children can use the 'more than', 'less than' and 'equals' tools to compare different numbers and help to work out solutions to sums.
	Writing for different audiences (5 weeks) To know how to use a variety of written material where the font size and type are tailored to the purpose of the text. To know how to use text formatting to make a piece of writing fit for its audience and purpose	**Information Technology** Children can interpret a variety of incoming communications and use these to build up the details of a story Children can use 2Connect to mind-map ideas Children can assess their texts using criteria to judge their suitability for the intended audience.
	Logo (4 weeks) To know the structure of the coding language of Logo. To know how to input simple instructions in Logo.	**Computer Science** Children can follow simple Logo instructions to create shapes. Children can create Logo instructions to draw letters of increasing complexity. Children can create shapes using the Repeat function. Children can use the Build feature.
	Animation (3 weeks) To know what an animation frame is. To know what the Onion Skin tool does in animation. To know what 'stop motion' animation is and how it is created. To know how to make more complex and imaginative animations.	**Information Technology** Children can make a simple animation using 2Animate. Children can use the Onion Skin tool to create an animated image. Children can use backgrounds and sounds in their animation. Children can use ideas from existing 'stop motion' films to recreate their own animation

	Effective Searching (3 weeks) To know how to use search effectively to find out information. To know whether an information source is true and reliable.	**Information Technology** Children can structure search queries to locate specific information. Children can analyse the contents of a web page for clues about the credibility of the information.
	Hardware Investigators (2 weeks) To know the different parts that make up a computer To know what the function of different parts of a computer are.	**Computer Science** Children can label the different parts of a desktop computer.
Year 5	**Coding (6 weeks)** To know how to represent a program design and algorithm. To know how to create a program that simulates a physical system using decomposition. To know how to string and text variable types so that the most appropriate can be used in programs. **Revisit prior learning (from Year 3 and 4)** To understand and use variables in 2Code. To know and use computational thinking terms decomposition and abstraction.	**Computer Science** Children can select the relevant features of a situation to incorporate into their simulation by using decomposition and abstraction. Children can reflect upon the effectiveness of their simulation. Children can create loops using the timer and If/else statements. Children can include buttons and objects that launch windows to websites and programs **Revisit prior learning (from Year 3 and 4)** Children can set/change the variable values appropriately. Children can use an algorithm when making a simulation of an event on the computer.
	Online Safety (3 weeks) 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 know how to reference sources in their work	**Digital Literacy** Children can use the SMART rules as a source of guidance when online. Children can see how they can use images and digital technology to create effects not possible without technology. Children select keywords and search techniques to find relevant information and increase reliability
	Spreadsheets (5 weeks) To know how to use the formula wizard to add a formula to a cell to automatically make a calculation in that cell. **Revisit prior learning (from Year 3 and 4)** To know how to use the number formatting tools to appropriately format numbers. To know how to format cells as currency, percentage, decimal to different decimal places or fraction.	**Information Technology** Children can use a spreadsheet to work out which letters appear most often. Children can use the 'how many' tool. Children can create simple formulae that use different variables. Children can create a formula that will work out how many days there are in x number of weeks or years. **Revisit prior learning (from Year 3 and 4)** Children can add a formula to a cell to automatically make a calculation in that cell
	Databases (4 weeks) To know how to search for information in a database. To know how to create a database around a chosen topic. To know what a database field is and can correctly add field information. To know how to word questions so that they can be effectively answered using a search of their database.	**Information Technology** Children can search a database in order to answer questions correctly. Children can create their own database on a chosen topic. Children can add records to their database.

	Revisit prior learning (from Year 3) To know how to use and debug their own branching database.	**Revisit prior learning (from Year 3)** Children can create a branching database.
	Game Creator (5 weeks) To know some of the elements that make a successful game. To know how to make a game more unique by selecting the appropriate options to maximise the playability	**Computer Science** Children can review and analyse a computer game. Children can upload images or use the drawing tools to create the walls, floor and roof. Children can decide upon, and change, the animations and sounds that the characters make Children can write informative instructions for their game so that other people can play it
	Modelling (4 weeks) To know what the 2Design and Make tool is for. To know about the possibilities of 3D printing.	**Computer Science** Children can explore the different viewpoints in 2Design and Make whilst designing a building. Children can explore how to edit the polygon 3D models to design a 3D model for a purpose. Children can refine one of their designs to prepare it for printing. Children can print their design as a 2D net and then created a 3D model.
	Concept Maps (4 weeks) To know the correct vocabulary when creating a concept map. To know how a concept map can be used to retell stories and present information.	**Information Technology** Children can see the importance of recording concept maps visually. Children understand what is meant by 'concept maps', 'stage', 'nodes' and 'connections'. Children can create a basic concept map. Children can use Presentation Mode to present their concept maps to an audience.
Year 6	**Coding (6 weeks)** To know what functions are and how they can be created and labelled in 2Code. To know how to move code from one tab to another in 2Code. To know how organise code in a program into functions to make it easier to read. **Revisit prior learning (from Y3, 4 and 5)** To know how to string and text variable types so that the most appropriate can be used in programs. To understand and use variables in 2Code. To know and use computational thinking terms decomposition and abstraction.	**Computer Science** Children can plan a program before coding to anticipate the variables that will be required to achieve the desired effect. Children can describe coding using the appropriate terms. Children can include buttons that launch other programs, including their own. Children can follow through the code of how a text adventure can be programmed in 2Code. **Revisit prior learning (from Y3, 4 and 5)** Children can include buttons and objects that launch windows to websites and programs Children can set/change the variable values appropriately. Children can use an algorithm when making a simulation of an event on the computer.
	Online Safety (3 weeks) To know the benefits and risks of mobile devices broadcasting the location of the user/device. To know how to identify secure sites as well as the benefits and risks of giving personal information. To know about the consequences of promoting inappropriate content online and how to put a stop to such behaviour when they experience it or witness it as a bystander. To know the importance of balancing game and screen time with other parts of their lives. To know the positive and negative influences of technology on health and the environment.	**Digital Literacy** Children can take more informed ownership of the way that they choose to use their free time. They recognise a need to find a balance between being active and digital activities. Children can give reasons for limiting screen time. Children can talk about the positives and negative aspects of technology and balance these opposing views.

	Spreadsheets (5 weeks) To know how to use copy and paste shortcuts To know how to make practical use of a spreadsheet to plan actions **Revisit prior learning (from Y4 and 5)** To know how to use the formula wizard to add a formula to a cell to automatically make a calculation in that cell.	**Information Technology** Children can problem solve using the count tool. Children can use a spreadsheet to solve a problem. Children can use a spreadsheet to model a real-life situation and come up with solutions that can be applied to real life. **Revisit prior learning (from Y4 and 5)** Children can create simple formulae that use different variables. Children can create a formula that will work out how many days there are in x number of weeks or years. Children can add a formula to a cell to automatically make a calculation in that cell
	Blogging (5 weeks) To know the purpose of writing a blog and its key features. To know the effect upon the audience of changing the visual properties of the blog. To know how to contribute to an existing blog. To understand the approval process that their posts go through	**Information Technology** Children can create a blog with a specific purpose. Children can post comments and blog posts to an existing class blog. Children can comment on and respond to other blogs. Children can assess the effectiveness and impact of a blog.
	Text Adventures (4 weeks) To know how to use 2Connect to record their ideas. To know how to use the full functionality of 2Create a Story Adventure mode to create, test and debug using their plan.	**Computer Science** Children can map out an existing text adventure. Children can contrast a map-based game with a sequential story-based game. Children can create their own text-based adventure based upon a map. Children can use coding concepts of functions, two-way selection (if/else statements) and repetition in conjunction with one another to code their game.
	Networks (3 weeks) To know the difference between the World Wide Web and the internet. To know about their school network. To know some of the major changes in technology which have taken place during their lifetime and the lifetime of their teacher/another adult.	**Digital Literacy** Children can present how the Internet is accessed in school and what it consists of. Children debate what the future might hold. Children define what the terms binary and denary mean
	Quizzing (6 weeks) Know how to use 2DIY to create a picture based quiz. Children know how to consider the audience's ability level and interests when setting the quiz. Children know how to develop a quiz type based on a curriculum area.	**Information Technology** Children can use 2Quiz to make and share a science quiz Children can choose an appropriate Text Toolkit tool to make their own grammar game. Children can design their own quiz based on one of the 2Investigate example databases Children can share their quiz with peers.