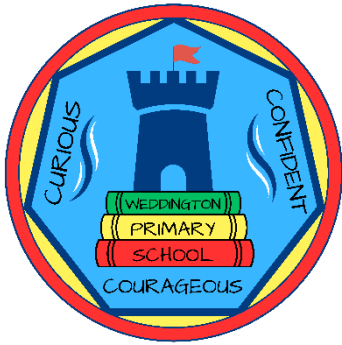
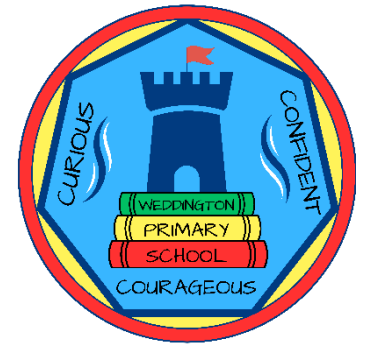




Computing Skills Progression



Computer Science - Foundation Stage

Year Group	National Curriculum Objective	Skills gained	Programs / Resources
FS	Children recognize that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	I can follow simple oral algorithms, spot patterns, and sequence familiar tasks, as well as use a mouse, touchscreen or other device to select on-screen options, and input simple sequences of commands (e.g. using a Bee-Bot) with support.	- Integrated in to classroom activities - Bee Bots - Chromebooks

Computer Science - Key Stage 1

Year Group	National Curriculum Objective	Skills gained	Programs / Resources
1	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs.	Creating and Following Instructions - I can follow and test simple instructions as part of developing logical thinking, including carefully following instructions on and off a device, sequencing steps (e.g. a recipe), and checking whether instructions work as expected. Coding - I can create and understand simple programs, including giving and following instructions, representing instructions with symbols, arranging code blocks, identifying objects and actions, creating programs in 2Code using object, action, event and output blocks, reading code to understand what it does and in what order, setting up and editing in Design view (adding, deleting and moving objects), changing object properties (e.g. scale), and planning and creating code for a program.	- Unplugged activities - Paint Project 2Quiz 2Code
2	- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions - Create and debug simple programs - Use logical reasoning to predict the behaviour of simple programs.	Route Explorers - I can use direction keys and distances to plan and create routes in 2Go, combining steps to move a character along a chosen path. I can think ahead to plan more than one step, write simple algorithms, and test and debug my code to improve it. Coding - I can design, create, modify and debug programs in 2Code by following algorithms and using a program design. I can build programs with sequences of actions, timers, buttons and different object types, including using collision detection and click events. I can change object attributes, test my program using a design document, and improve it to ensure it works as expected.	2Code 2Go



Computer Science - Key Stage 2

Year Group	National Curriculum Objective	Skills gained	Programs / Resources
3	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Coding - I can design, create, test and debug programs by using flowcharts and design documentation to plan both the algorithm and the appearance of a program. I can use timer-after and timer-every commands, repeat commands and understand how the turtle object moves. I can write programs that include nested code, run and test them, and make sensible improvements by debugging, using my design documents to guide my coding. Micro: bits - I can create, test and run programs for a micro:bit by writing code that controls outputs such as the LED display and sound. I can transfer my code to the micro:bit and use sequences, images, timers and loops to create animations. I can program the micro:bit to respond to different inputs, including buttons and movement using the accelerometer, and create outputs such as images, sounds and music.	2Code - Free Code Micro:bit
4	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Unpacking Hardware & Software - I can identify and describe different types of technology and explain how they help us. I can name and describe parts of a computer system, including internal components and external peripherals, and group hardware as input, output or storage. I can identify different types of software and explain how they are used to complete tasks. I can explain how hardware and software work together, describe simple processes, and identify what might happen if part of a system does not work. Logo - I can use Logo commands to create on-screen shapes and make predictions about what my program will produce. I can use PU (pen up) and PD (pen down) commands, and multi-line mode to write and organise instructions, including drawing letters. I can use the repeat command to create patterns and shapes, and change line colours. I can write and use procedures to organise and reuse my code.. Coding - I can design and create my own game in 2Code by planning an algorithm and using the design view with backgrounds and different object types. I can write programs that include selection using 'if' and 'if/else' statements, and use coordinates (X and Y attributes) to control objects. I can use looping structures such as 'Repeat' and 'Repeat Until', and create and use variables and tags, including building a scoring system and using random controls to introduce chance into my game. Micro: bits - I can create programs for a micro:bit that simulate real-world tools, such as a step counter and a dice, by using variables, inputs and outputs. I can use the accelerometer to detect movement and track steps, and combine this with variables to count and display results. I can use sensors (such as light levels) with 'if' and 'if/else' statements and a 'repeat forever' loop to control outputs. I can generate random numbers and use conditions to display different images, combining gestures, variables and selection to create simulations.	2Code - Free Code Micro:bit 2Quiz 2Publish 2Connect - Logo



Computer Science

5	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Micro: bits - I can create programs for a micro:bit using variables, events and selection to produce meaningful outputs. I can generate and update random number variables when events occur, and combine these with 'if' statements to create logic and decision-making, including displaying customised images and simulating a magic 8 ball. I can use the temperature sensor to display and respond to temperature changes, and control my program using sleep and repeat commands. I can create programs where variables update based on events, including combining inputs, variables and text outputs to create displays such as a goal counter, and connect the micro:bit to a circuit to record data. Coding - I can review and simplify my code to make it more efficient, using techniques such as abstraction and decomposition to remove unnecessary detail and break problems into manageable steps. I can plan algorithms, such as modelling a traffic light simulation, and use these to create programs in 2Code. I can use functions and attributes (such as friction) to improve my programs, and select and use appropriate variable types (number and string). I can read, understand and debug programs logically, including those that use functions, variables and different data types.	2Code - Free Code Micro:bit 2Chart
6	- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. - Use sequence, selection and repetition in programs; work with variables and various forms of input and output. - Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	Micro: bits - I can create programs for a micro:bit that use pin inputs to trigger outputs, including using 'when pin' events, sleep commands for timing, and variables to keep track of results such as the number of conductors identified. I can set up the micro:bit to collect data using sensors, including step count, temperature and light levels. I can transfer this data into graphing software (such as 2Graph), and use it to present, analyse and compare results, including investigating how materials conduct electricity or allow light to pass through them. Coding - I can create interactive programs by cloning objects and writing code for them to move independently, and by using attributes such as draggable to make programs user-friendly. I can use hotspots to control how objects respond when they enter or leave specific areas, and combine these with other coding structures to create creative programs. I can use user input to set variable values, anticipate and prevent errors, and step through code to understand how it works. I can follow and create flowcharts to build and debug programs, design user interfaces, and use these to develop simulations with visual effects. I can read, adapt and improve a text-based adventure program to reflect my own ideas. Binary - I can explain and work with binary numbers by recognising patterns in sequences of bits, counting in binary, and converting between decimal and binary using methods such as division by two. I can check my answers using tools, and apply my understanding by using variables set to 0 or 1 within programs to control outcomes, including designing my own program that uses binary states.	2Code - Free Code Micro:bit 2Chart 2Graph 2Connect 2Quiz



Information Technology - Foundation Stage

Year Group	National Curriculum Objective	Skills gained	Programs / Resources
FS	Children recognize that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	I can use a range of digital devices and tools to create, record and present content, including playing touchscreen games and using devices in role play, typing letters, dictating short sentences, identifying charts, sorting and photographing objects and discussing outcomes, presenting and inputting simple data (including creating sorting diagrams, feelings charts and beginning to use spreadsheets), creating digital content (collages, images, animations and simple stories with multiple characters), recording and using media (photos, films and audio), understanding the difference between photography and video, using images within apps, exploring painting tools, scanning QR codes, exploring 360 images and AR objects, and experimenting with recording and changing sounds and voices for storytelling and explanations.	- Chromebooks - Mini Mash 2Paint - Mashcams 2Count 2Do It Yourself 2Explore 2Go - iPads/ Tablets - Physical sorting activities - Voice recorders - Google Docs - Google Sheets - Twinkl AR - YouTube - Google image search - Cameras



Information Technology - Key Stage 1

Year Group	National Curriculum Objective	Skills gained	Programs/ Resources
1	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common uses of information technology beyond school. - 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.	Introduction to Purple Mash - I can use Purple Mash to create and manage work, including logging in, creating an avatar, opening tools (e.g. Paint), saving work, accessing it in 'My Work', and opening, saving and handing in 2Dos. Data Explorers - I can group, sort and use data, including grouping items in different ways and explaining my choices, using criteria to group and sort (with and without a computer), exploring grouping and sorting to collect data, collecting data from experiments, creating pictograms (e.g. from class data), and using them to answer questions. Creative Computing - I can use creative digital tools to design and make content, including choosing colours and tools, controlling a mouse or touchscreen, using drag and drop, creating and playing 2DIY games (e.g. jigsaws and placing games), and planning and making games using my own images. Making Beats - I can create and edit digital music, including using 2Explore, identifying instruments that create beat and melody, layering sounds, choosing instruments for a purpose, combining beats, and adjusting tempo and volume (including for individual sounds) to suit a scene.	- Avatar Creator - Paint Projects 2Paint 2DIY - Puzzle 2DIY - Drag 2DIY - Multi Drag 2DIY - Unplugged Activities 2Quiz 2Count 2Explore 2Beat
2	- Use technology purposefully to create, organise, store, manipulate and retrieve digital content. - Recognise common uses of information technology beyond school. - 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.	The Internet - I can use websites, browsers and search engines to find information online safely and effectively. I can navigate websites and webpages to answer questions, including using my school website, and choose appropriate searches to find information. I can apply my understanding of how the internet works to help me search for and select useful information. Questioning - I can ask and create clear questions to collect data, record responses using tally charts, and present data digitally, including using pictograms. I can use 'Yes' or 'No' questions to sort and narrow down information, and follow and use a branching database (such as 2Question) to identify objects. Spreadsheets - I can enter, organise and format data in a spreadsheet, including adjusting rows, columns, text and colour to make it clear and easy to understand. I can use spreadsheet tools to carry out simple calculations, including using images and apparatus with assigned values, and check my answers using tools such as 'equals', 'quiz' and 'count'. I can identify and fix problems in a spreadsheet, and create and interpret block diagrams to present my data. Presenting Ideas - I can create and develop a concept map by adding a title and ideas, connecting them with lines, and organising them clearly. I can add further detail by creating additional layers of ideas, using colour to organise nodes, and grouping related ideas together. I can check that my concept map is clear and all ideas are linked, and I can present and discuss my ideas while listening to others. Creating Pictures - I can use a digital art tool to create artwork in different styles, including impressionism, pointillism and the style of Piet Mondrian. I can use digital tools to create colours, textures and outlines, and to fill closed spaces. I can combine effects to create patterns, and change the size and arrangement of these patterns. I can also import my artwork into a digital portfolio and present it with appropriate information.	2Publish 2Quiz 2Paint a Picture - Writing Templates 2Calculate 2Count 2Graph 2Question



Information Technology - Key Stage 2

Year Group	National Curriculum Objective	Skills gained	Programs/Resources
3	- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - 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. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Touch Typing - I can sit at a keyboard with the correct posture and use the correct finger positioning, placing my fingers on the home keys and returning them after typing. I can use both hands correctly for different letters, type numbers accurately, and use the shift key with one hand while typing with the other to create capital letters and symbols. I can type words and sentences using correct spacing, capital letters and punctuation, including full stops, commas and question marks. Spreadsheets - I can organise and manage spreadsheets by adding, renaming and arranging sheets, and inserting or deleting rows and columns. I can merge cells and use tools such as copy and total to work efficiently across rows, columns and diagonals. I can use the formula wizard in both simple and advanced modes to apply calculations, including add, subtract, multiply, divide, SUM, AVERAGE, MIN and MAX, to ranges of data. I can choose appropriate formulae and functions to solve real-life problems, present my spreadsheet clearly, and explain how I reached my answer. Presentations - I can create, save and develop a presentation using PowerPoint (or similar software) by adding and formatting text, WordArt, shapes and images. I can design slides by choosing layouts, adding new slides, and applying consistent designs. I can enhance my presentation by adding animations and transitions, and use slide notes to support my delivery. I can create an engaging slideshow and present it confidently to an audience.	2Question 2Calculate - Microsoft PowerPoint 2Type
4	- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - 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. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Introduction to AI - I can identify and explain different tasks that Artificial Intelligence can perform, and write clear, specific prompts to communicate effectively with AI tools. I can improve my prompts based on the responses I receive, and make responsible choices when using AI by applying my understanding of digital citizenship. I can also reflect on how AI might be used in the future and how it can be used fairly and helpfully. Sound Stories - I can work as part of a team to plan, script, record and edit an audiobook. I can help write a script that includes narration, dialogue and sound effect cues, and take on a role within a group. I can use my voice clearly and expressively when recording using tools such as 2Cast, and select and add appropriate sound effects and music. I can use software tools to edit audio, remove mistakes, organise recordings to match the story, and review and improve our final audiobook.	2Cast



Information Technology

5	- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - 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. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Databases - I can design, create and organise databases to store information effectively, including creating and editing records. I can use database features to search for and find information, and build queries using a range of operators to filter results. I can link multiple tables together and use these in queries, and use tools such as reports to present meaningful information to help solve problems. Word Processing - I can create, edit and format documents in Microsoft Word by opening and saving files, and changing font, size and style. I can select and edit text accurately, and use tools such as cut, copy and paste, bullet points and numbering. I can adjust page layout by changing margins, orientation, alignment and using headings with styles. I can insert, resize and position images using text wrapping, and create and format tables by adding and deleting rows and columns. I can structure a clear document using headings, text, images and tables, and use spelling and grammar tools to check my work. Quizzing - I can design, create, test and improve an interactive quiz using 2Quiz. I can select appropriate question types, create questions linked to a theme, and enhance my quiz with features such as title screens and content screens. I can plan and organise my quiz layout logically, use settings to finalise it, and test, debug and edit it to improve quality. I can share my quiz, evaluate how effective it is, and give constructive feedback to others. Spreadsheets - I can enter and organise data accurately in a spreadsheet and use a range of formulae to perform calculations efficiently, including conversions using multiplication and division. I can create and label line graphs to represent continuous data, and use charts to identify trends, analyse weather data and make predictions. I can use spreadsheets to solve real-life problems, such as budgeting by calculating totals, profit and loss, and planning a holiday by extracting information and calculating costs. I can design, format and present spreadsheets clearly so that my results are easy to understand.	2Quiz 2Investigate 2Calculate - MS Word
6	- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. - Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. - 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. - Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	Blogging - I can plan, create and publish a blog post by working collaboratively to choose a theme, organise ideas and structure my writing to engage an audience. I can contribute to drafting, revising and editing a blog post, considering how design and writing style affect the reader. I can post and comment on blogs respectfully, giving positive and useful feedback, and follow appropriate processes when publishing. Networks - I can identify and describe different types of computer networks and explain how devices connect and communicate with each other. I can explain how the internet works, including how it supports communication and collaboration, and recognise different ways to communicate online. I can consider the benefits and risks of online communication, and discuss how access to the internet is controlled, including understanding concepts such as censorship and its impact. Data Detectives - I can use database tools to find and interpret information by applying filter rules, sorting data, and identifying what information is being requested. I can group data and apply calculations, and use these to display information in graphs. I can create more complex queries using filter, sort, calculate and group functions, and link multiple tables together to answer questions accurately. Spreadsheets - I can create and format spreadsheets by identifying cells, rows and columns, and entering and editing data accurately. I can use functions such as SUM, AVERAGE, MAX and MIN, and select appropriate functions to complete tasks. I can create and format bar, pie and line charts with clear titles and labels. I can sort and filter data to find specific information, and use advanced functions such as COUNT, COUNTA, COUNTIF and IF to analyse data and answer questions. I can identify errors, use formulae effectively, and present a clear, well-organised spreadsheet.	2Quiz 2Connect 2Blog - Data Detectives - MS Excel



Digital Literacy

Year Group	National Curriculum Objective	Skills gained	Programs / Resources
FS	Children recognize that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.	I can use technology safely and respectfully, including recognising that I can say 'no', 'please stop', 'I'll tell' or 'I'll ask' if something makes me feel uncomfortable (online or offline), understanding ways the internet is used for communication and how I might use it, identifying how information can be shared online, recognising unkind behaviour online and how it can affect others, following rules to stay safe and healthy when using technology, identifying personal information (e.g. name, address, birthday, age, location) and who I can trust to share it with, and understanding that the work I create belongs to me and can be named to show ownership.	- Project Evolve - Stories such as: - DigiDuck - Smartie the Penguin - Twinkl stories - Practical classroom activities - Purple Mash - Kapow PSHE

Digital Literacy -

Vocabulary will vary according to learning needs identified by Project Evolve knowledge mapping.

Year Group	National Curriculum Objective	Skills gained	Programs / Resources
1	- Recognise common uses of information technology beyond school. - Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	Technology Around Us - I can identify and describe technology in the world around me, including recognising examples in the classroom and wider environment, distinguishing digital technology, explaining why technology is invented, naming parts of computing devices, and using technology safely and respectfully. - I can type simple words to help me search and talk about how I found things. I can choose information that helps me and begin to understand that some things online might not be true. I can use technology to help me learn in different subjects, including simple coding and multimedia like animations. I can use a simple password and know that I should keep it private. I can use technology in a kind and respectful way and tell a trusted adult if I see or hear something online that makes me feel worried or unsure.	- Purple Mash work folders - Examples of everyday objects - Project Evolve - Online safety stories - Online safety cartoons - Kapow PSHE 2Quiz -using quizzes - Writing template (2Publish)
2	- Recognise common uses of information technology beyond school. - Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	I can use a range of child-friendly search engines (such as Kiddle and Swiggle) to find purposeful information, choose effective search terms, and share strategies for searching. I can evaluate whether information is relevant and trustworthy, and use technology to support my learning across the curriculum, including linking it to coding and multimedia such as animations and interactive programs. I can create and use strong passwords, keep them secure, and use technology in a responsible and respectful way, including knowing how to report concerns about content, contact or conduct.	- Child friendly search engines - Project Evolve - Online safety stories - Online safety cartoons - Google Classroom - Purple Mash Display Boards - Kapow PSHE



Digital Literacy -

Vocabulary will vary according to learning needs identified by Project Evolve knowledge mapping.

3	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	Email - I can use email to communicate by opening, reading, responding to and sending emails, including using the address book to find contacts. I can compose messages, manage my inbox, and take part in email conversations to share ideas. I can open, view and send attachments appropriately, and use email safely by only interacting with trusted contacts and following safety rules. - I can create and use strong, unique passwords and keep them secure. I can use communication tools such as email and messaging safely, recognising risks and knowing how to report inappropriate content or contact in different ways. I can use a range of search engines to carry out research, selecting relevant and reliable information, and apply safe, respectful and responsible behaviour when using technology.	- Project Evolve - Display Boards - Internet Legends - Online Safety Cartoons - Kapow PSHE 2Email
4	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	Effective Searching - I can use search engines to find information by choosing clear keywords and refining my searches to make them more specific. I can use filters (such as images, news, videos and date) and read snippets to select the most useful results. I can evaluate information by identifying facts, opinions and beliefs, and use clues to decide whether content is reliable and trustworthy. - I can explain how everyday technology links to coding and multimedia. I can create strong, unique passwords and keep them secure. I can show responsible and respectful behaviour online, identify what is acceptable and unacceptable, and report concerns about online content, contact or conduct using appropriate methods.	- Project Evolve - Display Boards - Internet Legends - Kapow PSHE 2Publish
5	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	I can explain how everyday technology is built using coding and multimedia, and apply this understanding when creating my own digital content. I can create and manage strong, secure passwords and use additional security measures where appropriate. I can demonstrate responsible and respectful behaviour online, make informed choices about what I share, and respond appropriately to different online situations. I can identify risks and confidently report concerns about online content, contact or conduct using appropriate tools and platforms.	- Project Evolve - Display Boards - Internet Legends - Kapow PSHE
6	Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact.	I can explain and evaluate how everyday technology is developed using coding and multimedia, and apply this understanding to design and create purposeful digital content. I can independently create, manage and evaluate secure passwords and use additional security features to protect accounts and information. I can demonstrate and promote responsible and respectful online behaviour, making informed decisions about my digital presence and interactions. I can assess online risks, respond appropriately to different situations, and confidently use a range of reporting tools and support systems to report concerns about online content, contact or conduct.	- Project Evolve - Display Boards - Internet Legends - Kapow PSHE 2Blog

