VALENCE PRIMARY SCHOOL
Subject Progression Grid

Computing Progression Grid

At Valence Primary School Computing is taught through a broad and balanced curriculum that ensures children can develop depth and progression in their knowledge and skills. It is our intention to enable children to find, explore, analyse, exchange and present information. We want children to know more, remember more and understand more in computing so that they leave primary school computer literate. Computing skills are a major factor in enabling children to be confident, creative and independent learners and it is our intention at Valence that children have every opportunity available to allow them to achieve this. Writing in red denotes the online safety focus of the half-term.

P.R.A.I.S.E Pride Respect Achievement Independence Success Enjoyment

EYFS	Use of technology embedded into everyday practice. Computing Systems and Networks: exploring technology in role-play situations. Investigating cash tills, cameras, walkie talkies, sound recorders. Creating Media: develop mouse and touchpad control through digital drawing and writing. Data and Information: collecting, classifying and photographing sets of objects. Programming: experimenting with different electronic toys and learning how to control them.					
KS1 National Curriculum	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 material	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Recognise common uses of information technology beyond school.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content.	Use technology purposefully to create, organise, store, manipulate and retrieve digital content. Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about material on the internet or other online technologies.	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. Recognise common uses of information

	on the internet or other online technologies.					technology beyond school.
Year 1	**Technology around us** To identify technology To identify a computer and its main parts To use a mouse in different ways To use a keyboard to type To use the keyboard to edit text To create rules for using technology responsibly	**Digital painting** To describe what different freehand tools do To use the shape tool and the line tools To make careful choices when painting a digital picture To explain why I chose the tools I used To use a computer on my own to paint a picture To compare painting a picture on a computer and on paper How do we find a happy balance between our online and offline activities?	**Moving a robot** To explain what a given command will do To act out a given word To combine forwards and backwards commands to make a sequence To combine four direction commands to make sequences To plan a simple program To find more than one solution to a problem	**Grouping data** To label objects To identify that objects can be counted To describe objects in different ways To count objects with the same properties To compare groups of objects To answer questions about groups of objects How do you say goodbye to technology when you don't want to?	**Digital writing** To use a computer to write To add and remove text on a computer To identify that the look of text can be changed on a computer To make careful choices when changing text To explain why I used the tools that I chose To compare writing on a computer with writing on paper	**Introduction to animation** To choose a command for a given purpose To show that a series of commands can be joined together To identify the effect of changing a value To explain that each sprite has its own instructions To design the parts of a project To use my algorithm to create a program How do you go places safely online?
Year 2	**IT around us** To recognise the uses and features of information technology To identify information technology in the home	**Digital photography** To know what devices can be used to take photographs To use a digital device to take a photograph	**Robot algorithms** To describe a series of instructions as a sequence To explain what happens when we change the order of instructions	**Pictograms** To recognise that we can count and compare objects using tally charts To recognise that objects can be represented as pictures	**Making music** To say how music can make us feel To identify that there are patterns in music To describe how music	**An introduction to quizzes** To explain that a sequence of commands has a start To explain that a sequence of commands has an

	To identify information technology beyond school To explain how information technology benefits us To show how to use information technology safely To recognise that choices are made when using information technology	To describe what makes a good photograph To decide how photographs can be improved To use tools to change an image To recognise that images can be changed How can we be safe, responsible and respectful online?	To use logical reasoning to predict the outcome of a program (series of commands) To explain that programming projects can have code and artwork To design an algorithm To create and debug a program that I have written	To create a pictogram To select objects by attribute and make comparisons To recognise that people can be described by attributes To explain that we can present information using a computer Why is it important to listen to your feelings when using technology?	can be used in different ways To show how music is made from a series of notes To create music for a purpose To review and refine our computer work	outcome To create a program using a given design To change a given design To create a program using my own design To decide how my project can be improved How do you stay safe when visiting a website or app?
KS2 National Curriculum	Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. 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	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	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	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	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

	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.	information. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	information. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	information. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	goals, including collecting, analysing, evaluating and presenting data and information.	simple algorithms work and to detect and correct errors in algorithms and programs. 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.
Year 3	**Connecting computers** To explain how digital devices function To identify input and output devices	**Animation** To explain that animation is a sequence of drawings or photographs To relate animated movement with a sequence of images	**Sequence in music** To explore a new programming environment To identify that commands have an outcome	**Branching databases** To create questions with yes/no answers To identify the attributes needed to collect data about an object	**Desktop publishing** To recognise how text and images convey information To recognise that text and layout can be edited	**Events and actions in programs** To explain how a sprite moves in an existing project To create a program to move a sprite in four directions

	To recognise how digital devices can change the way we work To explain how a computer network can be used to share information To explore how digital devices can be connected To recognise the physical components of a network How can we be good digital citizens?	To plan an animation To identify the need to work consistently and carefully To review and improve an animation To evaluate the impact of adding other media to an animation Why is it important to have device-free moments in our lives? What kinds of information should I keep to myself when I use the internet?	To explain that a program has a start To recognise that a sequence of commands can have an order To change the appearance of my project To create a project from a task description What information is OK to have in your digital footprint?	To create a branching database To explain why it is helpful for a database to be well structured To plan the structure of a branching database To independently create an identification tool How are we all part of an online community?	To choose appropriate page settings To add content to a desktop publishing publication To consider how different layouts can suit different purposes To consider the benefits of desktop publishing What should you do if someone is mean to you online?	To adapt a program to a new context To develop my program by adding features To identify and fix bugs in a program To design and create a maze-based challenge How can you give credit for other people's work?
Year 4	**The internet** To describe how networks physically connect to other networks To recognise how networked devices make up the internet To outline how websites can be shared via the World Wide Web	**Audio editing** To identify that sound can be digitally recorded To explain that audio recordings can be edited To recognise the different parts of creating a podcast project To apply audio editing skills independently	**Repetition in shapes** To identify that accuracy in programming is important To create a program in a text-based language To explain what 'repeat' means To modify a count-controlled loop to	**Data logging** To explain that data gathered over time can be used to answer questions To use a digital device to collect data automatically To explain that a data logger collects 'data points' from sensors over time	**Photo editing** To explain that digital images can be changed To explain that colours can be changed in digital images To explain how cloning can be used in photo editing To explain that images	**Repetition in games** To develop the use of count-controlled loops in a different programming environment To explain that in programming there are infinite loops and count controlled loops To develop a design which includes two or

	To describe how content can be added and accessed on the World Wide Web To recognise how the content of the WWW is created by people To evaluate the consequences of unreliable content How do digital citizens take responsibility for themselves, their communities and their world?	To combine audio to enhance my podcast project To evaluate the effective use of audio How can a strong password help protect your privacy?	produce a given outcome To decompose a program into parts To create a program that uses count-controlled loops to produce a given outcome How does what I post online affect my identity?	To recognise how a computer can help us analyse data To identify the data needed to answer questions To use collected data to answer questions What makes a strong community?	can be combined To combine images for a purpose To evaluate how changes can improve an image What should you do when someone uses mean or hurtful language on the internet?	more loops which run at the same time To modify an infinite loop in a given program To design a project that includes repetition To create a project that includes repetition Why do people alter digital photos and videos?
Year 5	**Sharing information** To explain that computers can be connected together to form systems To recognise the role of computer systems in our lives To experiment with search engines To describe how search engines select results To explain how search results are ranked	**Video editing** To explain what makes a video effective To identify digital devices that can record video To capture video using a range of techniques To create a storyboard To identify that video can be improved through reshooting and editing To consider the impact	**Selection in physical computing** To control a simple circuit connected to a computer To write a program that includes count-controlled loops To explain that a loop can stop when a condition is met To conclude that a loop can be used to repeatedly check whether a condition has been met	**Flat-file databases** To use a form to record information To compare paper and computer-based databases To outline how you can answer questions by grouping and then sorting data To explain that tools can be used to select specific data To explain that computer programs can be used to	**Vector drawing** To identify that drawing tools can be used to produce different outcomes To create a vector drawing by combining shapes To use tools to achieve a desired effect To recognise that vector drawings consist of layers To group objects to	**Selection in quizzes** To explain how selection is used in computer programs To relate that a conditional statement connects a condition to an outcome To explain how selection directs the flow of a program To design a program which uses selection To create a program which uses selection

	To recognise why the order of results is important and to whom What makes a healthy media choice?	of the choices made when making and sharing a video What information about you is OK to share online?	To design a physical project that includes selection To create a program that controls a physical computing project How does our online activity affect the digital footprints of ourselves and others?	compare data visually To apply my knowledge of a database to ask and answer real-world questions How can I help myself and others be positive and have fun while playing online games?	make them easier to work with To apply what I have learned about vector drawings How can we be upstanders when we see cyberbullying?	To evaluate my program What rights and responsibilities do you have as a creator?
Year 6	**Communication** To explain the importance of internet addresses To recognise how data is transferred across the internet To explain how sharing information online can help people to work together To evaluate different ways of working together online To recognise how we communication using technology	**Web page creation** To review an existing website and consider its structure To plan the features of a web page To consider the ownership and use of images (copyright) To recognise the need to preview pages To outline the need for a navigation path To recognise the implications of linking to content owned by other people	**Variables in games** To define a 'variable' as something that is changeable To explain why a variable is used in a program To choose how to improve a game by using variables To design a project that builds on a given example To use my design to create a project To evaluate my project	**Spreadsheets** To create a data set in a spreadsheet To build a data set in a spreadsheet To explain that formulas can be used to produce calculated data To apply formulas to data To create a spreadsheet to plan an event To choose suitable ways to present data	**3D modelling** To recognise that you can work in three dimensions on a computer To identify that digital 3D objects can be modified To recognise that object can be combined in a 3D model To create a 3D model for a given purpose To plan my own 3D model To create my own digital 3D model	**Sensing Movement** To create a program to run on a controllable device To explain that selection can control the flow of a program To update a variable with a user input To use a conditional statement to compare a variable to a value To design a project that uses inputs and outputs on a controllable device To develop a program to use inputs and

	To evaluate different methods of online communication What does media balance mean for me?	What is clickbait and how can you avoid it?	How do gender stereotypes shape our experiences online?	How do you keep online friendships safe?	What is cyberbullying and what can you do to stop it?	outputs on a controllable device What are the important parts of an online news article?