Skills Progression – Computing

	Computer Science	IT
Yr R	With support, use simple adventure games and simulations. Use a remote control toy. Use a programmable toy e.g. BeeBot, Romer.	With support, log on to the school system. Use the keyboard and mouse to navigate programmes.
Yr 1	Use simple adventure games or simulations. Follow simple instructions e.g. playing at robots, country dancing (pre-Logo activities). Know that many everyday devices respond to commands. Give instructions to a programmable robot e.g. BeeBot, Roamer. Use trial and error to create a sequence of instructions to a move a programmable robot to a specified location on a grid or mat.	Log on to the school system. With support, print work. With support, load programs. With support, save work. With support, retrieve work. Talk about what they are doing with ICT. Use appropriate ICT vocabulary. Know that digital pictures and video can be saved on a computer. Know that sound can be recorded and played back. Use arrow keys or mouse to navigate programs.
Yr 2	Solve problems in an adventure game or simulation. Create a plan of the steps needed to solve a more complicated problem (an algorithm) e.g. How can we get the robot to the post office, then the castle, avoiding the graveyard and the lake? Explore different programs logically working through one instruction at a time to predict what they will do e.g. If the robot starts here and this program is executed where will it end up? Use algorithms to program a robot to solve a problem. Understand that once programmed a programmable robot can repeat the same instructions. Execute programs and identify errors. Talk about how to fix errors in programs e.g. It turned the wrong way after the cottage so I need to change that instruction. Fix programs to achieve the original intended outcome (debug).	Print work independently. Save work independently in different places. Retrieve work independently. Talk about what they are doing with ICT. Use appropriate ICT vocabulary. Discuss the use of ICT in the world around us and compare to the use of ICT in the classroom. Use the cursor (arrow) keys for simple on screen editing. Begin to annotate work samples using prompts.
Yr 3	Use simulations or adventure games that match with a curriculum context. Make decisions and solve problems in a simulation or adventure game. Plan, write, evaluate, and edit a sequence of instructions to move a programmable robot. Attach a pen to programmable robot to record movements e.g. shapes. Begin to experiment with on-screen control software to control outputs.	Understand that work can be saved in different places e.g. network. With support, create and name new folders. With support, choose an appropriate program to perform a task. Describe work and how they have used ICT. Use appropriate ICT vocabulary. Discuss use of ICT in the world around us and compare to the use of ICT in the classroom.
Yr 4	Use simulations or adventure games that match with a curriculum context. Make decisions and solve problems in a simulation or adventure game. Begin to use on-screen control software to plan, create and run a set of instructions to e.g. to change the traffic lights. Predict the outcome of a control procedure. Plan and create a control system to answer a task.	Understand that work can be saved in different places e.g. network. Understand the use of folders and be able to create and name new folders. Choose an appropriate program to perform a task. Describe work and explain how and why they have used ICT. Use appropriate ICT vocabulary. Discuss use of ICT in the world around us and compare to the use of ICT in the

	Use a simple programming language e.g. Scratch to create for example a game or an interactive story. Use a sensor to record and display the changes in e.g. temperature, light, sound. Know that the computer can be used to display the results from either a remote sensing device or a sensing device attached to the computer.	classroom.
Yr 5	Use more complex simulations or adventure games that match with a curriculum context. Be aware of control applications in everyday life e.g. automatic doors, robots in car factories, automatic security lights. Use on-screen control software to plan, create and run a set of instructions to e.g. to change the traffic lights. Predict the outcome of a control procedure. Plan and create a control system to answer a task. Use a simple programming language e.g. Scratch to create for example a game or an interactive story. Use sensing devices e.g. in science experiments. Interpret the data from a sensing device.	Understand and use the hierarchical file system. Understand and use appropriate file names for saving work. Choose an appropriate program to perform a task. Describe and discuss my work and explain how and why I have used ICT. Use appropriate ICT vocabulary. Discuss use of ICT in the world around us and compare to the use of ICT in the classroom.
Yr 6	Make decisions and solve more complex problems in a simulation or adventure game. Use on-screen control software to plan, create and run a more complex set of instructions. Use information from a sensor (input) to initiate parts of the control program. Know when it would be appropriate to use a control system. Evaluate and edit the set of instructions to make a more efficient system. Use a simple programming language e.g. Scratch to create for example a game or an interactive story. Use a range of sensors as appropriate.	Understand the need for good passwords and, if appropriate, be able to create a good password. Choose and combine the use of appropriate ICT tools to complete a task. Combine and refine information from various sources. Critically evaluate the fitness for purpose of work as it progresses. Use appropriate ICT vocabulary. Discuss use of ICT in the world around us and compare to the use of ICT in the classroom.

	Digital Literacy			
	Finding and using information and data	**Creative and productive use of ICT**	**Sound (covered through Music)**	**Electronic communication**
Yr R	With support, use pre-selected web pages.	Put text on screen. Practise keyboard skills using both hands. Use a digital camera or digital video camera to take pictures.	Use sound recorders and players to listen to pre-recorded sound.	
Yr 1	Develop simple classification skills based	Use upper and lower case letters.	With support, use music software to	

	on practical sorting activities. With support, use simple graphing programs to produce pictograms and other simple graphs. Discuss the graphs and answer simple questions. With support, use pre-selected web pages.	Use the space bar, the return key and the shift key to make a capital letter. Use word lists to enter text. Use an art package as medium to convey their ideas, as one of a range of media available. Use a digital camera or digital video camera to take pictures. With support, add captions to digital pictures.	explore, create and choose sounds in response to a range of given starting points.	
Yr 2	Independently plot data as a pictogram, block chart or bar graph. Be aware that graph types can be changed. Interpret the graphs - discuss the graphs and answer simple questions. Use the internet to find information for a topic.	Practise keyboard skills using both hands, try to use more than two fingers, and try to use the thumb on the spacebar. Make simple modifications to my work (edit). Change the font style, the font size and the font colour. With support, import graphics and add text to a document. Use a wide range of tools in the art package. Use a digital camera to take appropriate pictures for a specific purpose. Add captions to digital pictures. With support, be able to do simple manipulation of images using an art package or other software e.g. the digital camera's software.	With support, use a range of devices to record and playback sounds e.g. voices, instrumental sounds, environmental sounds. Use music software to explore sounds and create and play compositions. With support, evaluate and modify (edit) their own compositions.	Begin to be aware of email safety rules. Know that email exists. With support, write and send a short email e.g. to Santa.
Yr 3	With support, use simple search tools to find information on the Internet e.g. child friendly search engine. Begin to be aware of internet safety rules. With support, use a spreadsheet to record data and produce graphs. With support, enter data in a prepared spreadsheet. With support, select data to produce a graph.	Select text and change the font style, size and colour, and use the bold and underline icons. Use the cursor (arrow) keys for simple on screen editing. Use the scroll bars to view different parts of the document. Justify / align text. Import graphics and add text. Use a wider range of tools within an art package as necessary. Begin to be aware of how digital images can be altered and the associated risks. Use a digital camera or digital video camera to take appropriate pictures or video for a specific purpose.	Use a range of devices to record and playback sounds e.g. voices, instrumental sounds, environmental sounds. With support, record sound on the computer and be able to use the sound files in other applications.	Describe email safety rules and with support follow them. With support logon to an email account and logout. Compose and send email e.g. to a pre-arranged partner in another class in the school.
Yr 4	Use simple search tools to find	Import graphics and use the picture	Continue to use a range of devices to	Describe email safety rules and

	information on the Internet independently. Be aware of Internet safety rules. Begin to identify data handling opportunities. Prepare a data collection form. Identify fields. Create a data file and enter data. Use the database to carry out an investigation. Present data in different forms – graphs, tables. Use a spreadsheet to record data and produce graphs. Enter data in a prepared spreadsheet. Select data to produce a graph. Use a spreadsheet to explore number patterns e.g. in a hundred square, multiplication table.	toolbar to choose the text wrapping. Use the spell checker. Use find, search and replace if appropriate. Use page setup to choose portrait or landscape page. Use the Zoom menu to view the whole page. Do simple manipulation of images using an art package or other software e.g. the digital camera's software. Manipulate images using an art package or other software. Be aware of how digital images can be altered and the associated risks. Begin to evaluate the suitability of the presentation for the given audience. With support, make changes to the presentation to make it more suitable for the audience. Use a storyboard to edit a sequence of digital pictures or video e.g. change sequence, add transitions, effects, and sound. Design and create a presentation or digital film e.g. to show what they did on a school trip. Use digital cameras/webcams to storyboard and create a short animated film.	record and playback sounds e.g. voices, instrumental sounds, environmental sounds. Record sound on the computer and be able to use the sound files in other applications. Use music software to experiment with capturing, repeating and reordering sound patterns and sections of music. Plan, create and play compositions. Evaluate and modify (edit) my own compositions. Use a combination of electronic and acoustic musical instruments in compositions.	independently follow them. Logon to an email account and logout independently. Understand why it is important to logout of an email account. Use email as a communication tool e.g. to exchange information with pupils in another school. With support, send a picture or document as an attachment. Know that email can be sent all over the world electronically via computers.
Yr 5	Begin to be aware of privacy and other issues related to using the Internet. Begin to be aware of the dangers of downloading files from the Internet. With support, use a more complex search engine to find information on the Internet. With support, check the accuracy of information. Identify data handling opportunities, set up a data file and enter data. Use AND and OR in their searches. Check for validity and amend errors. Set up a spreadsheet with appropriate headings. Use a simple formula e.g. SUM.	Use headers and footers as appropriate e.g. to add page numbers. Begin to evaluate when it is appropriate to use an art package and when another medium would be more suitable. Use a wider range of tools within an art package as necessary. Design and create a presentation or digital film e.g. to show other pupils what they did on a school trip. Evaluate the suitability of the presentation for the given audience. Modify the presentation to make it more suitable for a different audience e.g. parents.	Use sound recorders as appropriate. Use a combination of electronic and acoustic musical instruments in compositions.	Explain the importance of e-mail safety rules. Use email as a communication tool to collaborate with other pupils e.g. to work together on a project. Know that email can be sent or copied to more than one person. Know that an email can be forwarded to another person. Begin to be aware that computer viruses can be sent via email.

	Use a spreadsheet to investigate e.g. cost of foods / drinks. Use formulae and functions in a spreadsheet. Alter the format of a spreadsheet. Change data to satisfy 'What if' queries.	Use a digital camera or digital video camera to take appropriate pictures or video for a specific purpose.		
Yr 6	Be aware of privacy and other issues related to using the Internet. Be aware of the dangers of downloading files from the internet. Use a more complex search engine to find information on the Internet. Use AND / OR searches. Check the accuracy of information. Set up and use a data file to carry out an investigation. Use the data file to answer complex questions. Interpret and question the plausibility of information. Amend and delete data from records. Use a spreadsheet to solve simple problems e.g. the relationship between the perimeter and area of a quadrilateral.	Use and practise their word processing skills in a range of contexts. Know when it is appropriate to use an art package and when another medium would be more suitable. Manipulate images using an art package or other software. Select and use a range of software and hardware tools to produce a presentation or digital film for a specific audience e.g. present an account of their residential trip to their peers. Use digital cameras/webcams to independently to create a Stop Frame animation.	Use sound files effectively in other applications. Use more sophisticated music software to plan, capture, change and combine sounds for a specific purpose. Evaluate, edit and play compositions.	Explain the importance of e-mail safety rules and what can go wrong. Use email as a communication tool to collaborate with other pupils e.g. to work together on a project. Send a picture or document as an attachment. Be aware that computer viruses can be sent via email.

NB references to e-safety in red text.

Based on 'Computing Progression' by Stella Kenny from the Computing HIAS team.