Ivington C.E Primary Computing Learning Journey –

Key Steps to Mastery Key Skills

COMPUTER SCIENCE

YEAR 1	Year 2	Year 3
	Review Year 1	Review Year 2
Pupils should be taught:	**Pupils should:**	**Pupils should:**
Program:	**Program:**	**Program:**
I can program a (short set of) instructions on e.g. Bee-Bot, Scratch. **Moving a robot** I can explain what a given command will do I can act out a given word I can combine forwards and backwards commands to make a sequence I can combine four direction commands to make sequences I can plan a simple program CHALLENGE: I can create a multi-step sequence combining directions.	Create a simple program in e.g. Scratch, Logo, Kodu. **Robot algorithms** I can describe a series of instructions as a sequence I can explain what happens when we change the order of instructions I can use logical reasoning to predict the outcome of a program (series of commands) I can explain that programming projects can have code and artwork I can design an algorithm **Introduction to quizzes** I can explain that a sequence of commands has a start I can explain that a sequence of commands has an outcome I can create a program using a given design I can change a given design I can create a program using my own design CHALLENGE: I can design a program to meet a given specification	Write programs that accomplish a simple purpose (e.g. a Powerpoint animation). **Programming - Events and actions** I can explain how a sprite moves in an existing project I can create a program to move a sprite in four directions I can adapt a program to a new context I can develop my program by adding features I can design and create a maze-based challenge Start breaking problems into smaller parts, e.g. the background and sprite in Scratch.
Debug:	**Debug:**	**Debug:**
I can identify and start to verbalise problems in a simple program (written by someone else). I can find more than one solution to a problem	Identify and describe bugs in a simple program, and start to suggest corrections.	Debug a simple program independently, and start to identify bugs in their own work.

			I can create and debug a program that I have written CHALLENGE: I can debug a program and justify why the original program was incorrect.		I can identify and fix bugs in a program
	Use logic:		**Use logic:**		**Use logic:**
	I can start to demonstrate logical reasoning e.g. by roleplaying the movements for a Bee-Bot program.		I can verbalise what will happen in a simple program before activating. I can decide how my project can be improved **Robot algorithms** I can predict the outcomes of a set of instructions I can predict what the outcome of a simple program will be		I can explain how some simple algorithms work. I can discern when it is best to use technology and where it adds little or no value I can justify when I am going to use technology to help me with a task

DIGITAL LITERACY					
	YEAR 1		Year 2		Year 3
			Review Year 1		Review Year 2
	Pupils should be taught to:		**Pupils should be taught to:**		**Pupils should be taught to:**
	Working with digital content **Create, manipulate & present:**		**Working with digital content** **Create, manipulate & present:**		**Working with digital content** **Create, manipulate & present:**
	I can follow instructions to create content on simple editing programs like Word and Paint.		I can go beyond teacher instruction to create content in simple editing programs.		I can follow instructions to create content in a range of editing programs.

	Digital writing I can use a computer to write CHALLENGE: I can type a sentence independent. I can add and remove text on a computer I can identify that the look of text can be changed on a computer I can make careful choices when changing text CHALLENGE: I can change the font type, size and colour. I can explain why I used the tools that I chose I can compare writing on a computer with writing on paper **Digital painting** I can describe what different freehand tools do I can use the shape tool and the line tools CHALLENGE: I can use a range of shape tools. I can make careful choices when painting a digital picture I can explain why I chose the tools I used I can use a computer on my own to paint a picture I can compare painting a picture on a computer and on paper CHALLENGE: I can offer reasons why technology can be helpful for a given job.		I can with support, create simple presentations e.g. a poster digital content e.g. highlight and through Publisher or Word. I can manipulate digital content e.g. highlight and delete text in Word, zoom in on a digital map **Digital photography** I know what devices can be used to take photographs I can use a digital device to take a photograph I can describe what makes a good photograph I can decide how photographs can be improved CHALLENGE: I can describe what several photo enhancing effects do I can use tools to change an image I can recognise that images can be changed		I can deliver a short presentation with digital content e.g. recount of a football tournament with photos on IWB. **Desktop publishing** Copy and paste e.g. from website text into a Word document. I can recognise how text and images convey information I can recognise that text and layout can be edited I can choose appropriate page settings CHALLENGE: I can alter the page margins and orientation I can add content to a desktop publishing publication I can consider how different layouts can suit different purposes I can consider the benefits of desktop publishing CHALLENGE: I can offer several reasons why desktop publishing is beneficial for given jobs I can manipulate more digital content e.g. resize images, alter the font, take a screengrab. **Stop-frame animation** I can explain that animation is a sequence of drawings or photographs I can relate animated movement with a sequence of images I can plan an animation I can identify the need to work consistently and carefully I can review and improve an animation I can evaluate the impact of adding other media to an animation CHALLENGE: I can use the repeat command to create a pattern

I can manipulate simple digital content e.g. make a song on Toca Band.	**Making music** I can say how music can make us feel I can identify that there are patterns in music I can describe how music can be used in different ways I can show how music is made from a series of notes I can create music for a purpose CHALLENGE: I can create different genres of music and discuss this. I can review and refine our computer work	**Sequence in music** I can explore a new programming environment I can identify that each sprite is controlled by the commands I choose I can explain that a program has a start I can recognise that a sequence of commands can have an order I can change the appearance of my project I can create a project from a task description
Organise/store:	**Organise/store:**	**Organise/store:**
I can save files when the location is set for them.		I can save files appropriately without support.
Retrieve	**Retrieve**	**Retrieve**
I can do a simple search with support, e.g. for a postcode	I can recognise that people can be described by attributes I can explain that we can present information using a computer	I can perform a keyword search e.g. within Word or on a search engine.
Analyse/evaluate:	**Analyse/evaluate:**	**Analyse/evaluate:**
Grouping data I can label objects I can identify that objects can be counted I can describe objects in different ways I can count objects with the same properties I can compare groups of objects CHALLENGE: To create a pictogram. I can answer questions about groups of objects	I can start to make selections, e.g. from or within sources of information. **Pictograms** I can recognise that we can count and compare objects using tally charts I can recognise that objects can be represented as pictures I can create a pictogram CHALLENGE: I can describe and create a different computerised graph. I can select objects by attribute and make comparisons	I can start to select and order information according to relevance. **Branching databases** I can create questions with yes/no answers I can identify the object attributes needed to collect relevant data I can create a branching database I can identify objects using a branching database CHALLENGE: I can explain why it is helpful for a database to be well structured I can compare the information shown in a pictogram with a branching database
Using IT safely	**Using IT safely**	**Using IT safely**

I can understand that there may be dangers online, and explain who they'll talk to if they're worried.	I can understand who they can report things to if they're worried about anything digital.	I can start to locate online safety procedures, e.g. the reportabuse button, screengrabs to desktop.
		I am able to list some forms of personal data (e.g. home address, date of birth).
See e-safety progression based on the Education for a Connected World Framework.	See e-safety progression based on the Education for a Connected World Framework.	See e-safety progression based on the Education for a Connected World Framework.
Communications technology:	**Communications technology:**	**Communications technology:**
n/a	I can with support, set up a video conference call, e.g. Skype or Facetime.	I can make and answer phone calls where the contact is known.
		I can write a short post on a safe site like ChatFOSS or Playkids Talk.
Using IT respectfully	**Using IT respectfully**	**Using IT respectfully**
I can recognise that their actions may have negative consequences	I can start to verbalise other people's needs and feelings.	I can verbalise the possible consequences of their online behaviour.
Technology around us I can identify technology I can identify a computer and its main parts CHALLENGE: I can discuss the purpose of different components CHALLENGE: I can describe the SMART internet safety rules and their importance.		I can be polite when challenging others' values and opinions. **Connecting computers** I can explain how digital devices functional can identify input and output devices I can recognise how digital devices can change the way we work I can explain how a computer network can be used to share information I can explore how digital devices can be connected I can recognise the physical components of a network CHALLENGE: I can contribute to a class blog.
		I can show respect for online content, e.g. distinguishing between public and private material

PRACTICAL SKILLS			
YEAR 1	Year 2	Year 3
	Review Year 1	Review Year 2
Pupils should be taught to:	**Pupils should be taught to:**	**Pupils should be taught to:**
Keyboard: I can find letters on a qwerty board, e.g. type their name Challenge: I can type a sentence independent I can use a keyboard to type I can use the keyboard to edit text I can create rules for using technology responsibly **Mouse:** I can manipulate a mouse without looking (i.e eyes on screen). I can use a mouse in different ways	**Keyboard:** I can navigate a qwerty keyboard, e.g. type a simple sentence and use cursor keys, back-space, etc. **Mouse:** I can use the double-click function.	**Keyboard:** I can increase my speed with a qwerty keyboard, e.g. can type several sentences in a lesson without struggling. **Mouse:** I can highlight, drag, right-click and double-click.