Knowledge, Skills and Understanding Breakdown for Computing – Nursery			
Using Digital Devices	**Coding/ Instructional Language**	**Data Retrieving and Organising**	**Communicating**
• Can they identify some technological resources at home and at school? • Can they understand positional language (e.g. on, in, off)? • Can they perform basic skills with digital equipment? e.g. turning on, playing music on a CD player, using a remote control? • Can they operate mechanical and digital toys?, e.g. turns the knob on a wind-up toy, uses a touch screen device • Do they recognise that a range of technology is used in places such as homes and schools? • Do they show an awareness of how to use an iPad for a purpose? e.g. taking a photo, playing a game on an application •	• Can they follow a simple instruction? • Can they give a simple instruction to others? • Do they know some basic positional language? e.g. forwards, backwards, up and down	• NA	• Can they use simple pieces of technology to communicate with each other? e.g. a phone or walkie-talkie.

Online Safety
• Can they talk about some basic online safety rules when using devices? E.g. if you see something that makes you feel uncomfortable, put the device down and tell an adult. • Do they know that giving permission is called consent? • Can they say that they give, or do not give, permission for their photo to be shared online? E.g. on Dojo

Knowledge, Skills and Understanding Breakdown for Computing – Reception			
Using Devices	**Coding/ Instructional Language**	**Data Retrieving and Organising**	**Communicating**
• Do they show an awareness of what technology is? • Do they understand that technology often needs power that might come from charging it or from a battery? • Can they identify some technological resources? • Can they perform basic skills with digital equipment? e.g. turning on, playing music on a CD player, using a remote control? • Can they operate mechanical and digital toys?, e.g. turns the knob on a wind-up toy, uses a touch screen device? • Do they understand that technology can be used for different reasons to achieve different things? E.g. CD players play music, phones allow you to talk to people who aren't near you • Can they select and use technology for particular purposes? E.g. using an iPad to take a photo, using a metal detector to find metal • Can they use computer software to complete a task? e.g. play an online game • Can they locate the lock button, home button and volume button on an iPad? • Can they use the buttons above to perform their function? • Can they use a mouse or touch pad with some control? • Can they type their name and some simple CVC words on a keyboard?	• Can they make different toys or pieces of electronic equipment work by performing certain functions to achieve an outcome? E.g. pressing play to play music • Can they identify some computer programs? • Can they complete a simple program on electronic devices? • Can they follow and give 2-step instructions? (plugged or unplugged) • Are they beginning to explore BeeBots and enter some instructions? • Do they understand positional language? e.g. on, under, next to.	• Do they know that information can be retrieved from digital devices and the internet? • Can they take photos, make videos and draw pictures on a device? • Can they access the photo gallery on an iPad to retrieve pictures/ videos that they have taken? • With some support, can they type words into a search bar, on a iPad or laptop, to make simple searches? E.g searching pictures of cars • Can they develop digital literacy skills by being able to access, understand and interact with a range of technologies? • Do they know that there are lots of different ways to find out information? • Can they use technology (with or without support), to find out more about the world around them? E.g Google and Alexa • Can they capture and document a sequence of events or experiences using a device?	• Can they use simple pieces of technology to communicate with each other? e.g. a phone or walkie-talkie. • Can they talk about different methods of communication?

Online Safety
• Can they talk about some basic online safety rules when using devices? E.g. if you see something that makes you feel uncomfortable, put the device down and tell an adult. • Do they know what personal information is? • Can they say what is safe and what is not safe to share online?

Knowledge, Skills and Understanding Breakdown for Computing – Year One			
Using Devices	**Coding/ Instructional Language**	**Data Retrieving and Organising**	**Communicating**
• Do they know that a beebot/ rugged robot is a programmable device? • Can they log on and off from a laptop/computer on a school server with some support? • Can they log on to a secure website using their own user name and password with some support? • Can they load a programme or application on an iPad/ computer? • Can they type words and sentences on a keyboard? • Can they enter text using appropriate upper and lower case letters? • Can they identify and use the spacebar, back space, enter, shift and arrow keys? • Can they identify some different information technologies in the wider world and link these their purpose? e.g. we press a button at a crossing and this tells the traffic to stop.	• Do they know that a set of instructions or commands is known as an algorithm? • Do they know that an algorithm is turned into code when it is programmed into a device? • Do they know an algorithm can be programmed into a device? • Can they put two or more instructions together to control onscreen objects? (Daisy the Dinosaur, Rapid Router and Beebot) • Do they understand forwards, backwards, up, left and right? • Can they create a simple series of instructions for someone or something to follow? (plugged and unplugged) • Can they put two instructions together to control a programmable device? • Can they begin to plan and test a Rugged Robot journey? • Can they make a record of a simple programme (two or more instructions) using arrow cards? • Do they recognise that if code does not do as we expected, there is a bug? • Are they showing an awareness of debugging? • Can they identify and solve some problems in their algorithms by editing and/or deleting the code? (debugging)	• Can they capture images and videos using an iPad, making sure they have got the full image in their shot? • Can they retrieve a recording and play it back to share with someone else? • Can they save and retrieve work with some support? • Can they use a QR code for a purpose? • Do they know that devices may need to connect to the internet and they send and receive information all around the world? • Do they know that www. stands for World Wide Web and this is used to access the internet? • Do they know that website sometimes contain pop-ups that take them away from the main site? • Can they explain that research means finding out information? • Can they identify a search bar? • Can they complete a search using a child friendly search engine with some support? • Can they explore a website by clicking on buttons, menus, arrows and hyperlinks? • Can they print work or a webpage, with some support? • Can they use simple graphing programs to produce pictograms (with or without support) (2Graph)? • Can they enter information into a template to make a graph?	• Can they type their ideas into a word processer using a keyboard? • Do they know that emails are like letters that can be sent to people anywhere in the world? • Do they know that people have their own email addresses and we need this to send them an email? • Can they recognise an email address? • Have they joined in with sending a class email? • Can they begin to explain how they have used technology in their work? E.g. using a QR code, printing

	Can they explain how/why they have debugged their code?	Can they talk about the results shown on a graph?	

Online Safety

- Do they know why it is important to keep personal information safe?
- Do they know all of the YAPPY rules? E.g. do not share your name, address, password, phone number and your plans
- Do they know that some information may need to be protected using password?
- Do they know that sharing personal information, including pictures and photos, online can be a risk?
- Do they know that consent/permission must be sought before uploading another person's personal information online?
- Do they know to tell a trusted adult if they see something online that worries or upsets them?
- Do they know to tell a trusted adult immediately if someone online asks to meet them?
- Do they know that some information that they see on the internet is untrue?
- Do they know that some pop-ups may take you different webpages that you may not want to see?

Knowledge, Skills and Understanding Breakdown for Computing – Year 2			
Using Devices	**Coding/ Instructional Language**	**Data Retrieving and Organising**	**Communicating**
• Can they log on and off from a laptop/computer on a school server independently? • Can they log on to a secure website using their own user name and password independently? • Can they copy and paste text and graphics? • Can they insert/delete a word using the mouse and arrow keys? • Can they identify a broader range of information technologies in the wider world and consider the algorithms behind these? E.g. when I press the	• Can they programme an algorithm into a device? • Can they put they put 4 or more instructions together to control a programmable toy or to control on-screen object? E.g. Daisy Dinosaurs and Rapid Router • Can they test their set of instructions and identify problems in their algorithm and make changes to it (debug)? • Can they predict the outcomes of a set of instructions? • Can they use the repeat commands?	• Do they know that a search engine can be used to search through websites to find information? • Can they research information on a website using a safe search engine? E.g. kiddle/ google kids • Do they understand that some websites may not always have true or accurate information? • Do they know that hyperlinks will take them to another webpage? • Can they print a web page to use as a resource? • Can they create simple Power Point presentations? • Can they add simple text, pictures and backgrounds to make a simple slide show? • Can they use the shape tools to draw?	• Can they send and reply to messages sent by a safe email partner (within school)? • Can they use a word processer to create a piece of text? • Can they highlight text to change its format (e.g. bold, font, size, colour)? • Can they edit their work?

button at a crossing, it tells the programme to change the traffic light to red? • Are they beginning to use both hands on the keyboard?	• Can they predict what the outcome of a simple algorithm will be?	• Can they publish and share work online such as Purple Mash/ via a recording? • Can they understand that they can use simple graphing software to collect, illustrate, organise and classify data? • Can they use 2Graph to create a graph? • Can they save and retrieve work independently?	• Can they explain their work and how they have used technology has helped them?

Online Safety
• Revisit the Year 1 e-safety rules • Do they know that people may act differently online and not be who they say they are? • Do they know that not all information they see online is true? • Do they know that people can say hurtful things online? • Do they know that bullying can take place online? • Do they know it is important to take a break from time online? • Do they know what to do if they feel unsafe online? • Can they use the internet for learning and make safe choices? • Do they know how to behave appropriately online?

Progression Vocabulary-

Nursery	Reception	Year 1	Year 2
on, off in, out forwards, backwards up, down technological resources – tablet, phone, whiteboard, walkie-talkie, computer instruction online safety – tell an adult if something worries you consent	On, in (positional) Under Next to Technology Technological resources – laptop, iPad, Rugged robot, BeeBot Power/battery Touch screen Online/internet Google	Left, right Log on/off Username Password Website Programme/app Keys – backspace, spacebar, enter, shift, arrow Rugged robot Instructions	Copy Paste Repeat Search engine Print PowerPoint Word Processor Publish Software Save

	Mouse/touch pad	Algorithm	Retrieve
	Keyboard	Bug	Highlight
	Camera	Debug	Format – bold, font, size
	Photo/video	Recording	Online safety – cyber bullying, safe choices, appropriate behaviour online
	Programme	QR code	
	Instruction	Search bar	
	Online safety – personal information, safe and unsafe to share online	Pop-up	
		Webpage	
		Hyperlink	
		e-mail	
		e-mail address	
		Information	
		Template	
		Pictogram	
		Graph	
		Online safety – YAPPY rules, password, risk, consent from others	