Strand	Program of Study	LI and SC	Activity Suggestions	Learning Outcome – By the end of this unit children should be able to…
ICT	use technology purposefully to create, organise, store, manipulate and retrieve digital content	● See separate sheet	To be taught cross-curricularly e.g. making an animation in Literacy or making a table with animal information in Science	● See separate sheet
What are Computers?	recognise common uses of information technology beyond school	LI: to recognise computers and understand what they do I must remember: ○ A computer is a device that performs a range of functions according to how it is programmed.	What is a computer? - A hunt around school looking for computers How does the computer know what to type? We press a button - that's its input, the computer processes which button has been pressed and which letter needs to be shown, it outputs it on the screen. Children could draw a sequence of events showing Input-process-output model Children look at a variety of photos of phones and discuss what they think the phone can do. Separate out the different functions a phone can do e.g. play music, play games, takes photos. Then break this down further into how does it take photos – it must have a camera.	● I can recognise computers in a range of forms e.g. ipads, phones, laptops, netbooks, desktops ● I can explain that a computer responds to inputs e.g. keys being pressed causes typing ● I can discuss what might be inside devices e.g. a microphone/camera inside a mobile phone
Algorithms	understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	LI: to know that algorithms are a set of instructions for a computer I must remember: ○ To think carefully about the order of instructions ○ That I can repeat a set of instructions using a loop	Follow a recipe - using algorithm vocab, have some recipes that go wrong - can children debug them by finding the mistake? Children explain an algorithm for making something e.g. paper airplane - be pedantic, every step needs to be noted Children follow an algorithm for moving to a space, they need to follow in order Give a set of instructions children need to put them in an order. Could be picture arrow cards which children choose appropriate to movement If you change one of the directional sequences - what do the children think will happen?	● I can explain that an algorithm is a set of instructions ● I can explain that algorithms are implemented on digital devices as programs. ● I can understand algorithms run in an order (from start to finish) ● I can sequence a set of instructions ● I can orally describe an algorithm (series of instructions) for a given task ● I can predict a change when I change part of my algorithm
Programming	create and debug simple programs use logical reasoning to predict the behaviour of simple programs	LI: To program a computer I must remember: ○ A computer will only do what it has been programmed to do ○ To break instructions down into small steps ○ Programs run in order from start to finish	Children program movements with the floor robot Children look through the steps in a program and try and explain why it went wrong Ask children to get the Beebot to move in a square - discuss having to write the same thing repeatedly; there are quicker ways of doing things Control on-screen characters - make them move/dance	● I can press buttons to make a floor robot move ● I can program a floor robot to move to a specific space e.g. Beebots ● I can find an incorrect instruction in a program ● I can understand programs run in an order (from start to finish) ● I can sequence a set of instructions ● I can predict a change when I change part of my program ● I can control an on-screen character using simple directions or arrows
Digital Citizenship	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	● See separate sheet	Taught discreetly through stories, discussions circle times etc. Activities could include making posters and role play Needs to be embedded throughout all lessons as well	● I can choose a sensible password including something I can remember/spell ● I can explain why I need to keep my password secret from other children ● I can show the same behaviours online as I do offline ● I can explain what to do if I find something inappropriate ● I can explain that not everything on the internet is true