

Milestone - Coding

To master practical skills

Coding

Milestone	Co2/1.1 understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions (coding)	Co2/1.2 create and debug simple programs (coding)	Co2/1.3 use logical reasoning to predict the behaviour of simple programs (coding)
Y1	<p>I can follow instructions. (Oral, written or pictorial NOT necessarily on a computer)</p> <p>I can record a set of instructions (through writing or pictures NOT necessarily on a computer)</p> <p>I can give instructions. (orally, written, pictorial)</p> <p>I can create a program. (logical set of instructions to do a task NOT necessarily on a computer)</p>	<p>I can program a toy. (Beebot, Roamer, etc)</p> <p>I know what input, program and output means for a robot toy. (input= pressing the keys, program= the actual route taken and output= the toy/robot actually completing the sequence)</p> <p>I can give examples of input, program and output. (orally or written/pictorial using a robot toy)</p> <p>I can spot and correct mistakes in a program (debug).</p>	<p>I can predict where a set of nstructions will take a toy or person.</p> <p>I can look for ways to make a program work better. (crossover with debugging but discussing in advance what a difference a different instruction should make)</p>

Y2	<p>I can plan a route from one place to another. (orally, written or pictoral, need not necessarily be on a computer)</p> <p>I can plan a route to more than one place. . (orally, written or pictoral, need not necessarily be on a computer)</p> <p>I can pretend to be a robot and follow instructions. (physically follow instructions to move around a simple course set up)</p>	<p>I can program a toy.</p> <p>I can program a sprite to move in Scratch or Espresso coding. (4 directions using the jigsaw blocks)</p> <p>I can program a sprite to move in Scratch or espresso coding using blocks (as above)</p> <p>I can spot and correct mistakes in a program (debug).</p> <p>I can solve problems. (provide a simple scratch program with a error eg moves up instead of down, ask chn to debug it)</p> <p>I can consider the most efficient solution to a problem. (offer options for solutions and ask them which is most efficient)</p>	<p>I can predict where instructions will take a person, toy or sprite.</p> <p>I can record instructions to move a toy or sprite from one place to another. (written or by printing off something which they have completed in scratch)</p> <p>I can record instructions to move a toy or sprite to more than one place (written or by printing off something which they have completed in scratch)</p>
Milestone	<p>Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts (coding)</p>	<p>Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output (coding)</p>	<p>Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs (coding)</p>

Y3	<p>I can create a storyboard for an animation.</p> <p>I can include action and dialogue in my storyboard.</p> <p>I can write a computer program for an animation.</p> <p>I can put Scratch blocks in the right order.</p> <p>I can create sound and graphics for my animation.</p> <p>I can explain how my storyboard and program are linked.</p> <p>I can find and correct 'bugs' in my program.</p> <p>I can upload my animation to the Scratch website.</p> <p>I can get ideas from the Scratch website.</p>	I can use a repeat block in my program.	<p>I can correct 'off-by-one' mistakes in a program.</p> <p>I can correct mistakes in my own program.</p> <p>I can make a simple drawing program work better.</p> <p>I can put the dialogue in a program in the right order.</p> <p>I can try out different variables in a simulator game's program.</p> <p>I can describe how a simple maths program works.</p> <p>I can describe how a simple drawing program works.</p> <p>I can describe how the dialogue in a program works.</p> <p>I can correct a program so the animation is more realistic.</p> <p>I can describe how a simulator game's program works.</p> <p>I can explain how I correct 'bugs' in a program.</p> <p>I can explain how the steps in a program are linked.</p>
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Y4	<p>I can design an interactive educational game.</p> <p>I can develop an interactive educational game.</p> <p>I can put Scratch or espresso coding blocks in the right order.</p> <p>I can include sound in my game.</p> <p>I can use a countdown timer.</p> <p>I can use the mouse to control my game.</p> <p>I can explain how the algorithm of my game works.</p>	<p>I can plan my own way to program my game</p> <p>I can use the if/then/else block correctly.</p> <p>I can use the random number block and use variables to work out the score.</p> <p>I can design a toy with computer-controlled input and output.</p> <p>I can write a program to show how my toy would produce output.</p> <p>I can use Scratch to test how input and output would work in my toy.</p> <p>I can use Scratch to create a version of my toy with computer-controlled input and output.</p> <p>I can use Scratch to create a version of my toy using both mouse and keyboard input.</p>	<p>I can find and correct 'bugs' in my program.</p> <p>I can explain how I find and correct 'bugs' in my program.</p> <p>I can work out ways around problems by breaking them into smaller steps.</p> <p>I can correct mistakes in my game.</p> <p>I can use Scratch to work out why my toy may not work as expected.</p>

<p>Y5</p>	<p>I can create a storyboard or diagram for an algorithm for my game.</p> <p>I can create sound and graphics in Scratch for my game.</p> <p>I can put instructions in the right order for my game.</p> <p>I can create and add music for my game.</p> <p>I can break my game into smaller parts and work on them separately.</p> <p>I can animate my characters by creating different graphics for them.</p>	<p>I can use selection and repetition in my game.</p> <p>I can use variables in my game.</p>	<p>I can find mistakes in my game.</p> <p>I can correct mistakes in my game.</p> <p>I can listen to my partner's ideas about my game and make it better.</p> <p>I can explain how my game works.</p> <p>I can add comments to the script of my game .</p> <p>I can add instructions to my game.</p>
<p>Y6</p>	<p>I can see that a smartphone is a computer.</p> <p>I can find geotagged photos on a map.</p> <p>I can come up with interesting problems that I could solve with an app.</p> <p>I can name and describe the inputs and outputs of smartphones.</p> <p>I can use GPS to find media (e.g. photos) that have been geotagged.</p>	<p>I can recognise when I need to use a variable to achieve a required output.</p> <p>I can use a variable and operators to stop a program.</p> <p>I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen.</p>	<p>I can research apps that already exist that may solve my problem.</p> <p>I can judge how well apps that already exist work.</p> <p>I can show how apps that already exist will solve a problem.</p> <p>I can judge how well the work on my app is going.</p>

	<p>I can explain how search engines order web pages in a search ('Page Rank').</p> <p>I can answer questions about my app well.</p> <p>I can explain how smartphones connect to the internet through the phone network.</p> <p>I can explain how GPS works and how it can be used in practice.</p> <p>I can make a list of the main steps of my project that need to be completed.</p> <p>I can make a list of the tasks of my project that need to be completed.</p> <p>I can make a list of the things I will need to complete the project.</p> <p>I can create original content for my app.</p> <p>I can spot and list the different parts of my app that will need to be created.</p>		
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Y1 and Y2 – Milestone1 - Computing

To master practical skills

Presenting

Milestone	Co2/1.4 use technology purposefully to create, organise, store, manipulate and retrieve digital content (presentation ie: word.. / audio/ animation)
Y1	<p>I can use a video camera to record video.</p> <p>I can move files from the camera onto the computer.</p> <p>I can edit video.</p> <p>I can use a paint program.</p> <p>I can edit an image.</p> <p>I can use a paint program to show details of my character.</p> <p>I can put more than one image into a document.</p> <p>I can save my work.</p> <p>I can save my document in a portable format, for example PDF.</p> <p>I can find images on the web.</p> <p>I can give helpful feedback to my friends.</p> <p>I can see how digital images are created.</p> <p>I can see how images are stored on a computer.</p>

	<p>I can make my work even better.</p> <p>I can look for pictures on the web.</p> <p>I can copy a picture and put it in my presentation.</p> <p>I can move pictures in my presentation.</p> <p>I can resize pictures.</p> <p>I can sort pictures in order of size.</p> <p>I can choose the best pictures for my collection.</p> <p>I know that there are some pictures I can copy and some that I can't.</p> <p>I can put pictures into groups.</p> <p>I can use yes or no questions to find a picture.</p> <p>I can see how drawings and photos are different.</p> <p>I can add labels to my presentation.</p>
Y2	<p>I can take photos.</p> <p>I can take photos that are in focus.</p> <p>I can decide if a photo is worth keeping.</p> <p>I can edit photos.</p> <p>I can edit photos to make them look better.</p> <p>I can choose my best photos for our class collection.</p>

I can talk about how I took, edited and chose my best photos.

I can give helpful feedback to my friends.

I know how to let my teacher know if I am worried about an image.

I know that there are some photos I shouldn't put on the web.

I can edit my photos (e.g. cropping).

I can create a chart.

I can add a title and label the axes of my chart.

I can change the way my chart looks.

I can show my results in different types of charts.

