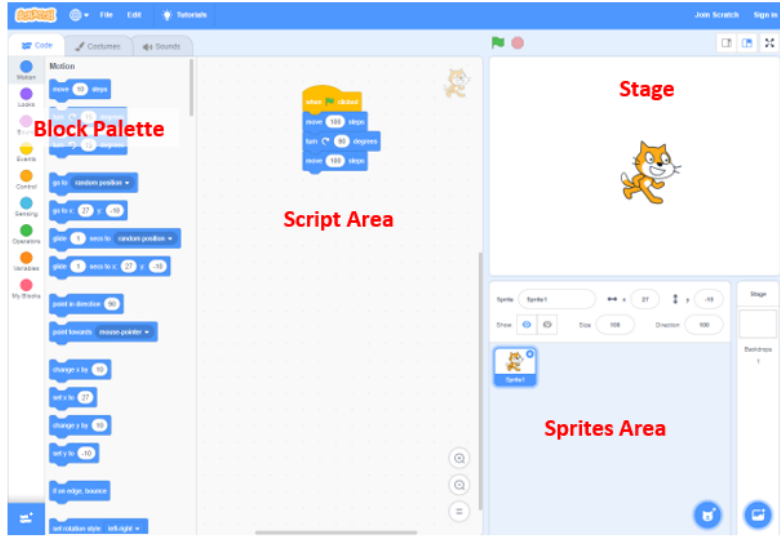
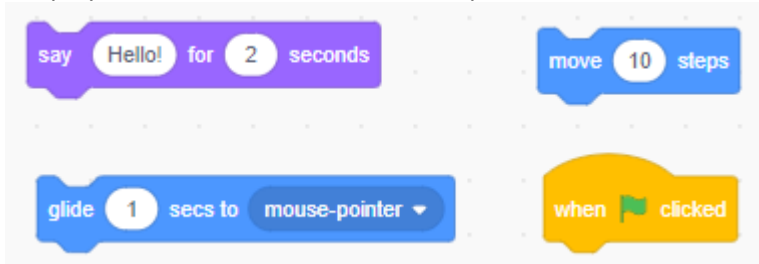
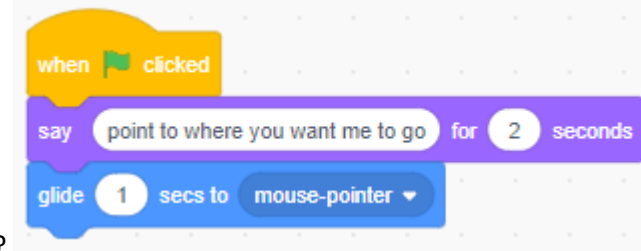


TSS Primary Computing MTP 2022-2023 Year 3 Block 5 – Further Coding

Week	Key Targets and Learning Objectives	Key Activities	Key Vocabulary
1 & 2	<ul style="list-style-type: none"> ➤ 3CT.05 Predict the outcome of a change to an algorithm that is presented as a sequence of steps. ➤ 3CT.01 Follow, understand, edit and correct linear algorithms. ➤ 3CT.07 Identify the inputs to algorithms. ➤ ➤ 3P.05 Know how to make a change within a block of code to achieve desired outcomes in programs, such as changing the number of steps a sprite moves. 	<p>➤ Review the Scratch platform from Block 2</p>  <p>➤ Display four different blocks, for example:</p>  <p>Which blocks would make the sprite move? What is the same about them? (colour)</p> <p>➤ Remind the children of the need for an orange event block.</p>	<ul style="list-style-type: none"> ➤ block palette ➤ script area ➤ algorithm ➤ sprite ➤ stage ➤ events block ➤ initialise ➤ move block ➤ looks block ➤ sound block ➤ parameters ➤ prediction



TSS Primary Computing MTP 2022-2023 Year 3 Block 5 – Further Coding



➤ What will happen?

Children to predict the output.

➤ Open and display the 'Ocean' project in Scratch. Ask pairs to discuss what happens when the green flag is pressed.

Ask each pair to share one thing that they noticed in the project. Example observations should include that:

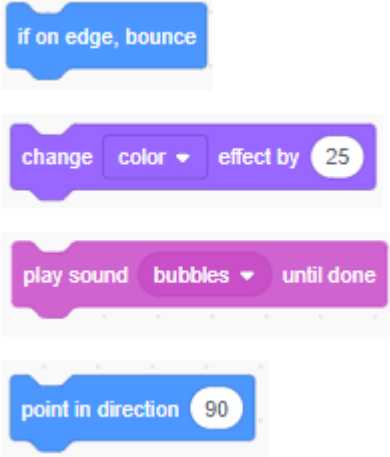
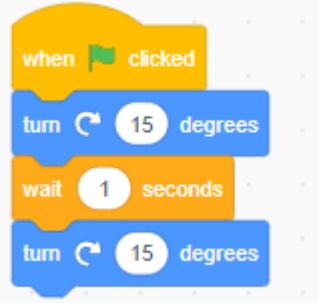
- nothing happens until the green flag has been clicked
- the diver changes colour, moves to the bottom of the scene and gets smaller
- the diver then stops but all the other sprites move continually
- there is a splashing sound at the beginning
- the fish swims backwards and forwards
- the starfish spins around
- the octopus changes costume
- the crab moves around the screen randomly, bouncing off the edge.

It also makes a bubbling noise when it touches the fish.

Support learners to notice that the crab and diver include code to initialise them.

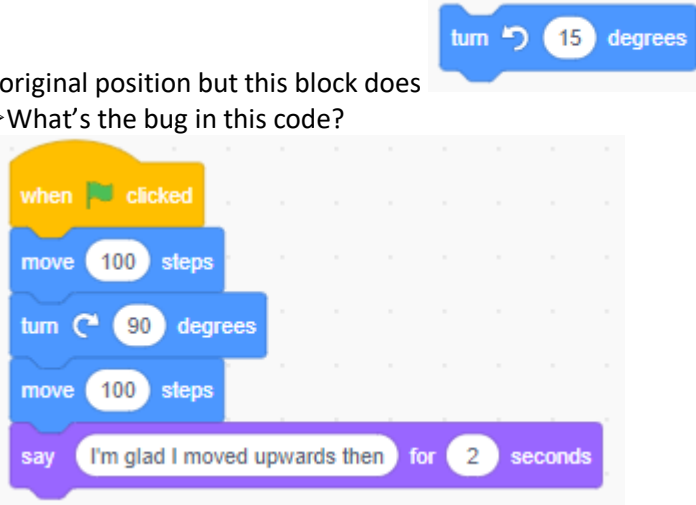


TSS Primary Computing MTP 2022-2023 Year 3 Block 5 – Further Coding

		 <ul style="list-style-type: none"> ➤ Share Children to notice ‘when’ and ‘why’ things happen. ➤ The numbers are called parameters. ➤ Children to change a parameter, predict then test what will happen to a range of code snippets. ➤ What changed parameters were the most surprising? ➤ Review and self-assess 	
3	<ul style="list-style-type: none"> ➤ 3P.07 Outline the benefits of working with others when creating programs. ➤ 3P.08 Understand that programmers use their mistakes to inform the programs that they create. ➤ 3P.09 Know how to test and debug programs so that they run and produce the desired output. 	<ul style="list-style-type: none"> ➤ Review the learning from the previous lesson. ➤ Discuss the term ‘bug’ and its possible origins. ➤ Review the idea of pair programming and what the benefits are. ➤ Show the following code  <ul style="list-style-type: none"> ➤ The objective of this program is for the sprite to make a slight turn then, after a short pause, return to its starting position. Will the code do this? 	<ul style="list-style-type: none"> ➤ block palette ➤ script area ➤ algorithm ➤ sprite ➤ stage ➤ events block ➤ initialise ➤ move block ➤ looks block ➤ sound block ➤ parameters ➤ prediction ➤ bug ➤ debug



TSS Primary Computing MTP 2022-2023 Year 3 Block 5 – Further Coding

		<p>➤ Children should identify that the last block does not return the sprite to the original position but this block does</p>  <p>➤ What's the bug in this code?</p> <p>➤ In groups of 4 children need to each write some code (four steps). This is passed to a second person to check. The third person writes the code on Scratch but puts in a 'bug'. The fourth person needs to check and correct before the code is compared with the original.</p> <p>➤ Discussion to identify the most common bugs. Ask: <i>Did you find it difficult or easy to identify the bugs?</i> <i>Did any of the bugs improve the code?</i></p> <p>Elicit or explain that sometimes when a bug is identified, it can lead to an improvement in a program, but normally it means something does not work as we want it to.</p> <p>➤ Remind learners that professional programmers often find bugs in their code and sometimes this can cause major problems.</p>	
4	<p>➤ 3P.08 Understand that programmers use their mistakes to inform the programs that they create.</p> <p>➤ 3CT.07 Identify the inputs to algorithms.</p> <p>➤ 3P.02 Know how to develop programs that include code to reset objects to their original state (initialisation).</p>	<p>➤ Review previous learning.</p> <p>➤ Look at the crab's code in the Ocean project and discuss what the first two blocks do.</p> <p>➤ Why might this be required at the beginning of a script?</p> <p>➤ Refer this idea to computer games they may have played.</p> <p>➤ Remove the block and run the program, stop the program and run it again.</p> <p>➤ Discuss that without the initialisation block the program doesn't run in the same way, which could become a problem.</p>	<p>➤ block palette</p> <p>➤ script area</p> <p>➤ algorithm</p> <p>➤ sprite</p> <p>➤ stage</p> <p>➤ events block</p> <p>➤ initialise</p> <p>➤ move block</p>



TSS Primary Computing MTP 2022-2023 Year 3 Block 5 – Further Coding

	<ul style="list-style-type: none"> ➤3P.03 Know how to create a program with more than one algorithm running at the same time. ➤3P.07 Outline the benefits of working with others when creating programs. ➤3P.09 Know how to test and debug a program so that it will run and will produce the desired output. 	<ul style="list-style-type: none"> ➤What else needs to be initialised? Why? <p>In small groups, brainstorm some possible ideas for things that might need resetting and how they might do it. For example,</p> <ul style="list-style-type: none"> ●position ●colour ●costume ●direction ●size. <ul style="list-style-type: none"> ➤Return learners to the groups that were used in the previous activity. Ask each group to open the programs that they created, and then used, for debugging. Allow time for them to explore creating initialisation scripts to reset each of their programs. ➤Give chance for the groups to share their work. What has been initialised? 	<ul style="list-style-type: none"> ➤looks block ➤sound block ➤parameters ➤prediction ➤bug ➤debug
5	<ul style="list-style-type: none"> ➤3P.10 Know how to develop programs for a physical computing device to produce outputs. ➤3CT.07 Identify the inputs to algorithms. ➤3CT.08 Know how to develop linear algorithms to produce an output based on an input. ➤3P.02 Know how to develop programs that include code to reset objects to their original state (initialisation). ➤3P.03 Know how to create programs with more than one algorithm running at the same time. ➤3P.06 Know how to create programs to produce an output from an input device. 	<ul style="list-style-type: none"> ➤Review learning from previous lesson. ➤Introduce the children to Dash and show that the device is controlled using block coding. ➤Demonstrate how to log in and find their profile. ➤Introduce the children to the puzzles for Dash. ➤Discuss the similarities and differences of the coding blocks. ➤Show the children how to use the iPad to control the physical devices ➤Children to complete Driving School – cycle children through using the physical devices over the next couple of lessons. ➤Review and self-assess 	<ul style="list-style-type: none"> ➤ Output ➤input ➤algorithm ➤Blockly coding
6	<ul style="list-style-type: none"> ➤3CS.05 Know that computers can be programmed to control machines and other physical objects. 	<ul style="list-style-type: none"> ➤ Review learning from previous lesson. ➤Discuss progress so far and what they found easy and difficult ➤Allow the children to further progress through the puzzles section with Dash ➤Continue to cycle through use of the physical devices. 	<ul style="list-style-type: none"> ➤ Output ➤input ➤algorithm ➤Blockly coding
Throughout	<ul style="list-style-type: none"> ➤Create games using events handlers 	<ul style="list-style-type: none"> ➤ Work through Lessons 12 and 13 on Code.org 	<ul style="list-style-type: none"> ➤event blocks



TSS Primary Computing MTP 2022-2023

Year 3 Block 5 – Further Coding



			➤when block
--	--	--	-------------