TSS Primary ICT MTP 2022-2023
Year 2 Block 2 – Let's Create – Computational Thinking & Programming

Week	Key Targets and Learning Objectives	Key Activities	Key Vocabulary
1	• Follow and understand linear algorithms. • Identify and correct a single error in algorithms that represent everyday events or tasks. • Know that an algorithm is a precise set of instructions. • Identify the steps needed to undertake tasks, in order to develop simple algorithms. • Predict the outputs of algorithms.	• What are instructions? • Share the idea that an algorithm is a set of instructions for a computer. Is this hardware or software? • Share the Red Riding Hood grid and ask the children in pairs to write instructions for RRH to get to Grandma's house. • Differentiate between turn/rotate right/left as opposed to go right or left. • Remind the children that the instructions are the input and RRH moving is the output. • Talk to children about how to work in pairs with devices. • Children to rotate through the following 3 activities: • Paper algorithm for a character • Beebot activity simulating RRH activity • Beebot app on the iPad - Egypt	• input / output • hardware (keyboard, mouse, speaker, microphone, camera, trackpad, monitor, touch screen) • software (web browser, word-processor, paint tool, games) • algorithm • sequence
2	• Follow and understand linear algorithms. • Identify and correct a single error in algorithms that represent everyday events or tasks. • Know that an algorithm is a precise set of instructions. • Predict the outputs of algorithms	• Remind children of their Code.org experiences last year and remind them how to log in. • Review the idea of an algorithm and the ordering of the sequence. • Allow the children to work through lesson 3 on Code.org	• Algorithm • Instructions • Sequence • North • South • East • West • Run • Test
3	• Know how to develop programs to produce desired outputs, including the use of the repeat command. • Understand the benefits of working with others when debugging programs. • Identify the benefits of regularly testing programs throughout their development. • Know how to debug programs so that they will run and will produce the desired output. • Know how to enter directional instructions in to a physical computing device to enable it to reach a specific destination.	• Look at the idea of making the algorithm shorter by using the repeat block. Model this using the RRH grid. • Allow the children to practise with the repeat function in lesson 4 of Code.org	• Algorithm • Instructions • Sequence • North • South • East • West • Run • repeat

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4	• Identify and correct a single error in algorithms that represent everyday events or tasks. • Know how to develop precise sets of instructions to complete simple tasks, such as drawing a picture of a particular object or building a brick tower. • Understand that programs instruct computers how to run algorithms.	• Share the video on debugging Programming with Harvester #5 | Course B (2021) - Code.org with the whole class ensuring they understand the idea of a bug or mistake and how to use the Step button to discover where the mistake is and fix it/debug it. • Children can run through the skills for lesson 5.	• bug / error / mistake • debugging • program / code • test • run
5	• Use the correct terminology to explain the functions of basic hardware and software. • Understand that programs instruct computers how to run algorithms. • Know how to recreate algorithms as programs. • Know how to debug programs so that they will run and will produce the desired output. • Know how to enter directional instructions in to a physical computing device to enable it to reach a specific destination.	• Review what an algorithm is. • Look at the idea that for different devices the algorithm is the same but the program each device uses is different. Demonstrate using the Beebot simulator (uses arrows) and Code.org (N, S, E, W) Use Code.org to show the children the underlying code/program. Bee-Bot Online (terrapinlogo.com) • Children to use task cards with the Beebot simulator and physical Beebots to achieve a target and write the program for the pathways. • Cycle children through in small groups using the physical devices. • Children can also use the Beebot App to record their programs.	• Algorithm • code • program • instructions • software
6	• Know how to recreate algorithms as programs. • Understand the benefits of working with others when debugging programs. • Identify the benefits of regularly testing programs throughout their development. • Know how to debug programs so that they will run and will produce the desired output. • Know how to enter directional instructions in to a physical computing device to enable it to reach a specific destination. • Know how to develop programs to produce desired outputs, including the use of the repeat command.	• Review the idea of debugging. • Using the Beebot simulator Bee-Bot Online (terrapinlogo.com), get the children to look at programs to achieve a goal and see if they can spot the mistakes. • Children will use the online simulator and the physical devices to find the bug in the program and debug it. Pair work to stimulate discussion and approaches. • Share work with the class	• Bug • debug • program • algorithm
7	• Know how to develop programs to produce desired outputs, including the use of the repeat command.	• Review the learning this block and deal with any misconceptions.	• input / output • hardware (keyboard, mouse, speaker,

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	• Understand the benefits of working with others when debugging programs. • Identify the benefits of regularly testing programs throughout their development. • Know how to debug programs so that they will run and will produce the desired output. • Know how to enter directional instructions in to a physical computing device to enable it to reach a specific destination.	• Using the Beebot simulator and the physical devices the children to work in pairs to write their own scenarios and solutions. • The groups to swap and try out each other's scenarios to see if they work. If they do not work, the children need to debug the program and write their own program to correct any mistakes they find	microphone, camera, trackpad, monitor, touch screen) • software (web browser, word-processor, paint tool, games) • algorithm • bug / error / mistake • debugging • physical device • program / code • test • run