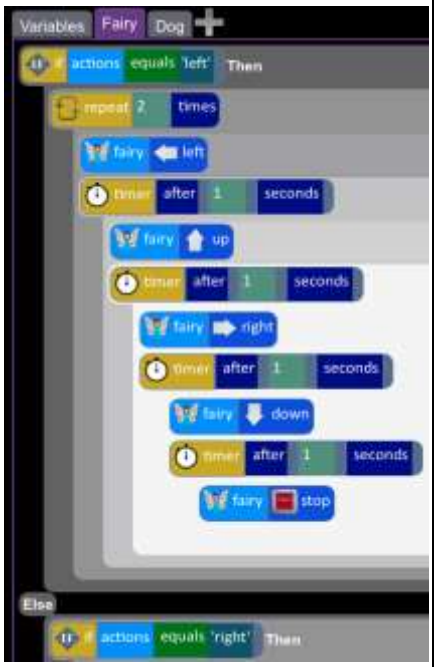
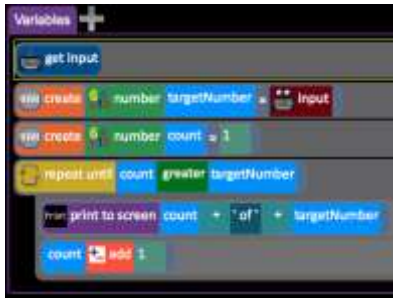
These guided activities would be good preparation for learning free code: **Vehicles**, **Shapes**, **Random Words & Wizards**, **Traffic Lights**.
This lesson is planned as a 40 minute lesson with a 10 minute homework activity. Please adapt it to your school's requirements.

School:	**Class:** Year 6	**Lesson:** 4 of 5	**Subject:** Computing	**Date:**
Lesson Overview	**Objective, LOs & SCs**			**Free Code Activity**
In this lesson students will create a program that will do 2 separate defined things. 1. They will create a program that includes a character or characters that follow a sequence of directions using a selection command (IF). These directions will be inputted in a variety of ways to create a different output. 2. They will also create a program that includes a VARIABLE that repeats.	**NC Objective:** Use sequence, selection and repetition in programs; work with variables and various forms of input and output. **Learning Outcomes:** • I can create a program that includes a VARIABLE that REPEATS an action. • I can make my own program that includes an OBJECT that completes a SEQUENCE of COMMANDS when I use a VARIABLE. • I can use the command IF in my program successfully. (HA/Exceeding expectations) **Success Criteria:** • I can show how my character repeats an ACTION and explain how I caused it to do so. • I can explain what a SEQUENCE is when used in programming. • I can explain what SEQUENCE I used in my program. • I can show how my program responds to the command IF.			Free Code Gorilla http://www.purplemash.com/app/code/openended/freecodegorilla

New Vocabulary	**Link/s to other subjects**	**Differentiation**	**Assessment Opportunities**	**Resources Needed**
If Input Output Repeat Selection Sequence Sequencing Variable	Literacy – descriptive language when writing up what they did and how it worked.	*Include students to be aware of and notes for support staff.* **SEN**: to create simplified version of the program with support. **LA**: to create program using when clicked commands and if commands instead of variables. **HA**: can create more advanced program. **Extension Activities**: could create a more developed program.	• Programs • Writing up of programs • Observing how ch work together • Memory games	• Offline resources pack • Flashcards from resource pack – teacher, student • IWB • Internet connection • 2Code workbooks

Introduction	Activities (25mins)	Plenary	Homework
In the introduction to this lesson we will be reviewing vocabulary relating to coding. Stick flashcards on boards. Ch to look at flashcard packs on tables. On one side of flashcard should be the word and other side should be definition. T to go through words: VARIABLES, SEQUENCE, SELECTION, REPETITION, INPUT and OUTPUT on board. Children play memory games with the flashcards to learn the vocab.	Teacher explains that in this lesson children will be creating 2 new programs in their 2Code workbooks. The students will use their knowledge of VARIABLES and the command IF selects different blocks of command to run. These commands will cause an OBJECT (ask ch: what is an object? i.e. a character or an animal) to behave differently. In the second program, they will learn how to create a variable that repeats an ACTION and creates a sequence of numbers. Students are expected to work on developing a program that includes an animal or character that moves and makes sounds when using text commands (IF commands) and VARIABLES. Children should work in pairs to decide on which characters they will be using and what their characters will do. Children will decide in advance what commands they will use and what they will use them for. They should note down their plans in their 2Code workbooks. HA students should use more than one OBJECT and use a variety of INPUTS to control their OBJECTS. Remind students to use TABS to organise their code. *(Use sequence; selection & repetition in programs; work with variables & various forms of input and output.)* Emerging (LA) students should use an OBJECT that REPEATS an action every time it is clicked (INPUT) and to use an animal that does something different or makes a sound each time a key is pressed (SEQUENCE, INPUT, OUTPUT) *(Use sequence; selection & repetition in programs with various forms of input and output.)* The second program should use a VARIABLE that follows a SEQUENCE using a REPEAT. In this program, the children will be using a temporary VARIABLE to count from 1 up to the INPUT VALUE. The temporary VARIABLE will initially be set to 1 and the REPEAT UNTIL will OUTPUT this count using the PRINT TO SCREEN and increase the count by 1 until it exceeds the INPUT VALUE. Their code should look like the screenshot below. In order to create this program, students will use the commands: CREATE VARIABLE, CHANGE VARIABLE, GET INPUT, REPEAT UNTIL and PRINT TO SCREEN. **Send children to create their program**. Once they have completed their program successfully they can work individually on the guided lesson "**CODING NUMBER SEQUENCES**".     	Children should ensure that they've written their planning in their 2Code workbooks. Some children to come up to the front to show their programs and explain them. Quick memory game using flashcards to review vocab covered at the beginning of the lesson. You can also use online games (link 1, link 2, link 3).	Take 2Code workbook home (or a copy of the code) and input the program into 2Code and save the program. Publish and print QR code to take in to school.