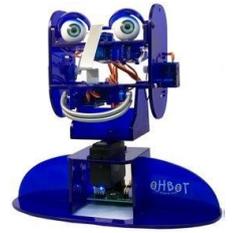


## Year 3 - Lesson 3 (Over and over again)

### Learning Intention

- I can refine a program by using the **repeat** instruction.



### Introduction

What did we learn to do in the previous session? (Use the keyboard to control Ohbot). Remember when we use the keyboard to control Ohbot, Ohbot's head will only continue to move up and down as long as the N (for nod) key is being pressed. Consequently, if you press N again and again, Ohbot will nod again and again.

However, in programming this is not the most efficient way to perform an instruction multiple times. Look at the **Control** palette, can you see an instruction that could help us? We need to use the repeat instruction. This week we will learn to write code using repeat.



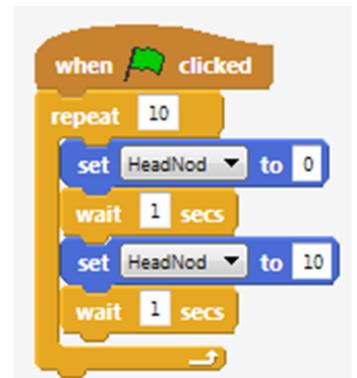
### Teacher Input 1

Ask the children to open the Ohbot application on their computer and go to **New** on the **File** menu to create a blank program. Let's see if we can find repeat. Go to the **Control** palette and drag out a **repeat** instruction. Demonstrate that the number can be changed to set the number of times the code inside the loop is repeated. Can you write some code to make Ohbot's head move up and down 10 times? How many times do you need to repeat the code? (10).

Select **Save As** from the **File** menu - name the program 'head nod with repeat'.

### Activity

- Write a program to make Ohbot's head move up and down 10 times.
- Can you write some code to help Ohbot cross the road? Ohbot needs to look left and right twice while it is on the kerb and then straight ahead while it crosses the road.
- Can you write some code for Ohbot to perform a sequence of movements one after the other? E.g. nod twice, shake twice then blink twice.



### Extension

Can you write your own keep fit sequence for Ohbot with at least 3 moves and using repeat? **File, Save As** – 'keep fit'

### Plenary

How did you find today's lesson? (Thumbs up, down, middle). Remember that programmers can be quite lazy so repeats are perfect for them because they mean shorter programs and less work!

