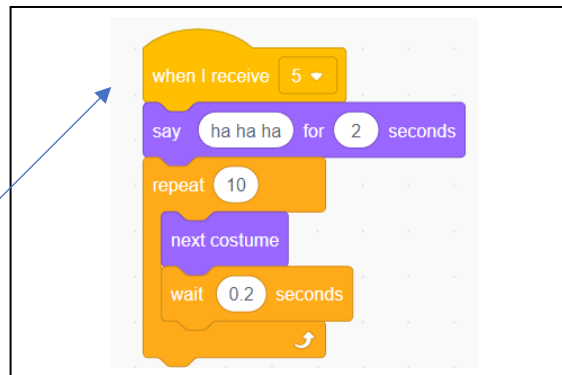
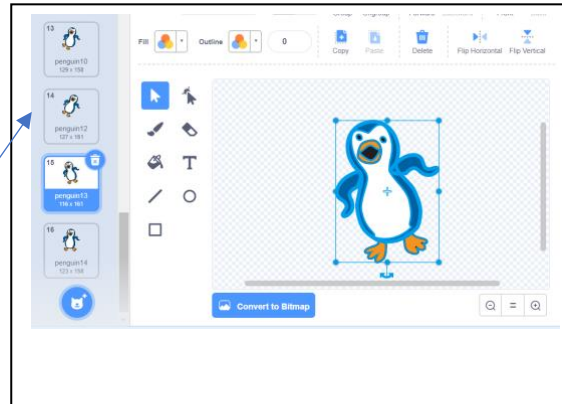


# Year 4 Programming with Scratch from Algorithm to Code Knowledge Organiser

Key Learning	Self-Assessment		
	WT	A	WA
I can use the drawing tools to edit sprite costumes			
I can change costumes of my sprites using a delay command between costume changes			
I can add the music <b>extension block</b> to a scratch file			
I can <b>duplicate and edit sprites</b> using the drawing tools in scratch			
I can create code using different <b>inputs</b> from the Events command blocks to run the programme			
I can reset the position of the sprite ready for the programme to be run again			
I can create a count controlled loop ' <b>repetition</b> ' – a sequence of instructions that is repeated a certain number of times			
I can add a continuous/forever loop ' <b>repetition</b> ' to my code			
I can save my work (either to a computer or in my scratch account)			
I can create a <b>broadcast</b> message as an input to trigger events and use it in a block of code			



## Key words and prior learning from year 3 programming units

- Program** – a set of instructions in a language that is understood by a computer
- Code blocks** – the instruction 'block' that joins together to make a program
- Sprite** – name given for a character in computer software Visual or Scratch
- Debug** - Look at your program and find where there is a problem and fix it
- Unplugged** – this is a computer science activity that does not need a computer
- Visual** – block based programming language by J2e
- Repeat loop** – this is used in a program when we need to repeat something
- Nested Loop** – this is repeat loop with another repeat loop 'inside' it

## New key words we will use in year 4 Scratch Programming from Algorithm to Code

- Scratch** –block-based programming language by MIT
- Count controlled loop** - this is used in a program when we need to repeat something a number of times
- Input** – this is an event that triggers an action/code block
- Costumes** – the way a sprite looks – these can be used to show movement
- Broadcast** – an input that can be used to trigger events

I know about these loops	Continuous loop example	Controlled loop example	Conditional Loop
<b>Design Level (Algorithm &amp; objects)</b> Language a human will understand,	Always loop step forward jump Loop all the time step forward jump	Do 3 times nod wave clap	Do until <b>key is pressed</b> Jump Hop Jump
<b>Code Level</b> How this might look as code			

**Who uses skills like these?**

- Computer game makers
- Computer programmers when they design and make software to solve problem.
- App makers