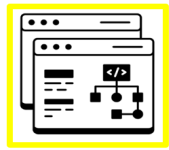


Year: 4
Term: Summer 2
Topic: Programming - Repetition in Games



St Dennis Primary Academy

"Everyone matters, everyone succeeds, every moment counts"

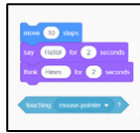


Main areas in Scratch:

The **Blocks Palette** contain all of the different blocks: puzzle piece commands which control the animation.



The **Code Area** is where the blocks are placed to create a program.

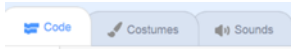


Stage with Sprite is where the output of the program is presented.



The sprite is the character.

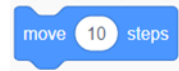
Attributes: There are three attributes of the sprite which we can change to make our animation: Code, Costumes, Sounds.



Event Blocks: Event blocks are coloured yellow and are used to sense different events that happen.



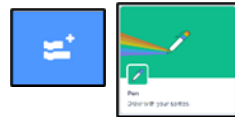
Action Blocks: Action blocks include 'Motion' blocks, 'Sound' blocks and 'Looks' blocks. They make the sprite move, make sounds and change appearance.



Glossary

- algorithm** A set of instructions to perform a task.
- animate** Make something look like it's moving.
- loop** Commands that repeatedly run a defined section of code
- modify** Changing something.
- programming** Making a set of instructions for computers to follow.
- value** A numerical number which is entered.

Pen Drawing in Scratch: This allows you to draw with your sprites.



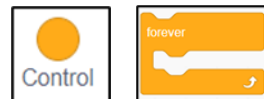
Repeat Block: The number of times something is repeated can be typed into the white area.



Creating Shapes: Turning a number of degrees changes the direction of the pen. Placing the repeat block around this motion code can allow more complex shapes to be drawn.



Count-Controlled/Infinite Loops: We can control the number of 'loops' of a command with the number typed into the 'repeat' block. The 'forever' block makes a command continue infinitely (forever).



Event Managing and Efficiency Using the 'events' blocks logically can help to make your programming easy to use.

Efficiency is about getting the right result in the easiest way possible, wasting little time or effort. Use of the repeat and loop tools should help to create efficient programs.

Algorithms, Trialling, Debugging Programmers do not put their computer programs straight to work. They trial them first to find any errors:

Sequence errors: An instruction in the sequence is wrong or in the wrong place.

Keying errors: Typing in the wrong code.

Logical errors: Mistakes in plan/thinking.

If your algorithm does not work correctly the first time, remember to **debug** it.

