Computing — Python

Key Terms

Python	A programming language
Programming Code	The process of writing computer programs . The instructions that you write to program a computer
Sequence	Parts of the code that run in order
Selection	Selects pathways through the code dependent on conditions
Iteration	Code is repeated (looped) while something is true or for a number of times
Algorithm	A set of rules / instructions
Variable	A value that can be changed (speed, lives, score) Function Inbuilt code that performs a specific task
String	A sequence of characters that can include letters, numbers, symbols
Integer	Whole numbers, no decimal point
Boolean	Can only output the result of True or False
Float	Decimal Numbers
Concatenation	Operation that joins two string together ('Tall + 'Giraffe")
Data Type	Format in how data is stored (float, integer, string)

Indentation	Moves code inwards to show it belongs to the same subsection of code
Syntax	Spelling and grammar of a programming language so that the computer can understand it
Comparison Operator	When comparing data, a comparison operator is used to test the condition
Compiler	Collects every line of code together and checks for errors before executing

Python to English

```
Fname = "Paul"
Sname = "Smith"
print(Fname+Sname)
```

print('Hello')	Prints Hello on the screen
input('')	Inputs a value into the computer
x=input('')	Inputs a value and stores it into the variable x
if name == 'Fred':	'Checks to see if the variable 'name' has a value that is equal to 'Fred'
else:	The other option if the conditions for an if statement are not met (e.g.. name = 'Bob' when it should be Fred)

Arithmetic Operators

+	Addition
—	Subtraction
*	Multiplication
/	Division
//	Integer division
%	Remainder
**	Exponent

Comparative Operators

==	Equal to
!=	Not equal to
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Variables/WHILE LOOPS

Variable

can hold a value that can be changed. We can assign a value to a variable by using an equals(=) sign. We can add 2 strings together using +, this is known as concatenating. We can get a keyboard input from the user using the input function. This example will ask the user for their name and store it in the "name" variable. We can then print that value. Combine the inputs with other Strings to print a clear message.

```
name = input("What is your name")
print("Your name is "+name)
```

A **while loop** will keep repeating code until a certain condition is met. For example repeat until lives do not equal 0.