

Year 7 - Introduction to Coding

What do I need to be able to do?

By the end of this unit, you should be able to:

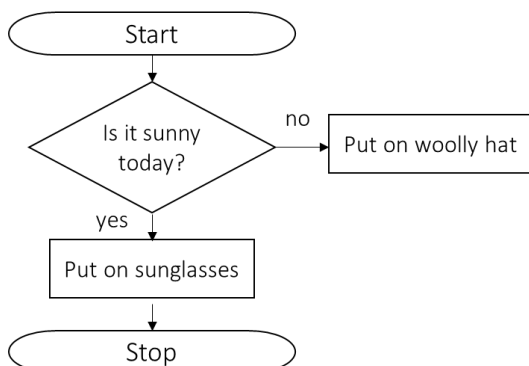
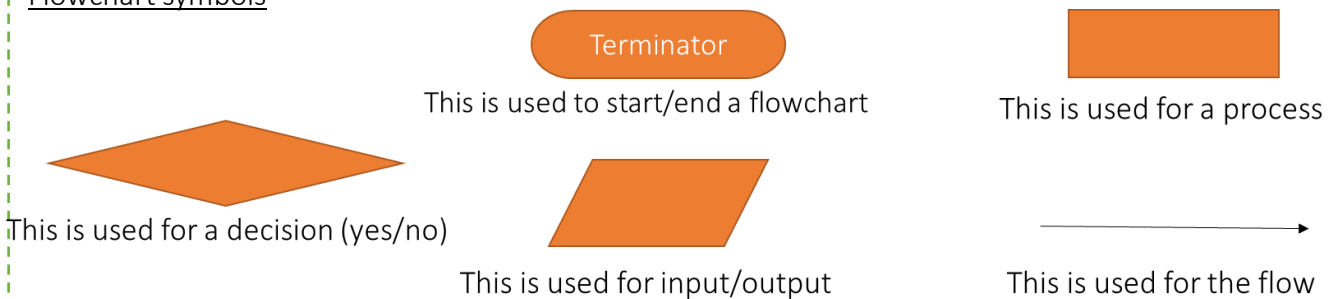
- Understand what an algorithm is
- Be able to create a flowchart for a given scenario
- Understand what sequencing is
- Understand what is meant by selection
- Create flowcharts with the use of selection
- Basic syntax rules
- Use loops within code

Keyword	Definition
algorithm	An algorithm is a list of rules to follow in order to solve a problem
selection	Selection is the process of making a decision.
Sequence	Following the algorithm step by step in order
Terminator	Terminators show the start and stop points in a flowchart
Flow	Moving through the algorithm
Flowchart	A diagram of the sequence of movements, it is a type of algorithm
Syntax	A set of rules in a programming language
Objects	The building blocks of the programming language
Functions	Actions that an object can carry out.

Algorithms

- An **algorithm** is a set of step-by-step instructions to describe a task or process
- A flowchart is a visual method for describing a set of step-by-step instructions

Flowchart symbols



Selection is when computers make decisions. A computer can be programmed to make a **selection** between two or more choices, depending on the **condition** (the question).

Code Combat



9

Using loops:

```
while True:  
    hero.moveRight()  
    hero.moveDown()  
    hero.use("door")
```

Parts of a while loop:

1. While keyword
2. Condition (here, condition is True)
3. Body (statements indented within while loop)

Don't forget:

1. The colon after the condition!
2. To indent repeated statements within the while loop