

Your Wider Reading (compulsory)

It is important that you read around the subject of Computer Science to keep up to date with the latest innovations and link these to your studies.

Below are some links to get you started:

[Wired](#)

[Computerworld](#)

[Technology Review](#)

[PC Mag](#)

[BBC News Technology](#)

Computer Science

Progression to Level 3

The Computer Science Progression work book – Click [Here](#)

Computer Science is the science of problem solving. In Computer Science we look for ways to methodically solve problems. Watch this video: <https://www.youtube.com/watch?v=AnVBCyzNgaU&feature=youtu.be>

Unit 1: Principles of Computer Science - Watch this video on Decomposition, Abstraction & Algorithmic Thinking https://www.youtube.com/watch?v=qkIVhelgtWw&list=PL04uZ7242_M5YXweUxeEtUPpGpOGsbk6I

Unit 2: Fundamentals of Computer Systems. Watch this video https://www.youtube.com/watch?v=7vbRGDgHukA&list=PL04uZ7242_M5BTOIXIsGje6o8rYDh6lbY

Watch this introduction to Python: <https://www.youtube.com/watch?v=mgBpcQRDtI0&feature=youtu.be>

If you have no experience of programming or need to refresh your memory, you should use [this online platform](#) as it offers interactive free coding tutorials. You will need to complete **all** sections from Hello World to Functions.

If you need to download Python to your computer you can read the instructions [here](#)

Programming Techniques Challenge

Darts is a game where the objective is to reach a score of zero starting from 501. A player throws 3 darts and their total from the throw is subtracted from their score. A player has to achieve a score of exactly zero to win the game. A throw that would result in a score below two does not count. Create a program to allow the user to enter a total from their darts. The program should then subtract this from their current score if the remaining score would be greater than one. The player should win the game when their score becomes exactly zero.

The Challenge...
1.0 Set the player's score to 501
2.0 Display the message: New game. Player starts at 501 points.
3.0 Loop while the player's score does not equal zero
3.1 Ask the user to enter the total from 3 darts

The following course [Simple coding](#) is FREE to complete online from The Open University.

[Programming for Everybody \(Getting started with Python\)](#) is a FREE online course delivered by the University of Michigan

[Computer Programming for Everyone](#) is a FREE online course delivered by the University of Leeds.

3.2 Check if the player's score minus the total is greater than 1
3.2.1 Subtract the total from the player's score
3.2.2 Display the player's new score
3.3 Else check if the player's score minus the total equals 0
3.3.1 Subtract the total from the player's score
3.3.2 Display the message: Player 1 wins the game

You should also take the opportunity to watch or listen to a TED talk on Computer Science [here](#).