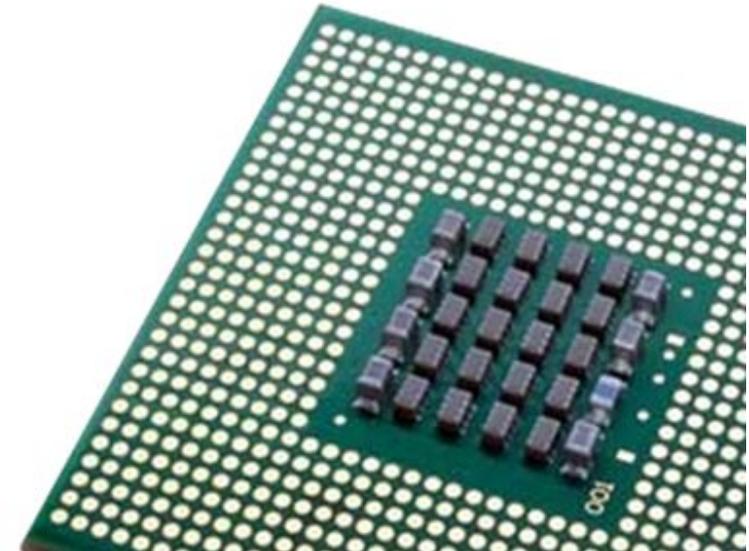
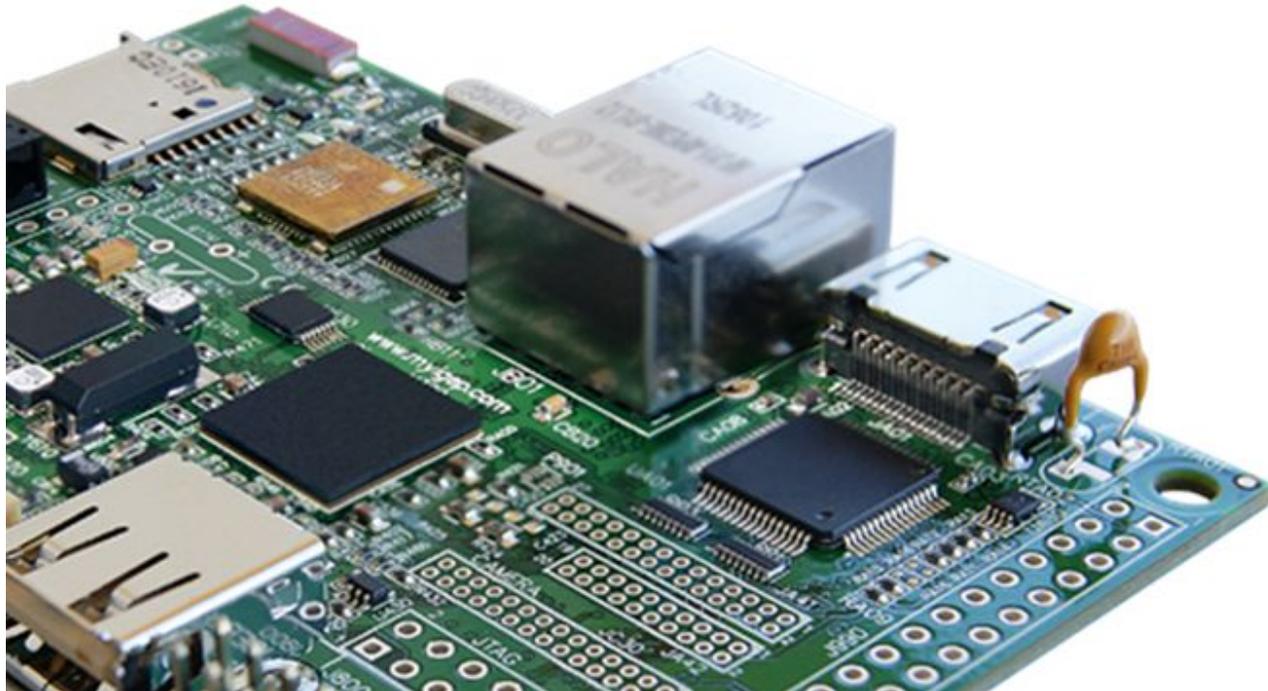


# Computer Science GCSE

# Why choose Computer Science at GCSE?

“Computer Science is no more about computers than astronomy is about telescopes.” - Edsger W. Dijkstra



# Why choose Computer Science at GCSE?

## Why choose Computer Science?

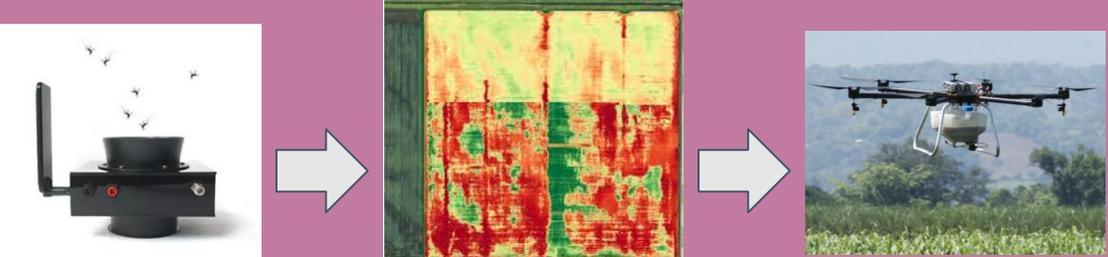
**Technology** is embedded in every aspect of our lives.

**Computer Science** is being used to help solve many of the world's biggest problems



Simplified tracking systems for diabetics

Reducing use of pesticides by only targeting infected areas of a field



Detection      Analysis      Targeted application

# What will I learn?

In Computer science you will learn how the components of computer systems work and, probably more importantly, develop your problem solving skills by applying computational thinking methods. The topics covered are:



**Computers** - understanding of hardware and software components of computer systems and characteristics of programming languages.



**Networks** - understanding of computer networks and network security.



## Computational thinking

- understanding of what algorithms are, what they are used for and how they work; ability to follow, amend and write algorithms; ability to construct truth tables.
- understanding how to decompose and analyse problems
- ability to read, write, refine and evaluate programs.



**Data** - understanding of binary, data representation, data storage and compression.



**Issues and impact** - awareness of emerging trends in computing technologies, and the impact of computing on individuals, society and the environment, including ethical, legal and ownership issues.

# Structure of the course

Specification: Edexcel 1CP2

Topics covered in Year 10: System architecture, Computational thinking, System software, Programming essentials, Data representation(numbers), Algorithms & Computational logic and Networks

Topics covered in Year 11: Data representation (Sight & Sound), Advanced programming techniques, Network security, Robust programming, Classification of programming languages and Issues & impact of computing technology

- Exams will be taken at the end of Year 11

Head of Subject: Mr Wainwright

email: [bwainwright@nsg.northants.sch.uk](mailto:bwainwright@nsg.northants.sch.uk)

# Methods of study and assessment

We will provide you with a wide range of learning experiences. This can take the form of from the front teaching, individual work using a wide range of differentiated resources, practical problem solving and programming challenges, research tasks and group work.

You will have a short assessment at the end of each half term, based on previous exam questions. These assessments are a way for you to track your own progress and identify your own areas of strength and areas to develop.

# Future career options

**Computer Science provides opportunities in a wide range of job sectors**

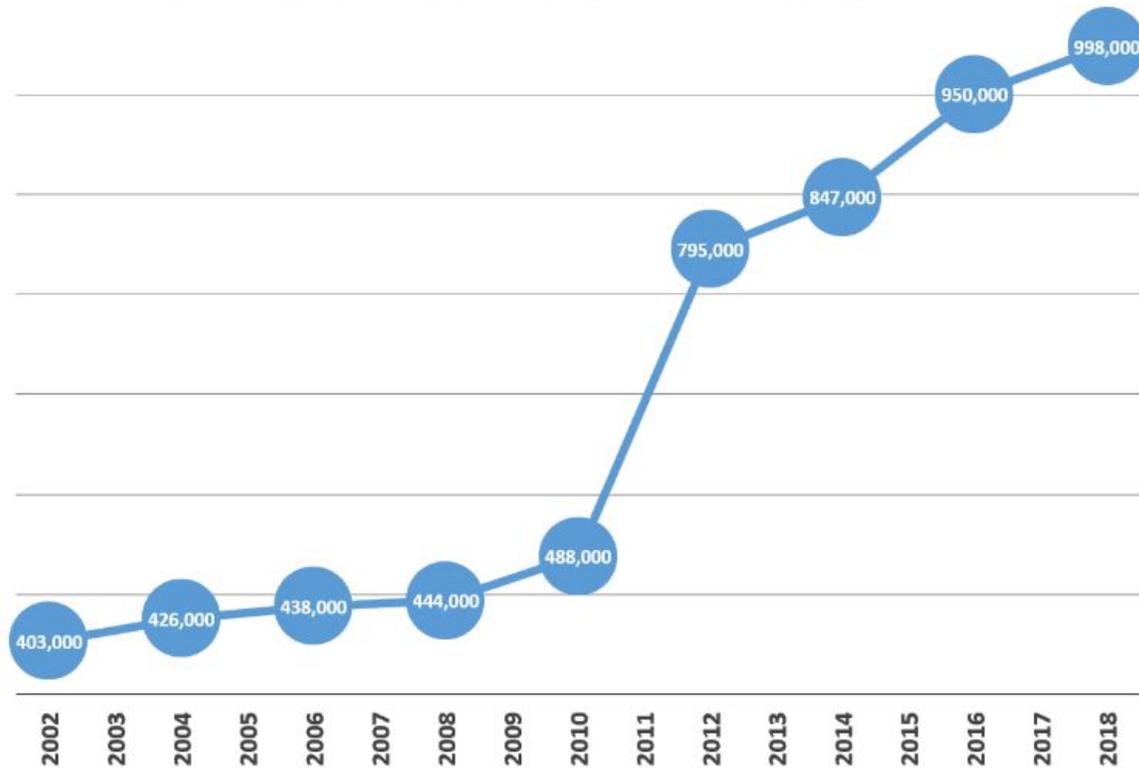


# Future career options

## There is a large demand for people with skills in Computer Science

Growth in IT professional and  
Computing jobs in the UK

(Data from Office for National Statistics: <https://www.ons.gov.uk>)



**Growth in this sector is  
predicted to continue to  
grow!**

Did you know the computer games industry is  
bigger than the film and music industries  
combined?

