

# St. Gregory's Catholic High School



## ICT/Computer Science Bridging Activities

### Task 1

In PowerPoint create a presentation based on research for each of the topics below; You should ensure that each topic is presented on to a single slide but more importantly the work should be your own. You must get into the habit of ensuring that work is always 100% your own.

1. Explain the different types of operating systems (provide examples)
  - a. Real time operating system
  - b. Single-user operating system
  - c. Single-user multi-tasking operating system
  - d. Multi-user operating system
2. Explain the different types of computer networks
  - a. PAN
  - b. LAN
  - c. WAN
  - d. VPN
3. Research the Computer Misuse Act 1990
  - a. Why was the law introduced?
  - b. What does the law state?
  - c. What can a company do to prepare its employee's for this law?
4. Research Data Protection Legislation (GDPR)
  - a. Why was this law introduced?
  - b. What are the six principles of this law?
  - c. What are the consequences of breaking this law?

Expectation: A minimum of 14 slides.

## **Task 2**

You should carry out research on one person that has been successful in the field of IT/Computing. Possible examples – Steve Jobs, Mark Zuckerberg, Bill Gates, Alan Turing, Jean Bartock, Ada Lovelace or Corrine Yu.

Present your research in the following format as a presentation.

1. Name of person being researched
2. Why chosen
3. Notable contributions to the field of IT/Computing
4. Why were they successful – what drove them?
5. What skills do they have that stand out?
6. What were the barriers they had to overcome?
7. Do you have any questions about them?

Expectation: A minimum of 10 slides

### **Task 3**

Below are a few activities you can do. Please choose one and create a presentation about it, ensure the task you choose is related to IT/Computing.

You could go on a virtual visit, read a book or article, watch a film, watch a YouTube video, engage with a specific website, watch a lecture, join an association.

#### **Places to visit:**

National Museum of computing:

<https://www.tnmoc.org/>

Bletchley Park Museum:

<https://www.bletchleypark.org.uk/>

The Centre for computing History:

<https://www.computinghistory.org.uk/>

Manchester Science and Industry museum:

<https://www.scienceandindustrymuseum.org.uk/>

Science museum:

<https://www.sciencemuseum.org.uk/>

#### **Subscribe to:**

YouTube – CraginDave:

<https://www.youtube.com/channel/UC0HzEBLIJxlrwBAHJ5S9JQg>

YouTube – Computerphile:

<https://www.youtube.com/user/Computerphile>

YouTube – Computer Science Tutor:

<https://www.youtube.com/channel/UCsBxhDfwURg-vQASN2ZeHwg>

YouTube – TheCherno:

<https://www.youtube.com/user/TheChernoProject>

## **Books:**

- The nature of code by Daniel Shiffman
- Hackers: Heroes of the computer revolution by Steven Levy
- Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion by Hal Abelson, Ken Ledeen, Harry Lewis
- How to Thrive in the Digital Age: The School of Life by Tom Chatfield
- The Code Book: The Science of Secrecy from Ancient Egypt to Quantum Cryptography by Simon Singh
- The Code Book for Young People: How to Make It, Break It, Hack It, Crack It by Simon Singh
- The Code Book: The Secret History of Codes and Code-breaking by Simon Singh
- History of Cryptography and Cryptanalysis: Codes, Ciphers, and Their Algorithms (History of Computing) by John F Dooley
- Digital Fortress by Dan Brown
- The Master Algorithm: How the Quest for the Ultimate Learning Machine Will Remake Our World by Pedro Domingos
- Pandora's Brain by Calum Chace