HOPE HIGH (Computing) LEARNING JOURNEY

YEAR 11

- Apply the terms 'privacy', 'legal', 'ethical', 'environmental', and 'cultural'
- What does the project involve?
- Test the Python program.
- Define what networks are
- What are virtual networks?
- How can networks be protected?
- Describe a database.

Impacts of technology

GCSE Programming Project

Networks

Security

Databases

- Define 'computer misuse' and the associated offenses.
- Design the Python program.
- Analyse specific examples of network connections.
- Define cybersecurity and network security.
- Define key database terms such as tables, records and fields.

YEAR 10

- Define the terms of data storage – bit, byte etc
- Assign expressions to variables.
- Import modules into your code.
- Describe the basic components of the CPU.
- Compare embedded and general purpose computers.
- Translate a flowchart into a program sequence.

Algorithms

Data representation

Programing

Computer Systems

Programming

- Analyse and fix errors of a flowchart.
- Why are computers needed to search data?
- Show examples of representation.
- Demonstrate how to generate random numbers.
- Explain why a computer system needs secondary storage.
- Create a test plan for a program.
- Apply decomposition and abstraction.
- Analyse and create flowcharts.

Algorithms

- Define decomposition and abstraction.

- Add, move, and delete key frames to make basic animations.
- Define data science.
- Use software to visual data.
- Define a pixel.
- What happens to data online?
- Why do we need the Data Protection Act?
- Describe what the Micro:Bit is

- Add, delete and move objects.

Data Science

Representations: going audio-visual

Cybersecurity

Physical computing programming

Animations

- Scale and rotate objects.
- What is the investigate cycle?
- Define colour depth.
- List the common malware threats.
- List the Micro:Bit input and output devices.

YEAR 9

- Use variables to keep track of counts and sums.
- Explain what iteration is in programming.
- Explain how do algorithms and programs differ
- Describe the NOT, AND, and OR logical operators.
- Provide examples where using Vector graphics would be appropriate.
- Draw basic shapes with different properties.

Python programming with sequences

Intro to Python programming

Computing systems

Design Vector Graphics

- Write programs that receive keyboard inputs.
- Locate and correct common syntax errors.
- Identify the hardware components in a computer system.
- Recall what a general purpose computing system is.
- Explain what Vector graphics are.
- Evaluate the success of a programming project.
- Use GUI elements to meet the needs of a user.
- Use user inputs and variables.

- Write programs that display messages.

YEAR 8

- Identify columns, rows and cells.
- Create appropriate charts.
- Explain what HTML is.
- List examples of representation.

Mobile app development

- Debug a program and correct errors.

Spreadsheets

Developing for the web

Representations: from clay to silicon

- Define a condition.

Programming II

- Demonstrate how to use iteration.
- Perform calculations.
- Create Hyperlinks.
- Design a webpage with HTML.
- Explain what binary is.
- Convert binary and decimal numbers.

- Understand IF and While statements.

- Compare how humans and computers understand instructions.

YEAR 7

- Define what a variable is.
- Select appropriate software for tasks.
- Select appropriate images for a given context.
- Able to compare wired and wireless networks
- Can describe a network protocol.
- Aware of cyberbully
- Create secure reliable password

Programming I

Gaining support for a cause

Networks: from semaphores to the Internet

Collaborating online respectfully

- Construct a blog using appropriate software.
- Organise a blog with credible sources.
- Understand plagiarism
- Demonstrate how the internet and the world wide web differ.
- Explain hardware components needed for networks.
- Aware what a computer network is.
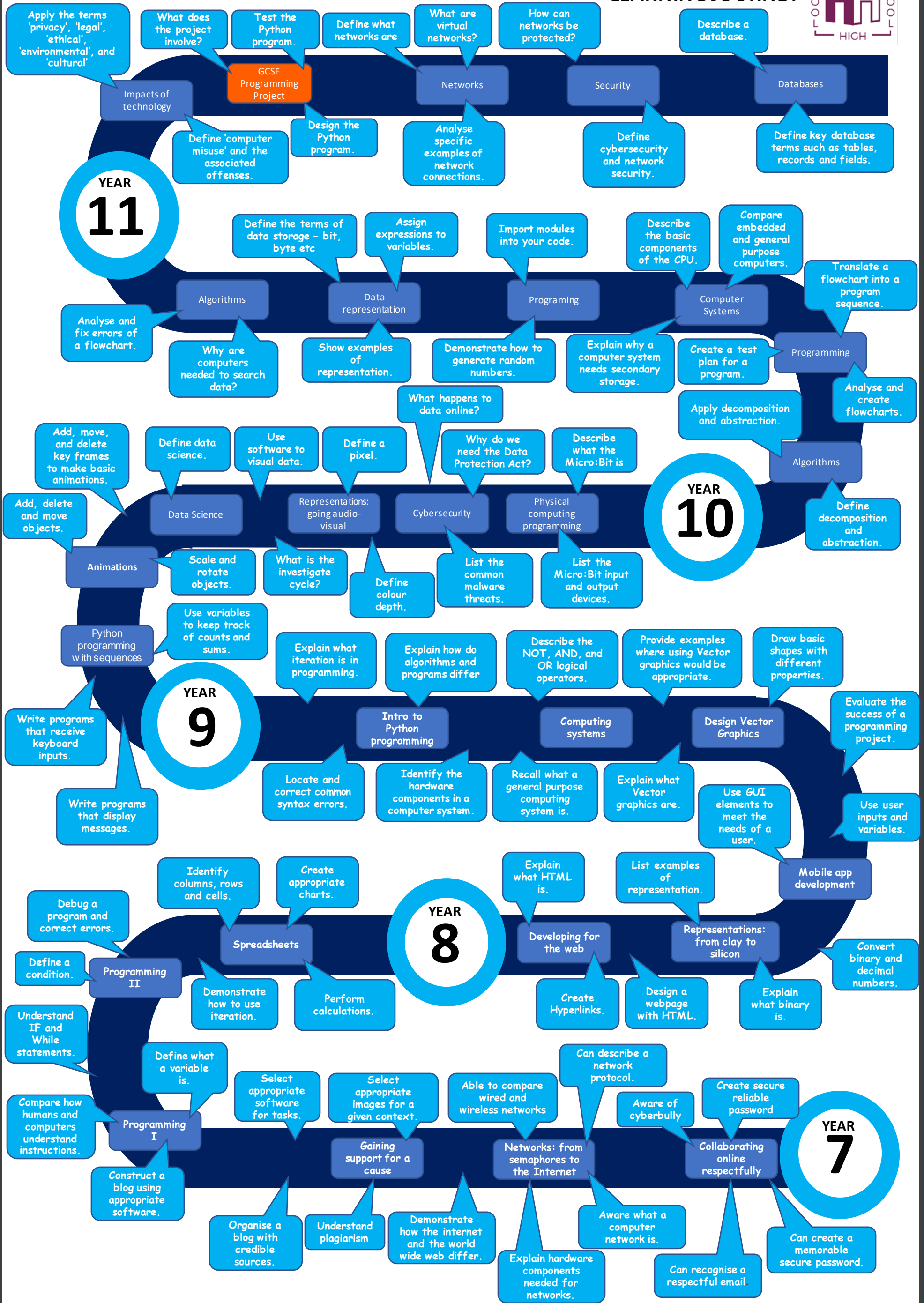- Can recognise a respectful email
- Can create a memorable secure password.

"Computers themselves, and software yet to be developed, will revolutionise the way we learn" - Steve Jobs.