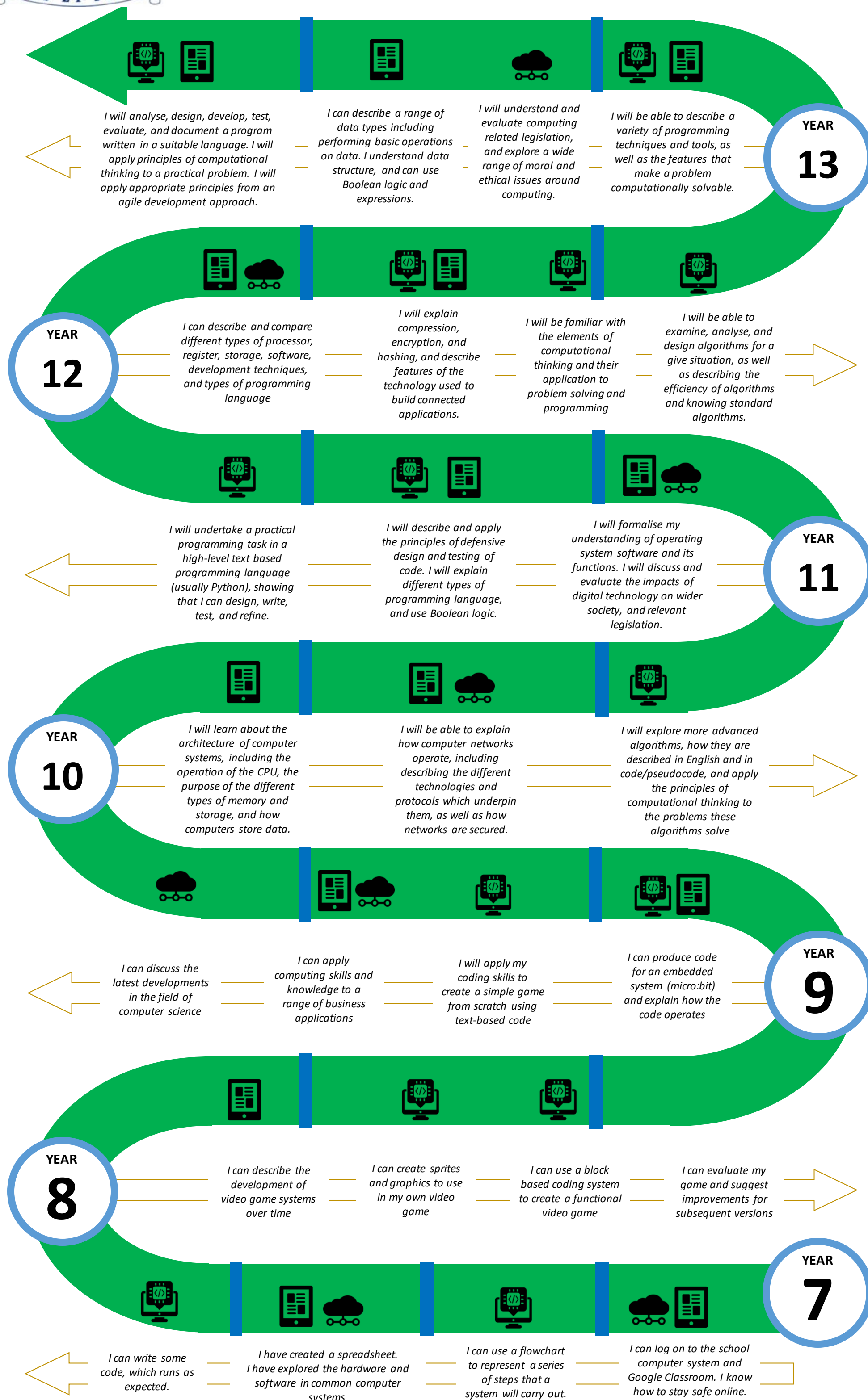




# Computing: we aim to ...

“Everybody should learn to program a computer, because it teaches you how to think.”

— Steve Jobs



## Wider Concepts



**Coding:**  
Understanding how to teach computers to be useful.



**Computers:**  
Understanding how computers operate and communicate.



**The Online World:**  
Understanding the personal and business uses of computers, the hazards of the online world, and the latest developments in Computer Science.

## Key Terms and Concepts

Computational Thinking  
Boolean Logic  
Pseudocode  
Abstraction  
Selection  
Iteration  
Variables and Data Types  
Algorithms  
Input and Output  
Flowchart  
Data Structures  
Functions and Procedures  
Debugging  
Binary Representation  
CPU  
Memory (RAM and ROM)  
Operating System  
Networks  
Internet  
Data Security  
Encryption  
Cybersecurity  
Online Safety  
  
Object-Oriented Programming (OOP)  
Recursion  
Dynamic Data Structures  
Complexity Analysis (Big O Notation)  
Databases  
SQL  
Regular Expressions  
Artificial Intelligence (AI)  
Machine Learning Algorithms  
Data Warehousing  
Compiler Design  
Operating System Principles  
Turing Machine  
Digital Logic and Gates  
Low-Level Programming (Assembly Language)  
Cryptographic Protocols  
Concurrency  
Parallel Computing  
Ethical and Legal Aspects of Computing  
System Architecture  
Microarchitecture