

To be good computer scientists in Year 1 and Year 2 we will...

Which skills have you used today?

Bold parts are the higher-level skills for these year groups.

Algorithms:

I know what an algorithm is and can express simple ones using symbols. I know that they are programmes on devices.

I can design simple algorithms using loops and use logical reasoning to predict outcomes.

I know that computers need instructions.

I can show care to avoid errors.

I can find and correct errors.

Hardware and Processing

I know that computers need a program to be able to work.

I know that all software is programmed.

I can use a range of input and output devices.

I know that lots of digital devices can be considered as a computer.

I know programs will tell us the function of a computer.

Communication and Networks

I can find content using the world wide web – carrying out simple web searches.

I know the importance of communicating safely and respectfully online.

I know what to do when I am concerned about content or being contacted. I know a range of ways to report unacceptable content and contact.

Programming and Development

I know that users can write their own programs.

I can create, run, check and change my own program.

I know that programs need *precise* instructions.

I can use if statements and loops within programs.

I can use logical reasoning to predict behaviour of programs.

I can find and correct errors.

Information Technology

With a teacher, I can use software to create, store and edit content. I can start to organise my content with increasing independence.

I know that people interact with computers.

I can share my use of technology in school and beyond the classroom.

I can talk about my work and make changes to improve it based on feedback received.

I can show I am aware of the quality of my content.

Data and Data Representation

I know that digital content can be shown in many ways. I know the difference between these.

I know different types of data; text and number.

I know programmes can work different types of data.

I know data can be put in tables to make it useful.

Bold parts are the higher-level skills for these year groups.

To be good computer scientists in Year 3 and Year 4 we will...

Which skills have you used today?

Algorithms:

I know that algorithms are programs on devices.

I can design simple algorithms using loops, repetition and two-way selection i.e if, then, and else.

I can use logical reasoning to predict outcomes, outputs and inputs.

I can find and correct errors using debugging.

I can use diagrams to express solutions.

Hardware and Processing

I can use a range of input and output devices.

I know that lots of digital devices can be considered as a computer which collect data from various sources.

I know programs will tell us the function of a computer understanding the difference between hardware and software.

Communication and Networks

I can carry out simple web searches, knowing the difference between the internet and the internet service.

I know a range of ways to report unacceptable content and contact and understand what is acceptable and not acceptable.

Programming and Development

I can use if statements and loops within programs.

I can use logical reasoning to predict behaviour of programs.

I can find and correct errors.

I can create programs that use algorithms to achieve given goals.

I can declare and assign variables.

I can use post-tested loops e.g. until and if... then....

Information Technology

I can start to organise my content with increasing independence.

I can share my use of technology beyond the classroom.

I can make changes to my work based on feedback received and comment on the solution's success.

I can show I am aware of the quality of my content.

I can create digital content to achieve a given goal through using different software.

Data and Data Representation

I know different types of data; text and number and know the difference between data and information.

I know programmes can work different types of data.

I know data can be put in tables to make it useful.

I can use filters or can perform searches for information.

Bold parts are the higher-level skills for these year groups.

To be good computer scientists in Year 5 and Year 6 we will...

Which skills have you used today?

Algorithms:

I can design simple algorithms using loops, repetition and two-way selection i.e. if, then, and else using decomposition for each of these parts.

I can use logical reasoning to predict outcomes, outputs and inputs, understanding that different solutions exist for the same problem.

I can use diagrams to express solutions.

I can show an awareness of what tasks are best completed by humans or computers.

Hardware and Processing

I know that computers collect data from various sources.

I know the difference the main functions of an operating system and know the difference between hardware and software.

I know why and when computers are used and can explain the difference between networks.

Communication and Networks

I know the difference between the internet and the internet service, using these to select and combine services.

I know what is acceptable and not acceptable behaviour online.

I can effectively use search engines understanding how search results are selected using web crawlers.

I can show responsible use of technologies online with an understanding of a range of way of reporting concerns.

Programming and Development

I can create programs that use algorithms to achieve given goals.

I can declare and assign variables.

I can use post-tested loops e.g. until and if... then..... I can explain the difference between these loops.

I can use different variables within my loops.

I know that I can hide procedures to hide the detail within my sub-solutions.

I can design, write and debug programs.

Information Technology

I can collect, organise and present data and information in digital content.

I can make changes to my work based on feedback received and comment on the solution's success. I can then make judgements about other digital content, evaluating the quality of solutions and identify improvements to given solution.

I can create digital content to achieve a given goal through using different software.

I know the audience when I am designing digital content.

I know the potential for working together when networks are combined.

Data and Data Representation

I know the difference between data and information.

I know programmes can work different types of data.

I know data can be put in tables or flat files to make it useful and improve the ability to search for information.

I can use filters or can perform more complex searches for information.

I can analyse and evaluate data and information understanding that poor data means poor results.