

GCSE (9-1)

Computer Science

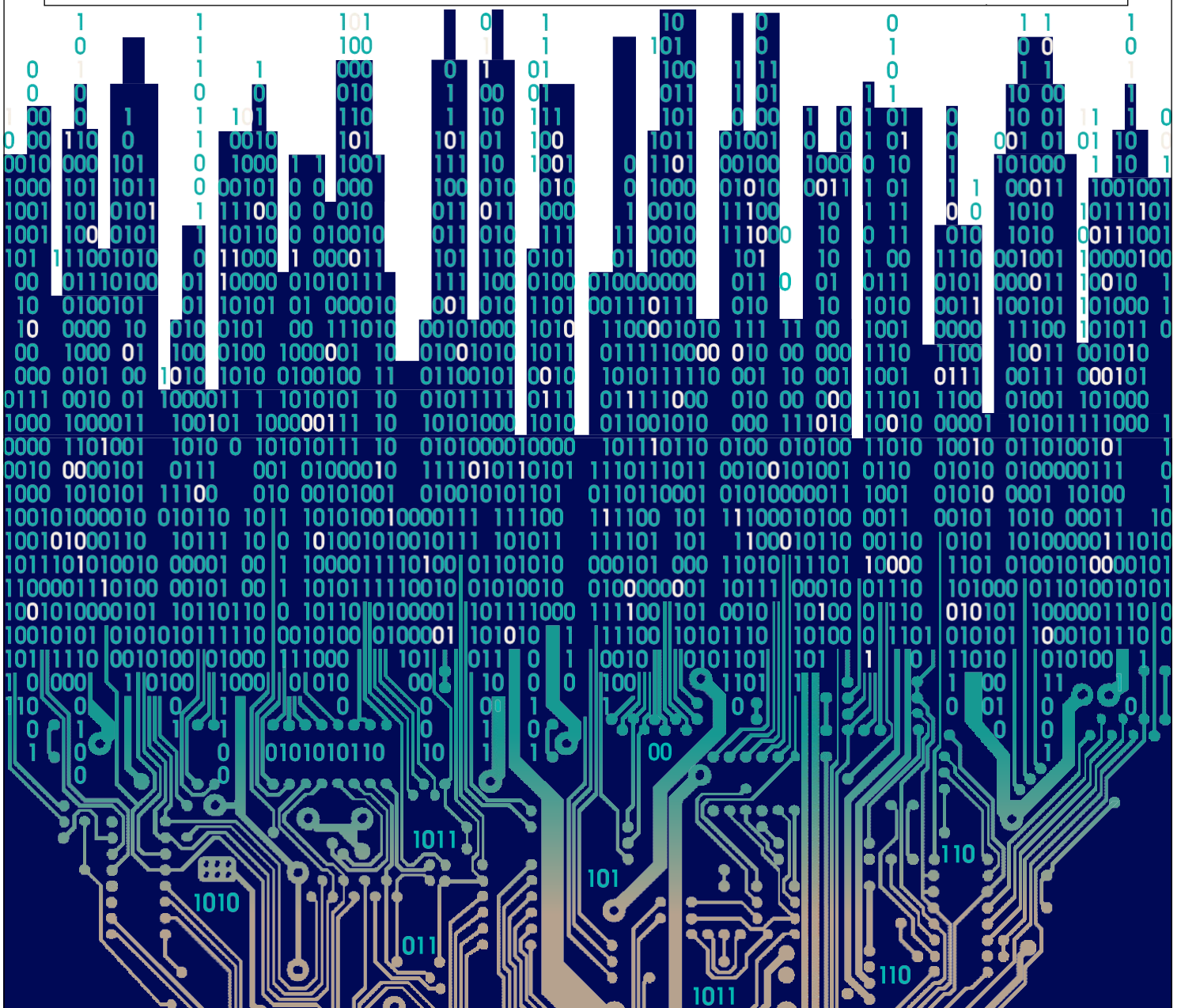
Introduction to the Scheme of Work

Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Computer Science (1CP2)

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Introduction to the Scheme of Work

1. Introduction

This scheme of work has been devised by experienced teachers to make preparation and teaching of the Pearson Edexcel GCSE Computer Science specification a little easier.

It is based on the assumption that teachers have two lessons a week over two years in which to deliver the subject content of the course and develop students' computational thinking and programming skills.

It divides the course into ten blocks of learning. For a two-year GCSE course this could be, six in Year 10 and four in Year 11. Each block consists of six computational thinking/programming lessons and six principles of computer science lessons – one lesson per week for each of the two strands.

Interim assessments at the end of each block are designed to check students' progress and identify any concepts or topics they are having difficulty grasping.

We recognise that every school is unique and that this scheme of work may not suit everyone's way of working. Teachers are free to adapt, replace or supplement the materials to suit their students' needs.

The scheme of work is available in two formats so that you can choose what is best for your centre. You can use the functionality of the interactive SoW in ActiveLearn and/or download the files from the Edexcel website (Word, PPT, Python).

Content of the scheme of work

The **top-level plan** provides an overview of the structure of the course. It shows what each lesson is about and which statement(s) from the subject content are being addressed. You can find the top-level plan on the Edexcel website (course materials/teaching and learning materials/scheme of work) called GCSE Computer Science scheme of work. The top-level plan is also the default arrangement of blocks in the interactive scheme of work in ActiveLearn.

A lesson plan, a PowerPoint presentation, a set of activities and a homework task is provided for each lesson. You can find these on the Edexcel website (course materials/teaching and learning materials/scheme of work) provided in folders by half term. The resources are also provided within the lesson resources for each lesson in ActiveLearn.

Scheme explorer [Expand all](#)

Scheme of work overview

- Year 1
 - Autumn half term 1
 - Y1 Block 1: Computational Thinking
 - CT1: Introduction to programming**
 - [CT2: Decomposition and algorithms](#)
 - [CT3: Data types and variables](#)
 - [CT4: Input and integer functions and debugging tools](#)
 - [CT5: Flowcharts](#)
 - [CT6: Assessment](#)
 - Y1 Block 1: Principles of Computer Science

← Back **CT1: Introduction to programming**

Pearson published resources [Collapse all](#)

- Resources
 - Computational Thinking Week 1 Resources

Introduction to programming

Learning Outcomes

- Define the term 'program'
- Identify types of programs used every day

The **lesson plan** lists the specification statements covered and the resources that are needed. It specifies the learning outcomes of the lesson and provides a detailed plan of how these are to be achieved.

The **PowerPoint presentation** is a front-of-class resource that will help teachers navigate through the lesson and explain new concepts a bit at a time.

The **lesson activities** (with solutions where appropriate) enable students to practice new skills and reinforce their understanding.

Homework is set both to extend and to reinforce the skills and concepts. Many of the homework tasks require the use of a computer. Centres must ensure that students without access to a computer at home are given an opportunity to use a school computer outside normal lesson times to complete the homework tasks.

All the materials used in this scheme of work are editable.

In-School / Out-of-School Python Environment

It is important that students get lots of practice interacting with a programming environment to build confidence and skill. The programming environment they use, both at school and at home, must support the Python 3 language.

Any of the free, no cost, options are suitable. Explore several different ones before making a decision. You might want to start with one and move onto others. It's about building confidence and skills in your students.

If students have access to computers at home, they can duplicate these environments for homework or practice.

Environments to consider include:

- Thonny: <https://thonny.org/>
- PyCharm: <https://www.jetbrains.com/pycharm/>
- PyScripter: <https://sourceforge.net/projects/pyscripter/>
- NetBeans: <https://netbeans.org/>
- Eclipse: <https://www.pydev.org/>
- Visual Studio: <https://visualstudio.microsoft.com/vs/features/python/>
- IDLE

For those students not able to duplicate the in-school environment, there are suitable online Python environments that they can use at home or on non-IT suite computers around the school. See, for example:

- <https://repl.it/>
- <https://create.withcode.uk/>

However, since access to the internet is not permitted during the Paper 2 exam, it is better for students to use an off-line environment whenever possible.

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