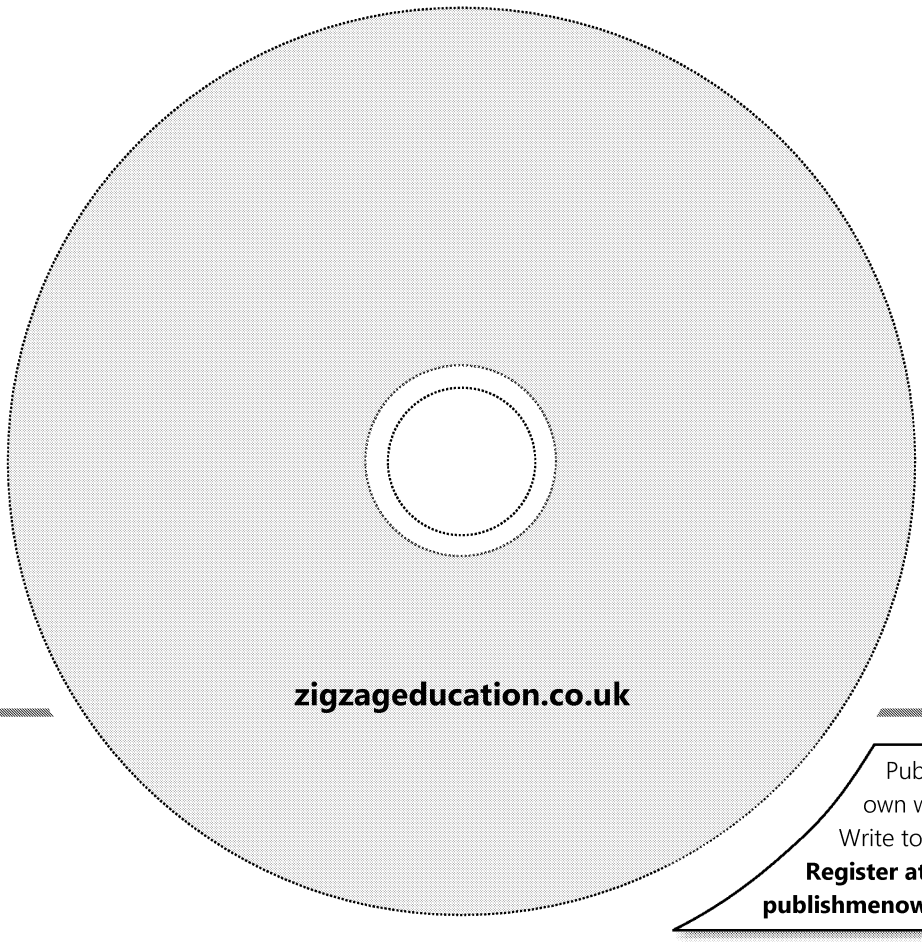
Zig Zag Education

Computer Science GCSE (9–1) | Edexcel | 1CP2

2020 specification
First examinations from 2022

Keyword Activities

for GCSE Edexcel Computer Science (1CP2)



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Teacher's Introduction

Overview

This resource has been produced to support teaching and learning of the *Edexcel GCSE (9–1) Computer Science* specification *(1CP2)*. The learning content is covered by the following sets of keywords with matching descriptions, which cover all of the subject content for Paper 1 and Paper 2.

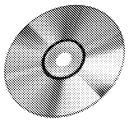
- *Topic 1: Computational Thinking (1)*
- *Topic 1: Computational Thinking (2)*
- *Topic 2: Data (Binary and Representation)*
- *Topic 2: Data (Storage and Compression)*
- *Topic 3: Computers (Hardware)*
- *Topic 3: Computers (Software and Programming Languages)*
- *Topic 4: Networks (1)*
- *Topic 4: Networks (2)*
- *Topic 5: Environmental, Ethical and Legal Issues (1)*
- *Topic 5: Environmental, Ethical and Legal Issues (2)*
- *Topic 5: Cybersecurity*
- *Topic 6: Develop Code (1)*
- *Topic 6: Develop Code (2)*

For each set, there are a number of different keyword activities on CD designed to give you a range of different options for classroom, homework and revision. This variety enables you to take a different approach to different topics – such as using the Crosswords as homework for one topic, and the Match Up as a starter for another.

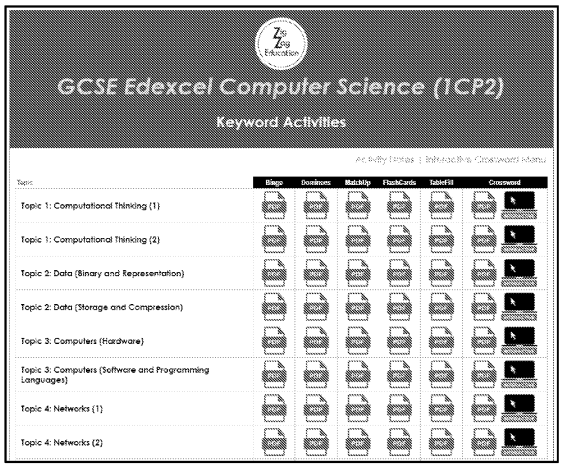
Alternatively, differentiate the activity for a given topic; for example, you might want to give your stronger students the **Crosswords** early on while you start weaker learners on the **Match Up** (where terms and definitions are both available). **Domino** and **Bingo** activities add an element of fun and reinforcement, as well as potential for pair and group work. Finally, the **Flash Cards** come into their own for revision and the **Table Fill** and **Write Your Own Glossary** allow students to test their understanding by correctly filling in keywords or definitions.

For more information about the different activities included, see overleaf →

Digital Format



All of the activities are provided electronically on the accompanying CD. To use on a *secure* school network/VLE, the entire contents of the CD needs to be copied and pasted into an accessible location.



Providing easy access to the activities are two HTML menus:

1. ***Access All* Menu** →

   Location: **index.html**

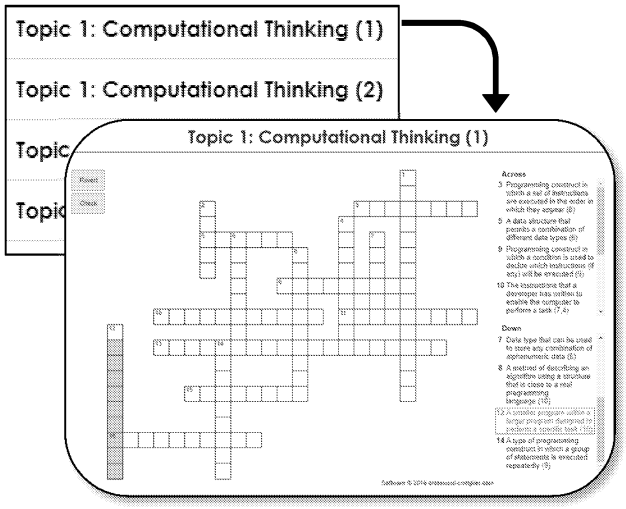
   This menu, designed primarily for teacher use, includes links to everything on provided on the CD – allowing you to easily select what you need when preparing your lessons.

   If you intend to give learners access to this menu, then be aware that it does include links to the solutions.

2. ***Interactive Crossword* Menu** →

   Location: **interactive-crosswords/index.html**

   This menu, which can be accessed via the *Access All* Menu is included to allow learner access to just the interactive crosswords (without the answers).



Activity Types

All activities are provided as PDF files, allowing for easy printing and sharing on your school's internal network or VLE. In addition, each of the single-page activities (*Crosswords*, *Match-up* and *Table-fill*), as well as the solutions, are provided on paper too.

The activities included in this resource are as follows:

Bingo

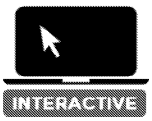
✓ PDF

Each student is given a different bingo card containing a selection of words from the set. The teacher reads the definitions using the Keyword Answers, and the student must match the definition to the words on their card to complete rows, columns, and the full bingo card. The bingo activity is available for sets with 12 or more words.

Crosswords

✓ PDF ✓ PAPER

These traditional keyword activities are equally effective as lesson or homework activities – and are also an excellent way of easing students into their revision programme.



In addition to the photocopiable worksheets and PDF, the crosswords are provided in interactive format on the accompanying CD-ROM. These are web-based (HTML5) and will run straight from your Internet browser.

Dominoes / Loop Cards

✓ PDF

This is essentially another match-up activity, but this one is designed to be used in a more active way to engage students. It is recommended that students work in pairs or small groups.

Half of each card contains a keyword, and the other half contains a description. To complete the activity, students must align all the cards in the correct order. There is a 'Start' and a 'Finish', meaning that if any cards are left outside the chain, then students have gone wrong somewhere.

Match-up

✓ PDF ✓ PAPER

Students match descriptions to their keywords by drawing lines between them. Because there are similar descriptions and keywords, students are likely to make the odd mistake while completing the activity, so it is recommended that they use a pencil to start with! By eliminating the keywords that they are familiar with, students can then think about and learn the ones that they are less confident with.

Flash Cards

✓ PDF

These are a helpful revision tool. To make the cards, fold the page in half, then cut out each card and stick them together so the keyword is on one side and the definition the other. In addition, students could use these to play a game of pairs. Cut each card in two and place them all face down on the table. Students will then take it in turns to turn over two cards with the aim of matching a keyword to its definition. Matched-up cards are removed, and the game is finished when all the cards have been matched.

Glossary Builders

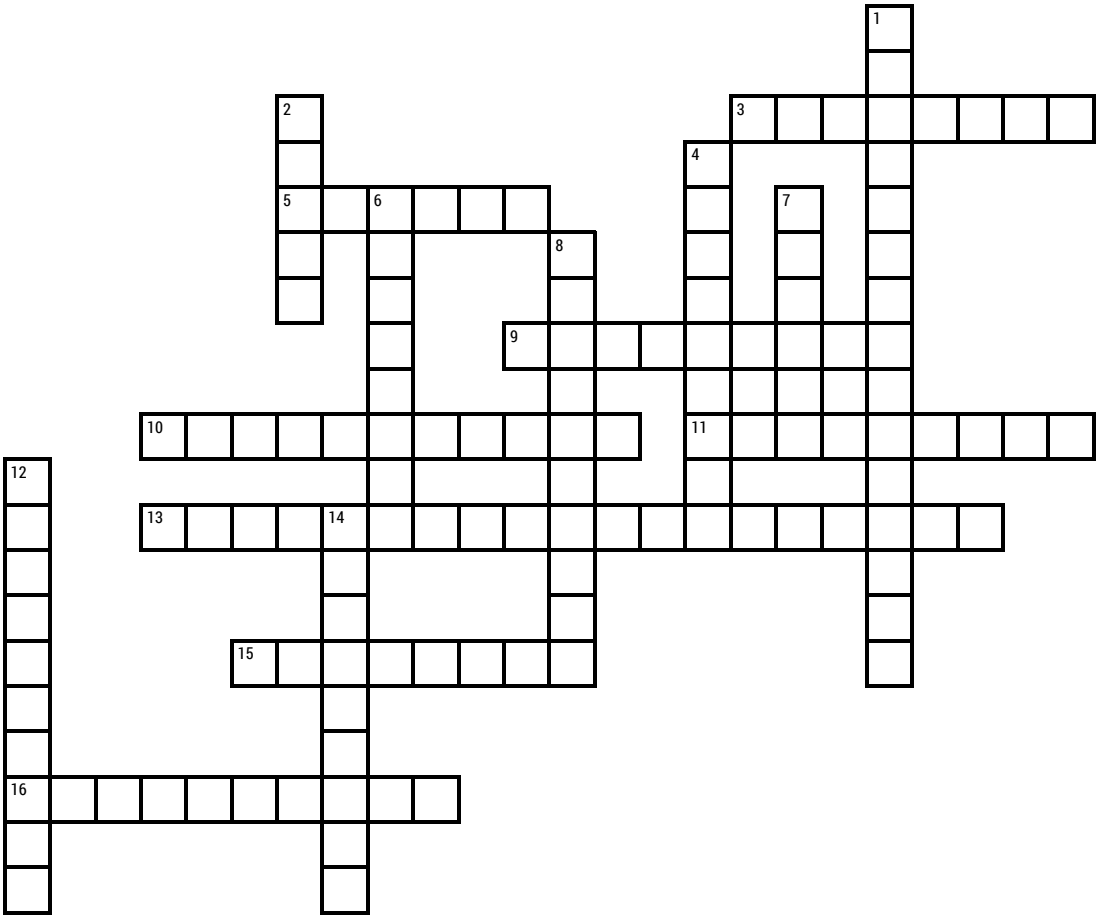
> ***Table-fill***
>
> ✓ PDF ✓ PAPER
>
> Nothing fancy – students simply write the keyword which is being described, without any other help. Because this activity tests the students' own knowledge, it is best used as a homework activity at the end of each topic or during revision. This then acts as a check that they have grasped the key terminology for each topic. Alternatively, the tables could be given to students at the beginning of the topic, to see what they already know.
>
> ***Write Your Own Glossary***
>
> ✓ PDF
>
> Like the Table-fill, this activity can be used to test students before learning a topic, or as a revision tool after learning a topic. Students are given a list of the keywords and need to produce their own definitions. Using Table-fill and Write Your Own Glossary, lessons can be differentiated for all levels of learner.

Selected Activities and Completed Glossary Page

This sample shows one example of several activities.
The whole resource contains approximately 90 activities –
6 or 7 activities for each of the 13 topics.

The resource covers 213 key terms.

Topic 1: Computational Thinking (1)



Across

3 Programming construct in which a set of instructions are executed in the order in which they appear (8)

5 A data structure that permits a combination of different data types (6)

9 Programming construct in which a condition is used to decide which instructions (if any) will be executed (9)

10 The instructions that a developer has written to enable the computer to perform a task (7,4)

11 A series of steps designed to solve a problem (9)

13 A WHILE loop is an example of this type of repetition (9-10)

15 A value stored in memory that can change while a program is running (8)

16 Programming construct in which a group of statements is executed repeatedly (10)

Down

1 A FOR loop is also known as this type of repetition (5-10)

2 Data structure used to store one or more rows of values in a single variable (5)

4 Graphical method of representing an algorithm or process (9)

6 A value stored in memory that cannot change while a program runs (8)

7 Data type that can be used to store any combination of alphanumeric data (6)

8 A method of describing an algorithm using a structure that is close to a real programming language (10)

12 A smaller program within a larger program designed to perform a specific task (10)

14 A type of programming construct in which a group of statements is executed repeatedly (9)

Topic 1: Computational Thinking (1) *(Table Fill)*

A series of steps designed to solve a problem	
Data structure used to store one or more rows of values in a single variable	
A WHILE loop is an example of this type of repetition	
A value stored in memory that cannot change while a program runs	
A FOR loop is also known as this type of repetition	
Graphical method of representing an algorithm or process	
A type of programming construct in which a group of statements is executed repeatedly	
The instructions that a developer has written to enable the computer to perform a task	
A method of describing an algorithm using a structure that is close to a real programming language	
A data structure that permits a combination of different data types	
Programming construct in which a group of statements is executed repeatedly	
Programming construct in which a condition is used to decide which instructions (if any) will be executed	
Programming construct in which a set of instructions are executed in the order in which they appear	
Data type that can be used to store any combination of alphanumeric data	
A smaller program within a larger program designed to perform a specific task	
A value stored in memory that can change while a program is running	

Topic 1: Computational Thinking (1) *(Match Up)*

1	A data structure that permits a combination of different data types
2	A FOR loop is also known as this type of repetition
3	A method of describing an algorithm using a structure that is close to a real programming language
4	A series of steps designed to solve a problem
5	A smaller program within a larger program designed to perform a specific task
6	A type of programming construct in which a group of statements is executed repeatedly
7	A value stored in memory that can change while a program is running
8	A value stored in memory that cannot change while a program runs
9	A WHILE loop is an example of this type of repetition
10	Data structure used to store one or more rows of values in a single variable
11	Data type that can be used to store any combination of alphanumeric data
12	Graphical method of representing an algorithm or process
13	Programming construct in which a condition is used to decide which instructions (if any) will be executed
14	Programming construct in which a group of statements is executed repeatedly
15	Programming construct in which a set of instructions are executed in the order in which they appear
16	The instructions that a developer has written to enable the computer to perform a task

ALGORITHM	
ARRAY	
CONDITION-CONTROLLED	
CONSTANT	
COUNT-CONTROLLED	
FLOWCHART	
ITERATION	
PROGRAM CODE	
PSEUDOCODE	
RECORD	
REPETITION	
SELECTION	
SEQUENCE	
STRING	
SUBPROGRAM	
VARIABLE	

Topic 1: Computational Thinking (1)