Cambridge Assessment International Education

Curriculum Framework

Cambridge Lower Secondary Digital Literacy 0082

Published in September 2019.

Version 2.1

Cambridge Pathway

Why choose Cambridge International?

Cambridge International prepares school students for life, helping them develop an informed curiosity and a lasting passion for learning. We are part of the University of Cambridge.

Our Cambridge Pathway gives students a clear path for educational success from age 5 to 19. Schools can shape the curriculum around how they want students to learn – with a wide range of subjects and flexible ways to offer them. It helps students discover new abilities and a wider world, and gives them skills they need for life so they can thrive throughout their schooling work and life.

Our programmes and qualifications set the global standard for international education. They are created by subject experts, rooted in academic rigour and reflect the latest educational research. They provide a strong platform for students to progress from one stage to the next, and are well supported by teaching and learning resources.

Our mission is to provide educational benefit through provision of international programmes and qualifications for school education and to be the world leader in this field. Together with schools, we develop Cambridge learners who are confident, responsible, reflective, innovative and engaged – equipped for success in the modern world.

Every year, nearly a million Cambridge students from 10 000 schools in 160 countries prepare for their future with the Cambridge Pathway.

Quality management
Cambridge International is committed to providing exceptional quality. In line with this commitment, our quality management system for the provision of international qualifications and education programmes for students aged 5 to 19 is independently certified as meeting the internationally recognised standard, ISO 9001:2015. Learn more at **www.cambridgeinternational.org/ISO9001**

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Changes to this curriculum framework

For information about changes to this curriculum framework, go to page 16.

The latest curriculum framework is version 2.1, published September 2021.

1 Why choose this curriculum framework?

Key benefits

The Cambridge Lower Secondary Digital Literacy curriculum enables learners to become accomplished users of digital tools and to deepen their understanding of the digital world that they are growing up in. They will appreciate the speed at which new technologies are emerging and that the resulting opportunities and risks are also subject to constant change.

It is important that learners appreciate that they are living in a world where being adaptable and able to make effective judgements are important attributes. Therefore, in this curriculum, they will not only learn the digital skills that they need today, they will also acquire knowledge and understanding that will equip them to respond to, and evaluate, the technology of the future.

Cambridge Lower Secondary Digital Literacy learners will also understand the value of being digitally connected. This includes becoming:

- discerning users who appreciate the privileges and responsibilities that come with current and future technologies
- aware of how digital technologies are changing lives and how they will continue to do so in the future
- critical thinkers about the information that they find online
- safe, resilient and positive users of online platforms.

Staying safe is an important aspect of all digital activity and learners will develop the personal responsibility that will enable them to protect themselves and their devices, and to demonstrate concern and respect for others. However, while eSafety is taught throughout this curriculum, learners will also be supported to recognise and to celebrate the opportunities that technology presents at a local, national and global level. Through this learning they will be enabled to consider how to balance their use of digital devices with other, equally beneficial, activities.

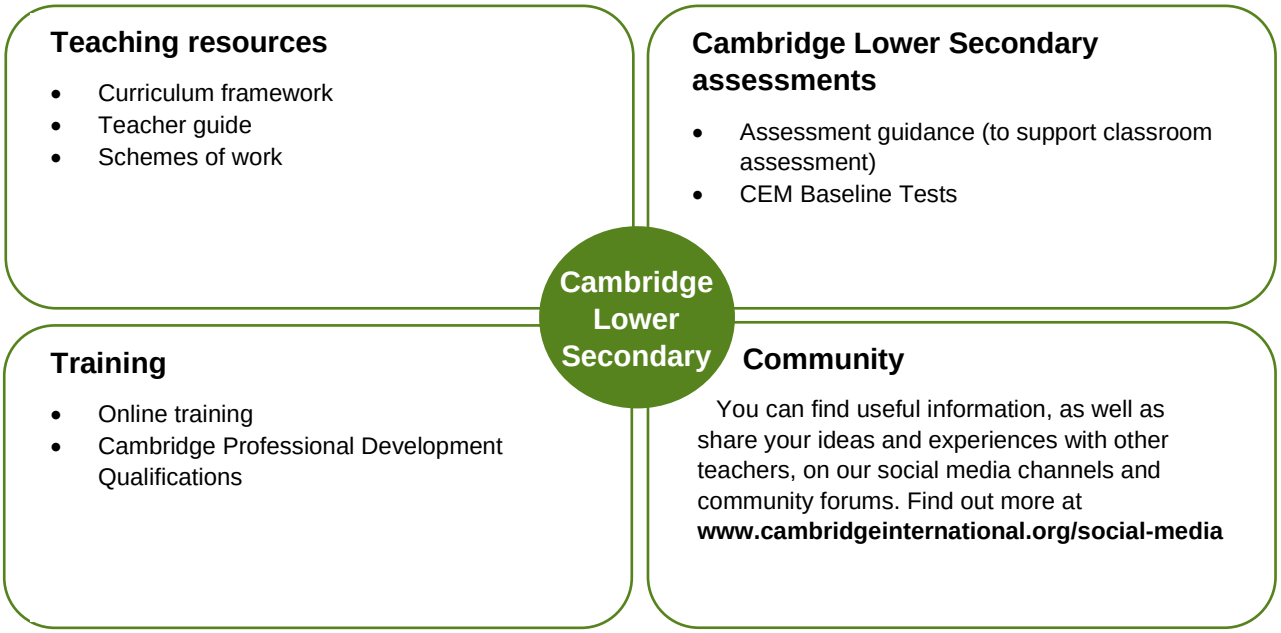
Learners will be encouraged to be curious in every aspect of their digital engagement, for example when seeking innovative solutions for the presentation of information, when communicating with others or when understanding why the world has become a digital place. As well as being able to apply technical skills to other areas of their learning, Cambridge Lower Secondary Digital Literacy will support learners to resolve problems and make effective judgements which will increase their safety, resilience, ability to collaborate and create, and willingness to embrace opportunity.

Learners of Cambridge Lower Secondary Digital Literacy will also make assessments about the impact of technology through considering its potential to build communities, to enable communication, to share creativity and information, and to entertain. This curriculum will therefore empower learners to become contributors to the digital world, who do not consider themselves restricted to only being consumers of technology and the internet.

Supporting teachers

We provide a wide range of practical resources, detailed guidance, innovative training and professional development so that you can give your learners the best possible experience of Cambridge Lower Secondary Digital Literacy.

You will find most of these resources on the Cambridge Lower Secondary support site (**lowersecondary.cambridgeinternational.org**). Ask the Cambridge coordinator or exams officer in your school if you do not already have a log-in for this support site.



Progression through the Cambridge Pathway

Our lower secondary programme is part of the Cambridge Pathway. This pathway leads seamlessly from primary to secondary and pre-university years. Each step of the pathway builds on the learners' development from the previous one or from other educational systems. This curriculum framework is typically for learners aged 11 to 14, but it may be appropriate to use it for slightly different ages to suit your context.

You can download more information on progression from the Cambridge Lower Secondary support site.

Teaching time

For guidance, this curriculum framework is based on learners having about 1 hour of digital literacy per week (or about 30 hours per stage). Your actual number of teaching hours may vary according to your context.

2 Curriculum overview

Aims

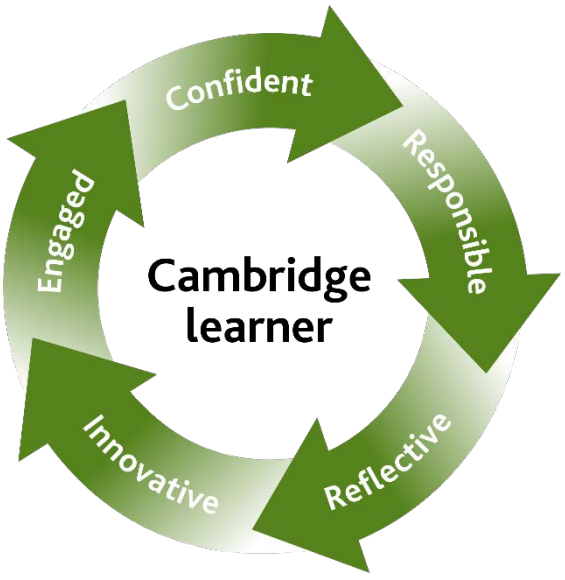
Following the Cambridge Lower Secondary programme helps learners to lay the foundations for lifelong learning, including:

- curiosity about the world around them and enthusiasm for learning
- knowledge, understanding and skills that can be applied in and across subjects
- effective and confident communication skills, including in English
- understanding of their personal and local context, as well as having global awareness.

In Cambridge Lower Secondary Digital Literacy, learners:

- are empowered to use digital technology safely and are able to protect their own physical and emotional wellbeing
- analyse and reflect on the opportunities and issues presented by technology from different perspectives
- develop the transferrable skills needed to access digital technology, to communicate digitally and to access careers in the workplaces of the future
- understand their place, and the place of others, in an interconnected world
- make informed decisions about the information that they encounter and share digitally
- understand the role of digital technology in society and are able to contribute to that society.

The Cambridge approach encourages learners to be:



Cambridge Lower Secondary Digital Literacy supports learners to become:

Responsible – They are responsible for their own digital wellbeing, for their conduct towards others and for developing the competencies that will enable them to embrace current and future technological developments.

Innovative – They understand the benefits of technological development and are able to embrace each new technological opportunity that they encounter. They take a creative approach to the development of digital artefacts.

Confident – They are able to use computers and other digital devices with increasing technical competence and are able to develop their own strategies for safe and respectful participation in the digital world.

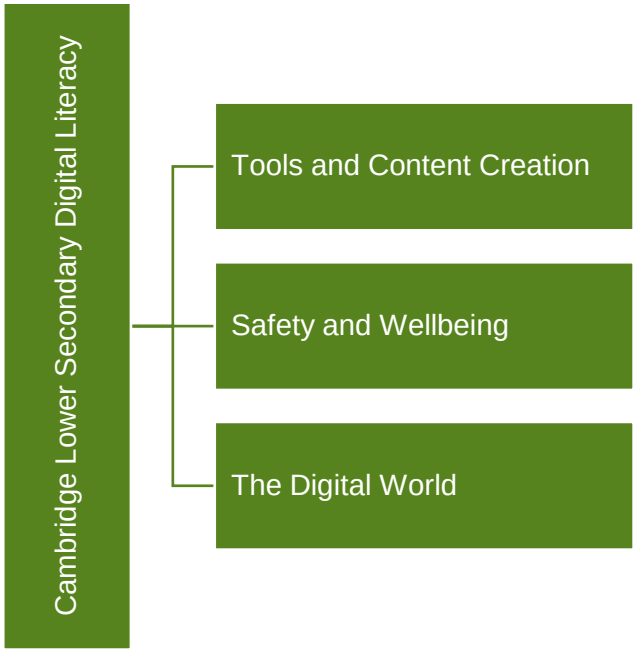
Engaged – They embrace digital opportunities with curiosity. They collaborate, communicate and use digital tools to contribute to the digital world with enthusiasm..

Reflective – They understand the need to take a considered approach to their interactions with social media and to their use of digital technologies. They reflect upon their own place in the digital world and consider the application of new digital skills to other aspects of their lives, including their work in other curriculum areas.

Overview of the strands

This curriculum framework provides a comprehensive set of learning objectives for Cambridge Lower Secondary Digital Literacy. These give a structure for teaching and learning and a reference against which learners' attainment and skills development can be checked.

We have divided the learning objectives into three main areas called 'strands' which run through every lower secondary stage. Although each strand is discrete, each is intimately connected to the two other strands due to the holistic focus in Cambridge Lower Secondary Digital Literacy on the learner understanding, evaluating and operating in the digital world.



Below is a brief description of each strand:

Tools and Content Creation

Developing confidence and sophistication when using digital tools is an important part of a learner's education. The Cambridge Lower Secondary Digital Literacy curriculum supports learners to become increasingly proficient and independent in their use of software and hardware, by applying their skills to an increasing range of projects and intentions. Learners will create and combine media, collaborate with others and understand the efficiencies and opportunities for refinement that can be achieved by using digital tools. Wider learning is supported through the development of the search techniques that will enable learners to find and evaluate information on the internet and in other digital resources.

Safety and Wellbeing

It is important that learners understand how to balance risk and opportunity when using digital devices. This strand enables them to develop the personal strategies that will help them to protect themselves, to develop resilience and to consider the needs and views of others. Learners will understand how their online activity can be collected, collated and used, and how they can manage

this so the impact is positive, both now and in the future. They will also consider the risks and opportunities associated with online leisure activities. This will enable them to achieve a balance between the opportunities and costs that these activities present.

The Digital World

This strand enables learners to understand the context and the continuing development of the digital world. They will appreciate the benefits of being digitally connected but will also develop the skills that will enable them to make effective judgements about the information that they find online. Learners will understand the creative and collaborative opportunities that exist online and will also appreciate the major changes (disruption) that technology is having upon industries, including those with a creative output.

Overview of teaching approaches

Cambridge Lower Secondary Digital Literacy can be used flexibly as a standalone subject, integrated within other subjects or used as the basis for activities outside of the formal curriculum. During your planning you will need to decide which approach, or mix of approaches, will enable you to address each learning objective most effectively.

In the scheme of work for each stage you will find teaching activities for each learning objective and a suggested project at the end of each unit. Many of the projects can be used to support learning in more than one subject (e.g. learners researching and making a multimedia presentation on a topic from another subject). The scheme of work also contains a list of subject-specific language that will be useful to your learners, and sample lesson plans.

You can find more information and ideas for teaching and learning activities in the *Cambridge Lower Secondary Digital Literacy Teacher Guide* and schemes of work available on the Lower Secondary support site (**lowersecondary.cambridgeinternational.org**).

The teacher guide will support you to plan and deliver lessons using effective teaching and learning approaches.

You do not need to use the ideas in the schemes of work to teach Cambridge Lower Secondary Digital Literacy. They are designed to indicate the types of activities you might use, and the intended depth and breadth of each learning objective. These activities are not designed to fill all the teaching time for each lower secondary stage.

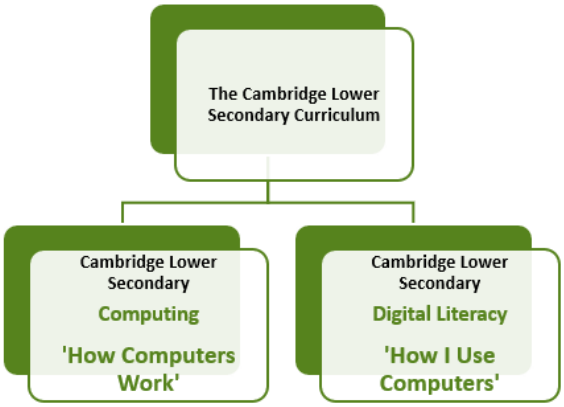
3 Digital Literacy and Computing

Content explanation

Cambridge Lower Secondary Digital Literacy supports learners to develop knowledge and skills related to the creation of digital outputs, such as typed documents, videos and multimedia. It also supports them to develop responsibility for their personal safety and behaviour when online. Digital Literacy also supports learners to understand the impact that evolving technology has upon both individuals and global communities. This is different to the Cambridge Lower Secondary Computing curriculum which enables learners to see inside computer systems.

The Computing curriculum documents are available on the Cambridge Lower Secondary support site. They explain how computers work and how they communicate with other technological devices. Learners of Computing investigate how networks are created and understand how large scale economic, industrial and service related systems can be created through a combination of hardware, software, data and logical instruction.

The relationship between these two Cambridge Lower Secondary curricula can be explained as follows:



Lower Secondary learners do not need to follow both curricula but there are many benefits if they do. Learners of Digital Literacy consider the benefits and risks to the user, while the Computing curriculum explains the technology that is enabling that use. Learners of Computing also understand that, although new technologies are constantly becoming available, the same logical principles of algorithms and computational thinking are applied to modern developments in the same way that they were to the earliest computers.

Computing learners explore the application of computers in less familiar contexts, such as how they can be programmed to control automated industrial systems. This helps them to understand the wider application of computers, and the opportunities that exist in computing industries.

Therefore, by following these two curricula, Cambridge learners will be equipped to become effective and collaborative contributors to the digital world.

4 Learning objectives by stage

Some learning objectives in Cambridge Lower Secondary Digital Literacy cover more than one stage. For example, learners are expected to develop the skills needed to create increasingly sophisticated digital artefacts across all stages.

To enable effective progression in your teaching, you need to be familiar with the progression of skills across stages. This will help you to build on prior learning in every stage. The progression of learning objectives across Stages 7 to 9 is available on the Lower Secondary support site (**lowersecondary.cambridgeinternational.org**).

Learning objective codes

Each learning objective has a unique code, e.g. **7TC.01**. These codes appear in the schemes of work and teacher guide. Each learning objective code includes:

- the stage number, e.g. **7**
- a reporting code that reflects the strand titles, e.g. **TC**
- a number reflecting the order of the learning objectives in the strand for the stage, e.g. **01** is the first learning objective.

Stage 7

Tools and Content Creation

- **7TC.01** Develop fluency and accuracy when typing in increasing quantity.
- **7TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.
- **7TC.03** Know that files can be stored remotely on other computers, networks or in the cloud.
- **7TC.04** Select and use online and offline tools that aid personal organisation and collaboration.
- **7TC.05** Use track changes and comments when editing documents.
- **7TC.06** Use advanced search techniques to refine search results.

Safety and Wellbeing

- **7SW.01** Know some people purposefully antagonise other online users and understand the risks of engaging with that behaviour.
- **7SW.02** Understand that they have personal responsibility for their digital activity, safety and wellbeing.
- **7SW.03** Understand that all online activity can be collated and added to a user's digital footprint, which can have positive and negative consequences.

The Digital World

- **7DW.01** Describe the positives and negatives of online live coverage of news and events.
- **7DW.02** Understand the benefits and risks of online communities.
- **7DW.03** Understand plagiarism, crediting, citation and fair use.
- **7DW.04** Understand that the storage capacity of a device is limited.
- **7DW.05** Discuss and make predictions about future technologies.

Stage 8

Tools and Content Creation

- **8TC.01** Develop fluency and accuracy when typing in increasing quantity.
- **8TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.
- **8TC.03** Create templates and master documents and understand the benefit of these.
- **8TC.04** Understand when it is appropriate to use informal ways to convey emotion or meaning in an electronic message, for example emojis, gifs and memes.
- **8TC.05** Use advanced search techniques to refine search results.

Safety and Wellbeing

- **8SW.01** Know that permissions can be set on files or within a network to protect them from unauthorised access.
- **8SW.02** Understand personal identity can be protected by having a username which is not personally identifiable.
- **8SW.03** Assess the suitability and security of websites and hyperlinks through reading the URL.
- **8SW.04** Know that metadata can provide a detailed description of an online user and that each online action increases the detail of that description.
- **8SW.05** Understand that metadata can be sold as a product.
- **8SW.06** Understand that they have personal responsibility for their digital activity, safety and wellbeing.

The Digital World

- **8DW.01** Make effective judgments about the validity of the source and accuracy of information found online.
- **8DW.02** Understand the benefits and limitations of different methods of online communication, including video, audio and text.
- **8DW.03** Describe how digital technology is changing the workplace.
- **8DW.04** Describe the benefits and risks of the Internet of Things.

Stage 9

Tools and Content Creation

- **9TC.01** Develop fluency and accuracy when typing in increasing quantity.
- **9TC.02** Use devices to create increasingly sophisticated digital artefacts, including the use of sound, video, text and other multimedia.
- **9TC.03** Create a portfolio of documents for a common purpose.
- **9TC.04** Use advanced search techniques to refine search results.

Safety and Wellbeing

- **9SW.01** Understand the risks of downloading software and streaming from unauthorised sources.
- **9SW.02** Explain how search engines provide personalised search results based on metadata, including targeted advertising.
- **9SW.03** Understand the payment models that exist in the gaming and app industries, and identify the advantages and disadvantages of these models.
- **9SW.04** Identify the benefits and risks of online gaming and eSports.
- **9SW.05** Understand that they have personal responsibility for their digital activity, safety and wellbeing

The Digital World

- **9DW.01** Make effective judgments about the validity of the source and accuracy of information found online.
- **9DW.02** Understand that obtaining unauthorised access to digital media is a form of theft.
- **9DW.03** Describe the potential for online communication to bring together and maintain communities in the real world.
- **9DW.04** Understand what is meant by the digital divide and how this affects different areas of society both locally and globally.
- **9DW.05** Describe the impact of digital technology on the creative disciplines.
- **9DW.06** Describe the benefits and risks of AI.

5 Glossary

This glossary is provided to support your understanding of the content of this curriculum framework. The definitions are intended to be sufficient to guide an informed reader.

AI or **Artificial Intelligence** – computer systems that identify patterns in data to produce outcomes that would traditionally be associated with human intelligence (such as speech recognition).

Application or **app** – a computer program that is designed for a particular purpose.

Digital artefact – any item, including documents, videos and presentations, which is produced and stored electronically.

Digital device – a physical piece of equipment that contains a computer or microcontroller, such as a tablet, smartphone or desktop/laptop computer.

Digital divide – the gap that exists between those who can and those who cannot, or choose not to, access hardware, software and the internet.

Disruptive – refers to innovations that significantly change the way that businesses or whole industries operate and that impact upon how individual people think or live their lives. Disruptive technologies can also create new markets that did not exist previously.

eSports – a form of competition between players of computer games.

Hardware – the collection of physical parts of a computer system.

Hyperlink – a link from a document to another location, activated by clicking on a highlighted word or image.

Internet of Things – a group of networked devices, including personal computers, smart phones, lamps, washing machines, thermostats and others.

Learning objectives – statements from the curriculum framework of the expectations of knowledge, understanding and skills that learners will develop; they provide a structure for teaching and learning, and a reference against which to check learners' attainment and skills development.

Media – the different file types or storage options for digital files.

Metadata – data that describes other data (e.g. author, tags, etc.). The information that metadata provides makes the original data easier to organise, find and understand, which therefore makes it easier to apply it to other contexts. For example, combining information about each website that a user visits can be used to create an overall picture of their personal interests.

Network – a group of two or more digital devices that can communicate with each other.

Remote storage – online space that is used to store data and other artefacts rather than storing them on a device's hard drive.

Resilience – the ability to recognise and respond to online risks without avoiding the online world altogether.

Scheme of work – support materials for each stage of Cambridge Lower Secondary Digital Literacy. Each scheme of work contains a suggested long-term plan, a medium-term plan with suggested teaching and learning activities and sample short-term (lesson) plans.

Software – a set of instructions or programs that instruct a computer to do specific tasks.

Strand – a collection of learning objectives in the curriculum framework that forms an area of learning.

Streaming – a method of transmitting and receiving data over a network. The term most commonly applies to video or audio content. The continuous flow of the data allows playback to start while the remaining data is still being received.

Teacher guide – a document providing support in using the curriculum framework to plan and deliver lessons using effective teaching and learning approaches.

URL or **Uniform Resource Locator** – the location identifier for a resource on the internet.

6 Changes to this curriculum framework

This curriculum framework has been amended. The latest curriculum framework is version 2.1, published September 2021.

- We have made changes in order to make the curriculum framework digitally accessible. For example, we have increased the font size and spacing and added alternative text to images and tables.
- We have added a new section on Digital Literacy and Computing, which explains the content of the two Cambridge curricula.

There may be other minor changes that do not affect teaching and learning.

We are committed to making our documents accessible in accordance with the WCAG 2.1 Standard. We are always looking to improve the accessibility of our documents. If you find any problems or you think we are not meeting accessibility requirements, contact us at **info@cambridgeinternational.org** with the subject heading: Digital accessibility. If you need this document in a different format, contact us and supply your name, email address and requirements and we will respond within 15 working days.

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