

BC's Digital Literacy Framework

“Using standards-based techniques, a collaborative teaching environment enriched through creative integration of technology tools takes learning beyond standardized tests and enables learning that embraces digital spaces, content, and resources and emphasizes that the process of learning is as important as an end product. An increasing focus on technology-enabled participatory learning also leverages the orientation of today's and tomorrow's students, for whom a digital environment is expected.”

–*Digital Literacy, Libraries, and Public Policy*, Information Technology Policy's Digital Literacy Task Force, American Library Association, January 2013

Although suggested grade ranges have been included below for guidance, it is important to note that at the lower grade levels some of these ideas may be teacher modelled, with the gradual release of responsibility – either over the grades or depending on the level of expertise of the teacher and available equipment for the students.

Definition of Digital Literacy:

Digital Literacy is the interest, attitude and ability of individuals to use digital technology and communication tools appropriately to access, manage, integrate, analyze and evaluate information, construct new knowledge, and create and communicate with others.

1. Research and Information Literacy

Students apply digital tools to gather, evaluate, and use information.

a. Information Literacy

➤ *A digitally literate person uses the Internet to do research in an effective and responsible manner.*

The student:

- understands that anyone can publish on the Web, so not all sites are equally trustworthy. (Gr. K-9)
- understands that keyword searching is an effective way to locate information on the Internet and knows how to select keywords to produce the best search results. (Gr. K-2)
- determines criteria for rating informational websites and apply them to an assigned site and understands that all websites are not equally good sources of information. (Gr. 3-5)
- knows strategies to increase the accuracy of his/her keyword searches and is able to make inferences about the effectiveness of the strategies. (Gr. 3-5)
- understands the importance of citing all sources when they do research and is able to write bibliographical citations for online sources. (Gr. 3-5)
- evaluates and selects information sources and digital tools based on the appropriateness to specific tasks. (Gr. 6-9)

- understands that to conduct effective and efficient online searches, he/she must use a variety of searching strategies. (Gr. 6-9)
- locates, organizes, analyzes, evaluates, synthesizes, and ethically uses information from a variety of sources and media. (Gr. 10-12)
- understands the different purposes and contexts of digital image editing. (Gr. 10-12)
- understands both the benefits and drawbacks of using collective intelligence, (crowdsourcing), in different contexts. (Gr. 10-12)

b. Information Processing And Management

- *A digitally literate person uses technology to improve his/her ability to gather, organise, analyse and judge the relevance and purpose of digital information.*

The student:

- understands and interprets data, and reports results. (Gr. 3-5)
- judges the validity of content found on the Internet, how to find appropriate material, and what sources can be trusted. (Gr. 3-5)
- compares, contrasts, and synthesizes information from diverse sources (triangulates information) before it is used in a knowledge-making process. (Gr. 6-9)
- gathers relevant digital information, e.g. other users' experiences, and assesses the quality of goods based on that information. (Gr. 6-9)
- integrates, compares and puts together different types of information related to multimodal content. (Gr. 10-12)
- structures, classifies, and organizes digital information/content according to a certain classification schemes or genres. (Gr. 10-12)

2. Critical Thinking, Problem Solving, and Decision Making

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

a. Specialized And Advanced Skills For Learning

- *A digitally literate person uses ICT to improve his/her learning performance.*

The student:

- collects and analyzes data to identify solutions and/or make informed decisions. (Gr. 3-5)
- is able to build meaningful knowledge through interaction with digitally available resources (Gr. 3-5)
- uses digital technology to identify and define authentic problems and significant questions for investigation. (Gr. 6-9)
- uses digital technology to plan and manage activities to develop a solution or complete a project. (Gr. 6-9)

- creates knowledge representations (e.g. mind maps, diagrams) using digital media. (Gr. 6-9)
- creates complex models and simulations of the real world using digital information. (Gr. 10-12)
- can program ranging from using block building code tools to a high-level programming language. (Gr. 10-12)

3. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

a. Specialized And Advanced Skills for Creative Expression

➤ *A digitally literate person uses ICT to express his/her creativity.*

The student:

- uses a variety of digital media (text, images, audio, and movie) to express him/herself creatively. (Gr. K-9)
- applies existing knowledge to generate new ideas, products, or processes using digital technology. (Gr. 3-5)
- creates original digital works as a means of personal or group expression. (Gr. 3-5)
- uses digital models and simulations to explore complex systems and issues. (Gr. 6-9)
- uses digital technology to identify trends and forecast possibilities. (Gr. 6-9)
- remixes different existing digital content into something new. (Gr. 10-12)
- understands how meaning is produced through multimedia (text, images, audio, video) and how culture is produced through the Internet and social media in particular. (Gr. 10-12)

4. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

a. Internet Safety

➤ *A digitally literate person stays safe on the Internet by employing strategies such as distinguishing between inappropriate contact and positive connections.*

The student:

- understands that he/she can go to exciting places online, but needs to follow certain rules to remain safe. (Gr. K-2)
- understands that he/she should stay safe online by choosing websites that are good for him/her to visit, and avoids sites that are not appropriate for him/her. (Gr. 3-5)
- acknowledges the benefits of online talk and messaging, but knows how to handle situations or online behavior which may make them feel uncomfortable. (Gr. 6-9)

b. Privacy And Security

- *A digitally literate person knows how to protect his/her privacy, respects the privacy of others, and employs strategies to maintain information and data security online.*

The student:

- is aware that many websites ask for information that is private and knows how to responsibly handle such requests. (Gr. K-2)
- understands the reasons why people use passwords, the benefits of using passwords, and knows strategies for creating and keeping strong, secure passwords. (Gr. K-2)
- understands that the purpose of product websites is to encourage buying the product and is aware of methods used to promote products on these sites. (Gr. K-2)
- understands not to reveal private information to a person they know only online. (Gr. 3-5)
- knows how to create secure passwords in order to protect their private information and accounts online. (Gr. 3-5)
- knows what spam is, the forms it takes, and can identify strategies for dealing with it. (Gr. 3-5)
- understands that children's websites must protect their private information and how to identify these secure sites by looking for their privacy policies and privacy seals of approval. (Gr. 3-5)
- knows strategies for guarding against identity theft and scams that try to access his/her private information online. (Gr. 6-9)
- understands the concept of privacy in their everyday lives, and as it relates to using the Internet. (Gr. 10-12)
- understands the ways websites and companies collect data online and utilize it to personalize content for their users, as well as consider companies' motives in doing so. (Gr. 10-12)
- understands the security implications of computer networks and client/servers. (Gr. 10-12)

c. Relationships And Communication

- *A digitally literate person understands the risks and benefits of developing online relationships and uses technology to communicate effectively and respectfully.*

The student:

- uses email to communicate with real people within his/her school, family, and community. (Gr. K-2)
- understands how the ability for people to communicate online can unite a community. (Gr. K-2)
- understands what it means to be responsible to and respectful of his/her offline and online communities as a way to learn how to be a good digital citizen. (Gr. 3-5)

- demonstrates responsibility and respectfulness in his/her online communications and communities. (Gr. 3-5)
- is aware of the benefits of online communication and able to handle situations of online behaviour that may make him or her uncomfortable. (Gr. 6-9)
- is aware of the different pressures teens face when it come to editing, posting, and commenting on photos online. (Gr. 10-12)
- thinks critically about the risks and responsibilities of developing relationships with people online. (Gr. 10-12)
- understands the concepts of ethical behaviour and online ethics. (Gr. 10-12)
- can identify and participate responsibly in online networks that foster positive community. (Gr. 10-12)

d. **Cyberbullying**

➤ *A digitally literate person recognizes cyberbullying and knows how to deal with it.*

The student:

- understands what cyberbullying means and what he/she can do when he/she encounters it. (Gr. K-2)
- understands how it feels to be cyberbullied, how cyberbullying is similar to or different than in-person bullying, and strategies for handling cyberbullying when it arises. (Gr. 3-5)
- understands that he/she may get online messages from other kids that can make him/her feel angry, hurt, sad, or fearful. (Gr. 3-5)
- distinguishes good-natured teasing from cyberbullying. (Gr. 6-9)
- understands the difference between being a passive bystander and an active intervener in cyberbullying situations. (Gr. 6-9)
- appreciates that cruelty can escalate quickly online because people are often anonymous and posts spread quickly. (Gr. 10-12)
- understands the dynamics of online cruelty and how it affects all of the people involved. (Gr. 10-12)

e. **Digital Footprint And Reputation**

➤ *A digitally literate person is aware that his/her activities on the Internet leave a permanent "digital footprint" or "trail" and behaves accordingly.*

The student:

- understands that the information they put online leaves a digital footprint or "trail." This trail can be big or small, helpful or hurtful, depending on how he/she manages it. (Gr. K-2)
- is aware that he/she has a digital footprint and that this information can be searched, copied, and passed on, and that he/she can take some control based on what he/she posts online. (6-9)

- understands the benefits of sharing information online and the potential risks of sharing inappropriate information. (Gr. 9-12)
- understands that everything they or anyone else posts about them online becomes part of a public online presence known as a digital footprint. (Gr. 9-12)
- understands his/her responsibility to protect the privacy of others when posting information about them online. (Gr. 9-12)

f. Self-image And Identity

- *A digitally literate person understands the nature of self-image and identity in the online environment, how our perceptions of others and our social values may be manipulated, and that people may not be what or whom they appear to be online.*

The student:

- is aware that photographic images can be digitally manipulated for positive purposes or to mislead us, and can distort our perceptions of beauty and health. (Gr. 3-5)
- understands how the media can play a powerful role in shaping our ideas about girls and boys. (Gr. 3-5)
- understands the social nature of digital media and technologies, and has basic vocabulary and knowledge for discussing the media landscape. (Gr. 6-9)
- is aware of his/her media habits and the array of media he/she uses on a weekly basis, and the role of digital media in his/her life. (Gr. 6-9)
- understands that presenting themselves in different ways online carries both benefits and risks. (Gr. 6-9)
- is aware of the gender stereotypes that exist in video games, virtual worlds and elsewhere on the Internet. (Gr. 6-9)
- understands the different pressures teens face when it comes to editing, posting, and commenting on photos online. (Gr. 10-12)
- is aware of how he/she and others represent themselves online, and the relationship between online and offline selves (Gr. 10-12)

g. Creative Credit And Copyright

- *A digitally literate person respects other's ownership of their digital creations.*

The student:

- understands the concept of having ownership over creative work. (Gr. K-2)
- understands the concept of plagiarism, and when and how it is okay to use the work of others. (Gr. 3-5)
- understands copyright and licence rules, fair use, and the rights he/she has as a creator. (Gr. 6-9)
- understands the legal and ethical dimensions of respecting creative work. (Gr. 10-12)
- distinguishes between taking inspiration from the creative work of others and appropriating that work without permission. (Gr. 10-12)

- considers both the benefits and drawbacks of using collective intelligence (crowdsourcing) in different contexts. (Gr. 10-12)

h. Legal And Ethical Aspects

- *A digitally literate person behaves appropriately and in a socially responsible way in digital environments, demonstrating awareness and knowledge of legal and ethical aspects on the use of ICT and digital content.*

The student:

- communicates and collaborates with others in accordance with codes of conduct appropriate to the context. (Gr. 3-5)
- considers legal and ethical principles of use and publication of information. (Gr. 6-9)
- knows there are different ways of licensing intellectual property production, understands differences between using copyright, public domain, “Copyleft” and/or creative commons licenses. (Gr. 10-12)
- has an advanced sense of suitable behaviour, finely tuned to media context, audience and legal provisions. (Gr. 10-12)

i. Balanced Attitude Towards Technology

- *A digitally literate person demonstrates an informed, open-minded, and balanced attitude towards information society and the use of digital technology, is curious, aware of opportunities and new developments, and is comfortable to explore and exploit them.*

The student:

- understands that the digital environment can make things better or worse depending on how we use it. (Gr. 3-5)
- exhibits a positive attitude toward using technology that supports collaboration, learning, and productivity. (Gr. 6-9)
- has a positive, but realistic attitude towards the benefits and risks associated with information technologies. (Gr. 6-9)
- assesses and reduces/avoids technology related threats to his/her health. (Gr. 6-9)
- has a general level of confidence to experiment with new technologies, but also to reject inappropriate technologies. (Gr. 6-9)
- manages the potentially distracting aspects of working digitally. (Gr. 6-9)
- exhibits a positive attitude towards learning about emerging digital technologies. (Gr. 6-9)
- advocates and practices safe, legal, and responsible use of information and technology. (Gr. 10-12)
- exhibits leadership as a digital citizen. (Gr. 10-12)
- is aware of the discourse on both the issues and the opportunities involved in new media. (Gr. 10-12)

j. Understanding And Awareness of the Role of ICT in Society

- *A digitally literate person understands the broader context of use and development of information and communication technology.*

The student:

- understands the role of ICT in everyday life, in social life and at work. (Gr. 6-9)
- is aware of environmental issues related to the use of digital technologies. (Gr. 6-9)
- is aware of the general trends within new media even if he/she does not use them. (Gr. 10-12)
- understands the wider context of digital tools in a 'digital age' characterised by globalisation and networks. (Gr. 10-12)

5. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

a. Technology Mediated Communication And Collaboration

- *A digitally literate person connects, shares, communicates, and collaborates with others effectively in digital environments.*

The student:

- communicates effectively by email, takes into account the purpose and audience of his/her message, and the tone he/she wants to convey. (Gr. K-2)
- collaborates with others to outline common expectations in order to build a strong digital citizenship community. (Gr. 3-5)
- develops cultural understanding and global awareness by engaging with learners of other cultures. (Gr. 3-5)
- interacts, collaborates, co-constructs content, and publishes with peers, experts, or others employing a variety of digital environments and media. (Gr. 6-9)
- communicates information and ideas effectively to multiple audiences using a variety of media and formats. (Gr. 6-9)
- contributes to project teams to produce original works or solve problems. (Gr. 6-9)
- communicates through ICT (e.g. email, instant messaging, video conferencing). (Gr. 6-9)
- uses social media and participative technology. (Gr. 10-12)
- uses digital media to be part of a community. (Gr. 10-12)
- knows how to use social media and social networks to promote results of their work. (Gr. 10-12)
- makes valuable contributions to the public knowledge domain (e.g. wikis, public forums, reviews). (Gr. 10-12)

6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations, and develop computational thinking skills.

a. General Knowledge And Functional Skills

➤ *A digitally literate person knows the basics (terminology, navigation, functionality) of digital devices and can use them for basic purposes.*

The student:

- understands that computer programming algorithms are sets of instructions that tell computers what to do. (Gr. K-2)
- can use a digital device, which may be one of many types (e.g. Desktop PC, Laptop, Tablet, Smartphone). (Gr. K-2)
- understands the difference between hardware and software and how they work together. (Gr. 3-5)
- can design, write, and debug simple computer programs (e.g. Scratch). (Gr. 3-5)
- understands the different parts and components of a computer and/or other digital devices and can solve problems by decomposing them into smaller parts. (Gr. 3-5)
- knows about the existence of various operating systems and understands the differences between them. (Gr. 6-9)
- possesses general computer skills (typing, using computers, launching a new program). (Gr. 6-9)
- can design, write and debug programs that accomplish specific goals, such as controlling or simulating physical systems. (Gr. 6-9)
- can solve programmatic problems by decomposing them into smaller parts. (Gr. 6-9)
- uses a variety of programming languages to create programs, apps, games, or other software tools. (Gr. 10-12)
- is familiar with the meaning of terms commonly used in user manuals for the operation of hardware and the installation and configuration of software. (Gr. 10-12)
- troubleshoots systems and applications. (Gr. 10-12)

b. Use in Everyday Life

➤ *A digitally literate person integrates technologies into the activities of everyday life.*

The student:

- uses basic applications to edit and create content (text, numeric, images). (Gr. 3-5)
- is able to download and access different information types from the Internet. (Gr. 6-9)
- searches, collects, process, evaluates, shares, and stores data and information using various devices, applications, or cloud services. (Gr. 6-9)
- participates in society through online engagement in democratic actions (e.g. lobbying, petitions, parliament). (Gr. 6-9)

- conducts transactions online (e.g. pay bills, apply for a job, submit tax declaration, complete online forms, book a hotel, interact with government or local services, shop online, etc.). (Gr. 10-12)
- consults digital resources as a matter of routine across various aspects of life (news, health, sports, travel, entertainment, etc.). (Gr. 10-12)

c. **Informed Decision Making**

- *A digitally literate person is aware of most relevant or common technologies and is able to decide upon the most appropriate technology according to the purpose or need at hand.*

The student:

- selects and uses applications effectively and productively (e.g. chooses the most appropriate technologies according to the task). (Gr. 6-9)
- understands the potential of digital devices and resources for her/his schoolwork. (Gr. 6-9)
- knows the range of things that can be done using ICT/Internet. (Gr. 6-9)
- is aware of the most relevant or popular digital technologies used by others (e.g. peers, professionals). (Gr. 10-12)
- has reasonable knowledge of available technologies, their strengths and weaknesses, and is able to make informed decisions about whether and how to use technologies to pursue personal goals. (Gr. 10-12)
- understands the technologies he/she is using at a level that is sufficient to underpin good purchasing decisions (e.g. devices or Internet Service Providers). (Gr. 10-12)

d. **Seamless Use Demonstrating Self-Efficacy**

- *A digitally literate person confidently and creatively applies digital technologies to increase personal effectiveness and efficiency.*

The student:

- arranges and develop his/her personal working environment as an effective and reliable system. (Gr. 6-9)
- uses different ICT in a way that helps to achieve certain results more quickly, or more easily, or to achieve better results. (Gr. 6-9)
- solves a theoretical or practical problems, of individual or collective interest, through or with the support of digital tools. (Gr. 10-12)
- stays informed using a combination of active search and personalised, automated delivery of information. (Gr. 10-12)

e. **Learning About And With Digital Technologies**

- *A digitally literate person actively and constantly explores emerging technologies, integrates them in his/her environment and uses them for lifelong learning.*

The student:

- uses digital media to learn and develop. (Gr. 3-5)
- uses a digital environment for lifelong learning (formal or informal). (Gr. 3-5)
- uses ICT resources to safely expand his/her own knowledge and connect to the world. (Gr. 6-9)
- learns how to work with any new digital technology by trying it out, and using its internal guidance and help. (Gr. 6-9)
- adapts smoothly to new technology, and learns how to use them, and integrates them into his/her environment. (Gr. 6-9)
- self-monitors personal goals and diagnoses deficiencies of digital competence required for reaching these goals. (Gr. 6-9)
- uses learning management systems, information management systems, etc. (Gr. 10-12)
- exploits technological potentials in order to represent and solve problems. (Gr. 10-12)
- solves technical problems and knows what to do when technology does not function. (Gr. 10-12)
- transfers current knowledge to learning new technologies. (Gr. 10-12)

Sources:

ISTE-NETS For Students *Standards and Performance Indicators*

CommonSense Media's *K-12 Digital Literacy and Citizenship Curriculum*

European Commission's *Online Consultation on Experts' Views on Digital Competence*