Applying social and ethical protocols and practices when using ICT

Level 5	Level 6
Typically by the end of Year 8, students:	*Typically by the end of Year 10, students:*
Recognise intellectual property apply practices that comply with legal obligations regarding the ownership and use of digital products resources	**Recognise intellectual property** identify and describe ethical dilemmas and consciously apply practices that protect intellectual property
Apply digital information security practices independently apply strategies for determining the appropriate type of digital information suited to the location of storage and adequate security for online environments	**Apply digital information security practices** use a range of strategies for securing and protecting information, assess the risks associated with online environments and establish appropriate security strategies and codes of conduct
Apply personal security protocols identify and value the rights to identity, privacy and emotional safety for themselves and others when using ICT and apply generally accepted social protocols when using ICT to collaborate with local and global communities	**Apply personal security protocols** independently apply appropriate strategies to protect rights, identity, privacy and emotional safety of others when using ICT, and discriminate between protocols suitable for different communication tools when collaborating with local and global communities
Identify the impacts of ICT in society explain the benefits and risks of the use of ICT for particular people in work and home environments	**Identify the impacts of ICT in society** assess the impact of ICT in the workplace and in society, and speculate on its role in the future and how they can influence its use

Investigating with ICT

Level 5	Level 6
Typically by the end of Year 8, students:	*Typically by the end of Year 10, students:*
Define and plan information searches use a range of ICT to analyse information in terms of implicit patterns and structures as a basis to plan an information search or generation	**Define and plan information searches** select and use a range of ICT independently and collaboratively, analyse information to frame questions and plan search strategies or data generation
Locate, generate and access data and information locate, retrieve or generate information using search facilities and organise information in meaningful ways	**Locate, generate and access data and information** use advanced search tools and techniques or simulations and digital models to locate or generate precise data and information that supports the development of new understandings
Select and evaluate data and information assess the suitability of data or information using appropriate own criteria	**Select and evaluate data and information** develop and use criteria systematically to evaluate the quality, suitability and credibility of located data or information and sources

Creating with ICT

Level 5	Level 6
Typically by the end of Year 8, students	*Typically by the end of Year 10, students:*
Generate ideas, plans and processes use appropriate ICT to collaboratively generate ideas and develop plans	**Generate ideas, plans and processes** select and use ICT to articulate ideas and concepts, and plan the development of complex solutions
Generate solutions to challenges and learning area tasks design and modify simple digital solutions, or multimodal creative outputs or data transformations for particular audiences and purposes following recognised conventions	**Generate solutions to challenges and learning area tasks** Design, modify and manage complex digital solutions, or multimodal creative outputs or data transformations for a range of audiences and purposes

Communicating with ICT

Level 5	Level 6
Typically by the end of Year 8, students:	*Typically by the end of Year 10, students:*
Collaborate, share and exchange select and use appropriate ICT tools safely to lead groups in sharing and exchanging information, and taking part in online projects or active collaborations with appropriate global audiences	**Collaborate, share and exchange** select and use a range of ICT tools efficiently and safely to share and exchange information, and to collaboratively and purposefully construct knowledge
Understand computer mediated communications understand that there are various methods of collaboration through computer mediated communications that vary in form and control	**Understand computer mediated communications** understand that computer mediated communications have advantages and disadvantages in supporting active participation in a community of practice and the management of collaboration on digital materials

Managing and operating ICT

Level 5	Level 6
Typically by the end of Year 8, students:	*Typically by the end of Year 10, students:*
Select and use hardware and software independently select and operate a range of devices by adjusting relevant software functions to suit specific tasks, and independently use common troubleshooting procedures to solve routine malfunctions	**Select and use hardware and software** justify the selection of, and optimise the operation of, a selected range of devices and software functions to complete specific tasks, for different purposes and in different social contexts
Understand ICT systems identify and compare networked ICT system components including between hardware, software and data	**Understand ICT systems** apply an understanding of networked ICT system components to make changes to functions, processes, procedures and devices to fit the purpose of the solutions
Manage digital data manage and maintain data for groups of users using a variety of methods and systems	**Manage digital data** manage and maintain data securely in a variety of storage mediums and formats

Advice for Learning Areas

The Arts

In the Australian Curriculum: The Arts, ICT capability enables students to engage with digital and virtual technologies when making and responding to artworks. Students can, for example, use interactive multimedia platforms, communication and editing software, and virtual tools and environments, to design, create and share their artworks. Students learn to apply social and ethical protocols and practices in a digital environment, particularly in relation to the appropriate acknowledgment of intellectual property and the safeguarding of personal security when using ICT. They use digital technologies to locate, access, select and evaluate information, work collaboratively, share and exchange information, and communicate with a variety of audiences.

Humanities and Social Sciences

7-10 History

In the Australian Curriculum: History, students develop ICT capability when they locate, process, analyse and communicate historical information. They use their ICT capability to access a range of digital sources of information; critically analyse evidence and historical trends; communicate, present and represent their learning; and collaborate, discuss and debate to co-construct their knowledge.

7-10 Geography

In the Australian Curriculum: Geography, students develop ICT capability when they locate, select, evaluate, communicate and share geographical information using digital technologies and learn to use spatial technologies.

They enhance their ICT capability by exploring the effects of technologies on places, on the location of economic activities and on people's lives. They understand the geographical changes produced by the increasing use of technology.

7-10 Civics and Citizenship

In the Australian Curriculum: Civics and Citizenship, students develop the knowledge and skills to use digital technologies to research and source information on civics and citizenship, including critically analysing that information. Students learn about and have opportunities to use social media to collaborate, communicate, share information and build consensus on political, legal and social issues. Students develop and apply ICT skills through organising and presenting information digitally using multimodal elements.

7-10 Economics and Business

In the Australian Curriculum: Economics and Business, students develop ICT capability when they access and use digital technologies as an investigative and creative tool. They locate, evaluate, research, plan, share and display data and/or information. Using digital technologies, students create, communicate and present economics and business data and information for a variety of reasons and audiences.

Mathematics

In the Australian Curriculum: Mathematics, students develop ICT capability when they investigate, create and communicate mathematical ideas and concepts using fast, automated, interactive and multimodal technologies. They use their ICT capability to perform calculations; draw graphs; collect, manage, analyse and interpret data; share and exchange information and ideas; and investigate and model concepts and relationships.

Digital technologies, such as spreadsheets, dynamic geometry software and computer algebra software, can engage students and promote understanding of key concepts.

English

ICT capability is an important component of the Australian Curriculum: English. Students use ICT when they interpret and create print, visual and multimodal texts. They use communication technologies when they conduct research online, and collaborate and communicate with others electronically. In particular, they use ICT to access, analyse, modify and create hybrid, digital and multimodal texts, using digital publishing.

As students interpret and create digital texts, they develop their capability in ICT including word processing programs and other software, navigating and following research trails and selecting and evaluating information found online.

Science

In the Australian Curriculum: Science, students develop ICT capability when they research science concepts and applications, investigate scientific phenomena and communicate their scientific understandings. In particular, they use their ICT capability to access information; collect, analyse and represent data; model and interpret concepts and relationships; and communicate science ideas, processes and information.

Technology can be used to access information beyond our senses capability and to represent scientific phenomena in ways that improve students' understanding of concepts, ideas and information. Digital aids such as animations and simulations provide opportunities to view phenomena and test predictions that cannot be investigated through practical experiments in the classroom and may enhance students' understanding and engagement with science.

Health and Physical Education

The Australian Curriculum: Health and Physical Education enhances ICT learning by helping students to effectively and safely access online health and physical activity information and services to manage their own health and wellbeing. Students further develop their understanding of the role ICT plays in the lives and relationships of children and young people. They explore the nature of ICT and the implications for establishing and managing relationships in the twenty-first century. Students develop an understanding of ethical online behaviour, including protocols and practices for using ICT for respectful communication. Students use ICT as key tools for communicating, collaborating, creating content, seeking help, accessing information and analysing performance in the health and physical education field. Students become confident and critical consumers of a multitude of wellbeing apps that can assist them to seek help, relax, be mindful, report bullying, and so on.

They use a range of ICT to analyse, measure and enhance movement performances and to access and critically evaluate health information, products and services. They also use ICT to develop personalised plans for nutrition, physical activity participation and wellbeing.

Languages

Learning in the Australian Curriculum: Languages is enhanced through the use of multimodal resources, digital environments and technologies in the target language. Accessing live target language environments and texts via digital media contributes to the development of information and communication technology capabilities as well as linguistic and cultural knowledge. Accessing different real-time contexts extends the boundaries of the classroom.