

### COGNITIVE DOMAIN

	Knows–Comprehends–Becomes Aware	Analyzes–Applies–Believes	Synthesizes–Evaluates–Values
<b>Plan and Question</b>	P-1.1 recalls and/or records prior knowledge and asks topic-related questions	P-2.1 constructs “how and why” questions, predictions, hunches, educated guesses, and hypotheses and identifies information needs	P-3.1 evaluates original inquiry questions and creates new questions for future inquiry
	P-1.2 follows given plans	P-2.2 adapts given electronic plans (examples: electronic storyboards, outlines, timelines, graphic organizers, science experiment reports...) sc1.1, sc1.3, sc1.4, sc1.5, sc1.7, sc2.1	P-3.2 designs own electronic plans (examples: electronic storyboards, outlines, timelines, graphic organizers...) sa2.2, sa2.3, sc2.3
<b>Gather and Make Sense</b>	G-1.1 finds and collects information (text, images, data, audio, video) from given media sources (examples: within applications, CD-ROMs, the Internet, broadcast media, email...) sa1.1, sa1.2, sa1.3, sa1.4, sa1.5, sa1.7, sa1.8, sa1.10, sa1.11, sb1.1, sb2.1	G-2.1 refines information searches using a variety of media sources sa1.6, sa1.9, sa2.4, sa2.5	G-3.1 incorporates new information with prior knowledge and adjusts inquiry strategies
	G-1.2 identifies sources of information and provides bibliographic/reference data (examples: titles, authors, publication dates, URLs, standard bibliographic formats...) sb1.2, sc1.6	G-2.2 analyzes textual, numerical, aural, and visual information gathered from media sources, applying established criteria (examples: accuracy, currency, credibility, validity, reliability, objectivity, fairness, relevance...) sa2.6	G-3.2 assesses textual, numerical, aural, and visual information, as well as the sources of the media, to determine context, perspective, bias, and/or motive
	G-1.3 records data or makes notes on gathered information and ideas using given categories and given ICT (examples: tables, graphic organizers, spreadsheets...) sa1.1, sa1.2, sa1.3, sa1.5, sa2.3, sb1.2, sc1.3	G-2.3 categorizes information using the ICT suitable for the purpose (examples: tables, graphic organizers, spreadsheets, outlines, prioritized email, geographic information system layers...) sa1.5, sa2.3, sc2.1	
	G-1.4 collects primary data using electronic devices (examples: digital cameras, email, video cameras, digital audio recorders, digital microscopes, archived original artifacts, online surveys, Global Positioning System [GPS], probeware...) sb1.3	G-2.4 analyzes whether information collected from media sources is sufficient and/or suitable for purpose and audience (examples: CD-ROMs, websites, wikis, blogs, podcasts, syndications, broadcast media, email from peers or experts...)	
	G-1.5 questions whether information from media sources is real, useful, and/or distracting (examples: falsified digital images, banners, and/or pop-up advertisements...)	G-2.5 analyzes whether information from media sources has been manipulated (examples: bogus websites, bogus email, spam, graphs showing selected data...)	
<b>Produce to Show Understanding</b>	Pr-1.1 participates in establishing criteria for student-created electronic work	Pr-2.1 selects a suitable ICT application and/or device to create electronic work and explains the selection sb2.1	Pr-3.1 designs and creates non-sequential ICT representations (examples: hyperlinked web pages, layered graphic organizers, branching multimedia presentations, multiple-sheet spreadsheets, virtual realities, relational databases...) sc2.3
	Pr-1.2 composes text, records sound, sketches images, graphs data, and/or creates video sa1.1, sa1.2, sa1.3, sa1.5, sb1.1, sb1.2, sc1.1, sc1.2, sc1.3, sd1.1, sd2.1	Pr-2.2 revises electronic work to improve organization and clarity, enhance content and artistry, and meet audience needs, according to established criteria, feedback, and personal preferences (examples: by creating and/or critically revising text, images, and/or sound to enhance electronic work; by revising audio/video clips or effects; by adjusting the pace and transitions in multimedia presentations; by adding animation to web pages...) sc1.1, sc1.2, sc1.3, sc1.4, sc1.5, sc1.6, sc1.7, sc2.1, sc2.2, sc2.3	Pr-3.2 self-assesses ICT representations to go beyond established criteria by enhancing meaning and/or artistry, according to topic, audience, purpose, and occasion
	Pr-1.3 edits electronic work according to established criteria, conventions, and/or standards (examples: text, images, sound, concept maps, multimedia presentations, email, tables, spreadsheets, graphs, video, animation, web pages, wikis, blogs...) sa1.4, sa1.6, sa1.11, sa2.1, sc1.3, sc1.4, sc1.5, sc1.6, sc1.7, sc2.3	Pr-2.3 solves problems, reaches conclusions, makes decisions, and/or proposes answers to questions by analyzing data/information and concepts using ICT devices and/or applications (examples: virtual manipulatives, animation, simulation software, simulation websites, spreadsheets, geographic information systems, probeware...) sa1.5, sa2.3, sc2.1	Pr-3.3 designs and creates simulations and models using ICT applications (examples: spreadsheet modelling of a real situation, animation of an abstract concept or process, computer-aided design of a real object...)
<b>Communicate</b>	C-1.1 displays and/or discusses electronic work (examples: text, images, sound, concept maps, multimedia presentations, email, tables, spreadsheets, graphs, video, animation, web pages, wikis, blogs...) sa1.1, sa1.2, sa1.5, sa2.2, sb1.1, sb1.2, sb2.1	C-2.1 discusses information, ideas, and/or electronic work using tools for electronic communication (examples: email, electronic whiteboards, web pages, threaded discussions, videoconferences, chats, instant messages, camera phones, wikis, blogs, podcasts, online whiteboards...) sa1.11	C-3.1 adjusts communication based on self-evaluation and feedback from a global audience
<b>Reflect</b>	R-1.1 participates in guided conferences to think about using ICT to learn (examples: with peers, parents, teachers...) sd2.1	R-2.1 invites and shares constructive feedback, related to established criteria, to reflect on using ICT to learn (example: explains selection of ICT...)	R-3.1 self-monitors learning goals, reflects on the value of ICT to complete learning tasks, and sets personal goals for using ICT to learn

### AFFECTIVE DOMAIN

	Knows–Comprehends–Becomes Aware	Analyzes–Applies–Believes	Synthesizes–Evaluates–Values
<b>Ethics and Responsibility</b>	E-1.1 respects ICT equipment and personal technology space of other ICT users	E-2.1 applies school division's acceptable-use policy for ICT	E-3.1 evaluates effects of personal ICT behaviour on others
	E-1.2 recognizes guidelines for safety and security (examples: guidelines for Internet safety, security of user names and passwords, responsible use of email...)	E-2.2 applies safety guidelines when communicating electronically (examples: email, web pages, threaded discussions, videoconferences, chats, instant messages, camera phones, wikis, blogs, podcasts, online whiteboards...)	E-3.2 weighs personal benefits and risks of using ICT
	E-1.3 recognizes the need to acknowledge authorship of intellectual property (examples: text, images, data, music, video...)	E-2.3 explains consequences of unethical behaviour (examples: cyberbullying, promotion of prejudice and hatred, copyright violations, plagiarism, willful destruction/manipulation of data, hacking, propagation of viruses, spamming, software piracy, consumer fraud, identity theft...)	
	E-1.4 identifies possible health issues associated with using ICT (examples: ergonomic factors, inactivity, carpal tunnel syndrome, repetitive stress injury, eye strain, addictive/obsessive behaviour...)	E-2.4 applies guidelines for ethical and responsible use of ICT (examples: respects others' privacy, protects personal information, follows security procedures, respects intellectual property and credits sources, uses licensed software, discourages cyberbullying, collects data ethically, analyzes information ethically...)	
<b>Social Implications</b>	S-1.1 identifies uses of ICT at home, at school, at work, and in the community (examples: recreation, communication, education, sales, health care...)	S-2.1 analyzes current trends in ICT to predict effects of emerging technologies	S-3.1 weighs society's right to information access against right to individual privacy
	S-1.2 relates societal consequences of ethical and unethical use of ICT	S-2.2 analyzes various ICT skill and competency requirements for personal career choices	S-3.2 weighs benefits versus risks to society of creating new ICTs (example: outsourcing jobs...)
	S-1.3 chooses appropriate times and places to use wireless games and/or communication devices (examples: electronic pets/games, iPods, MP3 players, cell phones, PDAs...; at school, on buses, in theatres, in restaurants, in meetings, while driving...)	S-2.3 analyzes advantages and disadvantages of ICT use in society (examples: lack of access, consequences of unethical use, ease of manipulating data, ease of communicating information, addictive/obsessive behaviour...)	
<b>Collaboration</b>	Co-1.1 works with others in teacher-directed learning tasks using ICT and assists others with ICT knowledge and procedures (examples: listens actively to a partner, collaborates in creating ICT products, participates in team webquests...)	Co-2.1 collaborates with peers to accomplish self-directed learning with ICT in various settings (examples: assumes assigned group roles, sets group goals, solves group productivity issues...)	Co-3.1 leads a group in the process of collaborative learning (examples: motivates team members, values contributions of team members, manages group conflict, works toward consensus...)
		Co-2.2 collaborates with others over distance using ICT (examples: email, web pages, threaded discussions, videoconferences, chats, instant messages, camera phones, wikis, blogs, podcasts, online whiteboards...)	Co-3.2 weighs benefits and challenges of collaborating on learning with ICT
<b>Motivation and Confidence</b>	M-1.1 demonstrates confidence and self-motivation while doing ICT tasks alone and with others	M-2.1 investigates ICT problems and applies strategies to solve them	M-3.1 synthesizes knowledge and information to solve unique ICT problems
	M-1.2 recognizes ICT problems and seeks assistance to solve them (examples: consults peers, teachers, help menus, online supports, telephone helplines...)	M-2.2 perseveres in working through complex ICT problems using higher-level thinking skills (examples: open-mindedness, precision, accuracy...)	
	M-1.3 recalls prior knowledge of procedures for troubleshooting and attempts to solve ICT problems		

For detailed information, samples, learning experiences, glossary, and bibliography, see <[www.edu.gov.mb.ca/ks4/tech/lict/index.html](http://www.edu.gov.mb.ca/ks4/tech/lict/index.html)>.

\* Information and Communication Technology (ICT)

\*\* approximately Grade 4 to Grade 7

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