

Washington State  
K-12 Essential Academic Learning Requirements  
& Grade Level Expectations

# Educational *Technology*



Grades 6 - 8

Office of Superintendent of Public Instruction  
December 1, 2008

**For complete K-12 Educational Technology Standards go to:**

*<http://www.k12.wa.us/EdTech/Standards/default.aspx>*

## ***Legislative Directive***

***...OSPI shall develop essential academic learning requirements (EALRs) and grade level expectations (GLEs) for educational technology literacy and technology fluency...***

Aware of the pressing need for technology skills among high school graduates headed for higher education, career training or the job market, the 2007 Washington State Legislature directed the Office of Superintendent of Public Instruction to develop a new set of academic standards. Lawmakers called for Essential Academic Learning Requirements (EALRs) and Grade Level Expectations (GLEs) that describe what K-12 students must know and be able to do with technology. They framed these new proficiencies within a definition of basic literacy and its next level of skill development, technological fluency.

**Technology Literacy** is the ability to responsibly, creatively and effectively use appropriate technology to:

- Communicate.
- Access, collect, manage, integrate and evaluate information.
- Solve problems and create solutions
- Build and share knowledge.
- Improve and enhance learning in all subject areas and experiences.

**Technology Fluency** is demonstrated when students:

- Apply technology to real-world experiences.
- Adapt to changing technologies.
- Modify current and create new technologies.
- Personalize technology to meet personal needs, interests and learning style.

### **Legislative Directive**

***2SHB 1906, Section 16 (1)*** *Within funds specifically appropriated, by December 1, 2008, the SPI shall develop essential academic learning requirements (EALRs) and grade level expectations (GLEs) for educational technology literacy and technology fluency that identify the knowledge and skills that all public school students need to know and be able to do in the areas of technology and technology literacy and fluency.*

*The development process shall include a review of current standards that have been developed or are used by other states and national and international technology associations. To the maximum extent possible, the superintendent shall integrate goal four and the knowledge and skill areas in the other goals in the technology essential academic learning requirements.*

# ***Educational Technology Essential Academic Learning Requirements (EALRs) with Components***

## **Document Organization**

The educational technology standards are organized to map the learning proficiency sequence from 6th through 8th grade. Educators can see how a learning expectation differs from grade to grade across grade spans of 6-8.

*If learning is an act of exploration  
then technology equips the explorer  
for the journey of a lifetime.*

John Maschuk

An empty, shaded box in an early grade or grades indicates that proficiency is not yet expected. A shaded box in an upper grade or grades indicates that proficiency was expected at an earlier grade and the knowledge and skills should be maintained.

## **EALR 1 – Integration**

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

### **Components**

**1.1: Innovate:** Demonstrate creative thinking, construct knowledge and develop innovative products and processes using technology.

**1.2: Collaborate:** Use digital media and environments to communicate and work collaboratively to support individual learning and contribute to the learning of others.

**1.3: Investigate and Think Critically:** Research, manage and evaluate information and solve problems using digital tools and resources.

## **EALR 2 – Digital Citizenship**

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

### **Components**

**2.1: Practice Safety:** Practice safe, legal and ethical behavior in the use of information and technology.

**2.2: Operate Systems:** Understand technology systems and use hardware and networks to support learning.

**2.3: Select and Use Applications:** Use productivity tools and common applications effectively and constructively.

**2.4: Adapt to Change (Technology Fluency):** Transfer current knowledge to new and emerging technologies. (Grades 6-12 only)

## Understanding Grade Level Expectations

### Required:

An **Essential Academic Learning Requirement (EALR)** is a broad statement of the learning that applies to Grades K–12.

The **Component** is a statement that further defines and provides more specific information about the EALR. There is at least one component for each EALR.

The **Grade Level Expectation (GLE)** is a statement containing the essential content or process to be learned and the cognitive demand required to learn it. A revision of Bloom’s Taxonomy was used to categorize the cognitive demand required of the student. Each GLE includes evidence of learning statements, which are considered essential to the GLE.

The GLE **Numbering System** identifies the EALR, the component and the GLE, in that order. In the example at right, the number 2 indicates the EALR, the number 2.1 indicates the component and the number 2.1.2 indicates the GLE. Note: Grade levels are not referenced in the numbering system.

The **Evidence of Learning** is a bulleted list of ways students can demonstrate learning considered essential to the GLE. Educators are encouraged to identify additional ways in which the student can show proficiency as the educational technology GLEs are integrated across the curriculum.

### Suggested:

The **Examples** provide specific illustrations of the learning. However, these examples are not exhaustive, and educators are encouraged to find multiple ways by which learners can demonstrate what they know.

*Note: Examples in EALR 2 – Digital Citizenship – do not have suggested subject areas or Basic/21st Century examples as those in EALR 1 – Integration (see next page).*

<b>EALR 2 — DIGITAL CITIZENSHIP</b> Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.	
<b>Component 2.1: Practice Safety</b> Demonstrate safe, legal and ethical behavior in the use of information and technology.	
<b>GLE</b>	<b>Grade 6</b>
<b>2.1.2</b>	<b>Practice ethical and respectful behavior.</b>
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Comply with district Acceptable Use Policy (AUP).</li> <li>▪ Practice ethical and appropriate use of all media and comply with copyright law.</li> <li>▪ Participate and engage with the global community within expected norms of behavior and positive interaction.</li> <li>▪ Recognize, report and counteract cyberbullying.</li> </ul>
<b>Examples</b>	<ul style="list-style-type: none"> <li>• Recognize different types of illegal and unethical technology use.</li> <li>• Identify and cite Creative Commons images in online presentations.</li> <li>• Cite all sources properly.</li> </ul>

## Understanding the Examples in EALR 1 – Integration

There are two types of examples given at each grade level in EALR 1 – Integration:

- Basic Level.
- 21st Century Learning Environment.

### Basic Level

Annual inventory data indicates that 99%+ of classrooms, statewide, have at least one computer connected to the Internet; many classrooms have access to an LCD projector or a document camera. Given this level of technology presence, all educators can reasonably use the examples, or their equivalent, at the Basic Level.

### 21st Century Learning Environment

For schools that have moved beyond the Basic Level, the 21st Century Learning Environment examples are intended to provide achievable outcomes using available technological tools. The long-term goal is to move all classroom instruction to 21st century learning environments with ongoing professional development.

<b>Examples</b>	<b>Basic Level</b>
	<ul style="list-style-type: none"> <li>• Create multimedia products that promote community resources. <b>R, W, Sc, SS</b></li> </ul>
	<b>21st Century Learning Environment</b>
	<ul style="list-style-type: none"> <li>• Debate a topic using online tools (e.g., blogs, wikis). <b>R, W, M, Sc, SS</b></li> </ul>

### Subject Area References

In the Integration EALR, examples also include a suggested subject area or areas into which the technology standards could be integrated (**R** = Reading, **W** = Writing, **M** = Mathematics, **Sc** = Science, **SS** = Social Studies, **C** = Communication, **A** = The Arts, **H/F** = Health and Fitness, **CTE** = Career and Technical Education, **WL** = World Languages). OSPI anticipates that each one of these will be linked on the OSPI website to a high quality, standards-based lesson aligned to specific Grade Level Expectations or Performance Expectations for that subject area. All examples will be updated regularly as technology changes.

Access the latest version of the technology standards on the Grade Level Resources website at <https://eds.ospi.k12.wa.us/ealrs/>

## GRADES 6 – 8

### EALR 1 — INTEGRATION

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

#### Component 1.1 Innovate

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

GLE	6	7	8
<b>1.1.1</b>	<b>Generate ideas and create original works for personal and group expression using a variety of digital tools.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Create products using a combination of text, images, sound, music and video.</li> <li>▪ Generate creative solutions and present ideas.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Use spreadsheet software to display poll or survey data. <b>R, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Investigate and illustrate complex ideas or processes using concept mapping software. <b>R, W, M, Sc, SS, C, A, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Construct a poll or survey to gather data using an interactive digital tool. <b>M, Sc, SS</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Create blogs, wikis or other collaborative forums to share ideas. <b>R, W, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create and publish digital stories to a blog for peer review. <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Enhance web pages, blogs and wikis by adding graphics, sound, music and videos. <b>R, W, M, Sc, SS, C, A, H/F, CTE</b></li> </ul>

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## EALR 1 — INTEGRATION

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### Component 1.1 Innovate

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

GLE	6	7	8
1.1.2	<b>Use models and simulations to explore systems, identify trends and forecast possibilities.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>▪ Gather data, examine patterns and apply information for decision making using digital tools and resources.</li> <li>▪ Use online databases or simulation software to interpret and predict trends.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Compare and contrast trends in weather, river level and temperature. <b>M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use information gathered from national and international weather services to predict winter temperatures for the next 5 years and how it will affect your location. <b>M, Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Participate in science simulations (e.g., body systems, online math manipulatives, science simulations or robotics). <b>M, Sc</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Create first person digital simulations of life in an ancient civilization. <b>SS</b></li> <li>• Import real time data from online sources and examine its meaning or implication using spreadsheet software. <b>M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a virtual tour of Washington State to show demographic trends over the past 100 years. <b>SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create, modify and share a 3D model to demonstrate cause and effect in various contexts. <b>Sc, SS, H/F</b></li> <li>• Forecast election results using demographic information collected from online resources. <b>SS</b></li> </ul>

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## EALR 1 — INTEGRATION

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

### Component 1.2 Collaborate

Use digital media and environments to communicate and work collaboratively to support individual learning and contribute to the learning of others.

GLE	6	7	8
1.2.1	<b>Communicate and collaborate to learn with others.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Interact and collaborate with others using a variety of digital tools.</li> <li>▪ Communicate information and ideas effectively to multiple audiences using a variety of media and formats.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Create and share a group digital project (e.g., newspaper, flyer, movie or slide presentation). <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Interview various individuals and create a digital biography to share with others. <b>W, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create multimedia products that promote community resources. <b>R, W, Sc, SS</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Comment on a writing project using online tools (e.g., a blog). <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use videoconferencing to participate in a statewide project (e.g., “Where in Washington”). <b>SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Debate a topic using online tools (e.g., blogs, wikis). <b>R, W, M, Sc, SS</b></li> </ul>

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## EALR 1 — INTEGRATION

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

### Component 1.2 Collaborate

Use digital media and environments to communicate and work collaboratively to support individual learning and contribute to the learning of others.

GLE	6	7	8
<b>1.2.2</b>	<b>Develop cultural understanding and global awareness by engaging with learners of many cultures.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Learn about many cultures through digital content from local communities and around the world and share relevant information.</li> <li>▪ Engage with learners from many cultures using online interactive tools or videoconferencing.</li> <li>▪ Participate in an online community to understand a local or global issue.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Learn about many cultures through emailing pen pals. <b>R, W, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a video interview of a community member raised in another country. <b>W, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a multimedia presentation that targets various audiences using the same topic. <b>R, W, CTE</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Participate in a live video conference (e.g., Youth Network for Healthy Communities). <b>R, W, M, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Collaborate in online teams to learn about other cultures. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Discuss a cultural or environmental topic with a class in a different city, state or country using conferencing software. <b>Sc, SS, C</b></li> </ul>

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## EALR 1 — INTEGRATION

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

### Component 1.3 Investigate and Think Critically

Research, manage and evaluate information and solve problems using digital tools and resources.

GLE	6	7	8
1.3.1	<b>Identify and define authentic problems and significant questions for investigation and plan strategies to guide inquiry.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>Select appropriate databases and digital resources to organize a project or solve a problem.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>Plan a project using brainstorming or mind-mapping software. <b>R, W, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>Identify sources using a database to research material for a speech. <b>R, W, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>Use online global newspapers to compare point of view or bias of the same event. <b>R, W, Sc, SS, C, H/F</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>Plan a project using online tools (e.g., assign group roles and establish timelines using an online calendar). <b>R, W, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>Compare and contrast a science or health topic using a spreadsheet or online tools. <b>Sc, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>Compare and contrast water quality in three or more bodies of water using a spreadsheet or online tools. <b>Sc, H/F</b></li> </ul>

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## EALR 1 — INTEGRATION

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

### Component 1.3 Investigate and Think Critically

Research, manage and evaluate information and solve problems using digital tools and resources.

GLE	6	7	8
1.3.2	<b>Locate and organize information from a variety of sources and media.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Select the appropriate search engines or directories.</li> <li>▪ Use basic functions of search engines and databases.</li> <li>▪ Catalog and organize resources.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Use databases to gather information for research projects. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use online databases to gather information for research projects. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use digital note cards, bookmarking or online storage resources when conducting research. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Listen to podcasts to gather and locate information. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use classroom wikis, blogs or websites to collect and organize online resources. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use classroom wikis, blogs or websites to collect and share online resources with other classes. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>

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## EALR 1 — INTEGRATION

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

### Component 1.3 Investigate and Think Critically

Research, manage and evaluate information and solve problems using digital tools and resources.

GLE	6	7	8
1.3.3	<b>Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Combine information from separate sources to produce, support and counter arguments.</li> <li>▪ Assess the credibility, validity and potential bias of online resources.</li> <li>▪ Understand the issues involved in copyrighted materials.</li> <li>▪ Cite sources using bibliography tools.</li> <li>▪ Select relevant sources for a particular purpose or audience.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Discuss implications of domain names and investigate sources for potential bias (e.g., .gov, .net, .com, .edu). <b>R, W, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Explain how copyright law protects an author’s original work. <b>R, W, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use digital bibliography tools to site and organize sources for research projects. <b>R, W, Sc, SS, C</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Report results or share solutions in a podcast. <b>R, W, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Report results or share solutions in the form of a podcast or video. <b>R, W, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a collaborative website to report results or share solutions. <b>R, W, Sc, SS, C</b></li> </ul>

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## EALR 1 — INTEGRATION

Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

### Component 1.3 Investigate and Think Critically

Research, manage and evaluate information and solve problems using digital tools and resources.

GLE	6	7	8
1.3.4	<b>Use multiple processes and diverse perspectives to explore alternative solutions.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Explore alternative concepts and receive feedback from multiple audiences.</li> <li>▪ Evaluate different solutions to problems.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Conduct a teacher-directed survey and create a simple electronic chart or graph from results. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Share work electronically with others for feedback. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Share student work online for feedback. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Develop an online survey to collect and analyze data. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use audience feedback through a blog to evaluate student writing. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use audience feedback through response systems or blogs to evaluate solutions to problems. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>

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## EALR 2 — DIGITAL CITIZENSHIP

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

### Component 2.1 Practice Safety

Demonstrate safe, legal and ethical behavior in the use of information and technology.

GLE	6	7	8
<b>2.1.1</b>	<b>Practice personal safety.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Practice the safe and responsible sharing of information online.</li><li>▪ Protect access to passwords and digital accounts.</li><li>▪ Recognize potential online dangers.</li><li>▪ Understand privacy issues and how data is archived and publicly available.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Understand passwords, privacy and anonymity.</li></ul>	<ul style="list-style-type: none"><li>• Understand passwords, privacy and anonymity and recognize spam, phishing, 419 fraud and identity theft.</li></ul>	<ul style="list-style-type: none"><li>• Understand passwords, privacy and anonymity and recognize spam, phishing, 419 fraud and identity theft.</li></ul>

**EALR 2 — DIGITAL CITIZENSHIP**

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

**Component 2.1 Practice Safety**

Demonstrate safe, legal and ethical behavior in the use of information and technology.

GLE	6	7	8
2.1.2	<b>Practice ethical and respectful behavior.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Comply with district Acceptable Use Policy (AUP).</li> <li>▪ Practice ethical and appropriate use of all media and comply with copyright law.</li> <li>▪ Participate and engage with the global community within expected norms of behavior and positive interaction.</li> <li>▪ Recognize, report and counteract cyberbullying.</li> </ul>		
<b>Examples</b>	<ul style="list-style-type: none"> <li>• Recognize different types of illegal and unethical technology use.</li> <li>• Identify and cite <i>Creative Commons</i> images in online presentations.</li> <li>• Cite all sources properly.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the impact of unethical use of technology (e.g., hacking, plagiarism, pirating).</li> <li>• Use <i>Creative Commons</i>, public domain or self-created music in presentations.</li> <li>• Cite all sources properly.</li> </ul>	<ul style="list-style-type: none"> <li>• Explain the legal consequences of breaking acceptable use policies.</li> <li>• Use <i>Creative Commons</i>, public domain or self-created video in presentations.</li> <li>• Cite all sources properly.</li> </ul>

## EALR 2 — DIGITAL CITIZENSHIP

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

### Component 2.2 Operate Systems

Understand technology systems and use hardware and networks to support learning.

GLE	6	7	8
<b>2.2.1</b>	<b>Develop skills to use technology effectively.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Learn new vocabulary as technologies emerge.</li><li>▪ Meet keyboarding proficiency standards.</li><li>▪ Apply correct network procedures.</li><li>▪ Manage files effectively.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Apply keyboarding skills to increase speed and accuracy.</li><li>• Save or back up information to appropriate location (e.g., local, network or external drives).</li><li>• Organize and manage files and folders between school, home and online.</li></ul>	<ul style="list-style-type: none"><li>• Meet district keyboarding proficiency standards.</li><li>• Understand access rights for a variety of storage applications (e.g., local, network or external drives).</li><li>• Organize and manage files and folders between school, home and online.</li></ul>	<ul style="list-style-type: none"><li>• Meet district keyboarding proficiency standards.</li><li>• Use access rights independently for a variety of storage media (e.g., local, network or external drives).</li><li>• Organize and manage files and folders between school, home and online.</li></ul>

## EALR 2 — DIGITAL CITIZENSHIP

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

### Component 2.2 Operate Systems

Understand technology systems and use hardware and networks to support learning.

GLE	6	7	8
<b>2.2.2</b>	<b>Use a variety of hardware to support learning.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Maintain and use digital equipment* effectively.</li><li>▪ Identify and solve common problems related to digital equipment.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Check condition and placement of batteries in digital equipment.</li></ul>	<ul style="list-style-type: none"><li>• Check network cable connections in multiple locations.</li></ul>	<ul style="list-style-type: none"><li>• Check indicator lights on digital equipment.</li></ul>

\*Digital equipment can include digital and document cameras, microphones, computers, various handheld devices, assistive technologies, scanners, classroom response systems, microscopes, pedometers, interactive whiteboards, GPS, etc.

**EALR 2 — DIGITAL CITIZENSHIP**

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

**Component 2.3 Select and Use Applications**

Use productivity tools and common applications effectively and constructively.

GLE	6	7	8
<b>2.3.1</b>	<b>Select and use common applications.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Use software to reinforce skills in all subject areas.</li> <li>▪ Create and publish multimedia projects.</li> <li>▪ Use multiple features of a:               <ul style="list-style-type: none"> <li>- Word processing or publishing program.</li> <li>- Spreadsheet program.</li> <li>- Presentation program.</li> <li>- Database program (or database functionality in other programs).</li> </ul> </li> </ul>		
<b>Examples</b>	<ul style="list-style-type: none"> <li>• Use multimedia software at a basic level to edit, build transitions, add text and audio and publish.</li> <li>• Build a narrative using digital story boards.</li> <li>• Integrate graphs from a spreadsheet into a report or presentation.</li> </ul>	<ul style="list-style-type: none"> <li>• Create a list of images (shot list) to prepare for a video production (e.g., local historical sites).</li> <li>• Construct a narration track for an existing video (e.g., describe locations and their historical significance).</li> <li>• Generate a report in a tri-fold format including charts and images.</li> </ul>	<ul style="list-style-type: none"> <li>• Produce a video interview of a historical figure (e.g., students dress and act as the figure and discuss their contributions).</li> <li>• Create an animated storybook for early elementary students.</li> </ul>

## **EALR 2 — DIGITAL CITIZENSHIP**

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

### **Component 2.3 Select and Use Applications**

Use productivity tools and common applications effectively and constructively.

<b>GLE</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>2.3.2</b>	<b>Select and use online applications.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Use navigation skills to search for and find information.</li><li>▪ Use collaborative technologies to support learning.</li><li>▪ Create and share digital multimedia projects.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Use interactive online tools to comment, link, post and embed information (e.g., wikis, blogs).</li></ul>	<ul style="list-style-type: none"><li>• Communicate with peers and teachers using email.</li></ul>	<ul style="list-style-type: none"><li>• Create a web page, digital video or podcast.</li></ul>

**EALR 2 — DIGITAL CITIZENSHIP**

Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

**Component 2.4 Adapt to Change (Technology Fluency)**

Transfer current knowledge to new and emerging technologies.

GLE	K	1	2	3	4	5
2.4.1	<b>Begins in Grade 6.</b>					

GLE	6	7	8
2.4.1	<b>Formulate and synthesize new knowledge.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Apply technology to real-world experiences.</li> <li>▪ Adjust to changing technologies.</li> <li>▪ Modify current and create new technologies.</li> <li>▪ Personalize technology to meet individual needs, interests and learning styles.</li> </ul>		
<b>Examples</b>	<ul style="list-style-type: none"> <li>• Recognize similarities between applications and transfer skills between programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Transfer knowledge of a word processing application to an online word processing program.</li> </ul>	<ul style="list-style-type: none"> <li>• Adapt a classroom wiki to create a personal interest wiki.</li> </ul>

## *Glossary*

**419 Fraud:** An email scam in which the solicitor offers large sums of money in return for a smaller upfront investment.

**Acceptable Use Policy (AUP):**

A school or organization's official policy statement regarding the use of the Internet or other computer networks.

**Anonymity:** The quality or state of being anonymous (not named or identified, of unknown authorship).

**Anonymous Online Name:** A name that is not identifiable, lacking individuality, distinction or recognizability.

**Application:** A computer or software program, activated by a user that can perform a specific function or functions.

**Authentic Problem:**

A genuine, real or original problem to be solved.

**Blog:** A diary or personal journal kept on a website, usually updated frequently, that might be private or might be intended for public viewing.

**Bookmark:** A marker that allows a user to navigate to a website on the Internet to allow for rapid access.

**Browser:** See Web Browser.

**CD-ROM (Compact Disk Read-Only Memory):** A portable storage device for computer files.

**Clip Art:** Graphics that can be cut and pasted electronically into documents. Clip art can be photographs, maps, diagrams, illustrations or cartoons.

**Concept Mapping:** A technique for visualizing the relationships among different concepts which can be used as a tool in defining a research topic.

**Copyright Law:** Law that provides protection to the authors of "original works of authorship," including literary, dramatic, musical, artistic and certain other intellectual works.

**Creative Commons:** Creative Commons licenses are designed to facilitate and encourage more versatility and flexibility in copyright law.

**Cyberbullying:** Involves the use of information and communication technologies to support deliberate, repeated and hostile behavior by an individual or group that is intended to harm others.

**Database:** A collection or listing of information, usually organized with searchable elements or fields. For example, a library catalog can be searched by author, title or subject.

**Desktop:** The background area on a computer screen which usually contains an icon for the hard drive and trash can (used to remove files). Folders, files, applications and a working document may also appear on the desktop window.

**Digital Stories:** A variety of new forms of digital narratives (web-based stories, interactive stories, hypertexts and narrative computer games).

**Digital Tools:** Hardware and software that generate, store and process data.

**Document:** Any self-contained piece of work created using an application program.

**Document Camera:** A camera mounted on a stand, able to capture text or 3-dimensional objects. The image is typically displayed through a projector.

**DVD (Digital Video Disk):** A digital storage medium, the same physical size as a CD-ROM disk, that can store massive amounts of data including graphics and full motion video.

**Electronic Portfolio:** A collection of electronic evidence assembled and managed by a user. Also known as an e-portfolio or a digital portfolio.

**Email (Electronic Mail):** The electronic transmission of letters, messages and memos from one computer to another over a network.

**Empathy:** The recognition and understanding of the states of mind, beliefs, desires, and particularly, emotions of others. It is often characterized as the ability to experience the outlook or emotions of another.

**Enter Key:** A key located at the right end of the third row from the bottom on a QWERTY keyboard. Pressing the enter key performs a typed or highlighted command. In a word processing program, the enter key starts a new paragraph.

**Equity:** In the context of instructional technology, equity is often used to refer to the equal availability of technology to all students regardless of socioeconomic status, culture, locale, gender, age or race.

**Folksonomy:** A taxonomy generated by Internet users that identifies and classifies web pages, images, links, etc.

**Formats:** The layout, presentation or arrangement of data on a screen or paper. May also refer to filename or type of file.

**Gantt Chart:** A type of bar chart used in process or project planning and control to display planned work targets for completion of work in relation to time.

**GIS (Graphical Information Systems) Software:** An information system for capturing, storing, analyzing, managing and presenting geographic data which is linked to location.

**GPS (Global Positioning System):** A system of satellites that allows one's position to be calculated with great accuracy by the use of an electronic receiver.

**Graphic Organizer:** An application that allows users to combine both icons (graphics) and text to give structure and logic to a project or presentation. Also known as storyboard software.

**Hard Drive:** The primary storage device for a computer. Also called hard disk. It is where applications and files are stored.

**Hardware:** Physical equipment, components or devices.

**Help Wizard:** An application that provides assistance for users who need help by topic.

**Hyperlink:** Content on a website which can be “clicked on” with a mouse, which in turn will take a person to another web page or a different area of the same web page.

**Hypertext:** The primary way to navigate between web pages and among websites. Hypertext on web pages has been expanded to include hyperlinks from text, a picture or a graphic and from image maps.

**Identity Theft:** Term for the criminal act of stealing personal information with the intent to use it to create similar identities without the victim’s knowledge.

**Installer:** A program used to update or install software programs.

**Interactive Whiteboard:** A large touch sensitive display that connects to a computer and projector.

**Internet:** A global communications network that is a collaborative effort among educational institutions, government agencies, various commercial and nonprofit organizations and individual users.

**Keyboard:** The main input device for computers. Keyboards are modeled on typewriter keys but have additional keys that enhance their function.

**KWL Chart:** An instructional technique. Students list K = What I Know, W = What I want to know and L = What I learned. In early grades, activity is conducted as a group.

**LCD Projector:** See Projector.

**Link:** See Hyperlink.

**Multimedia:** Digital products that integrate interactive text, images, sound and color. Multimedia can be anything from a simple PowerPoint slide show to a complex interactive simulation.

**Network:** A collection of computers that are linked together for the purpose of sharing information.

**Online:** A common term used to refer to being connected to the Internet.

**Online Community:** A meeting place on the Internet for people who share common interests. Online communities can be open to anyone or limited to members only. Some online communities have a moderator.

**Password:** A series of characters that enables a user to gain access to a file, computer or program.

**Paste:** A command that transfers text or graphics from the clipboard to the document at the location of the cursor.

**Phishing:** The practice of convincing someone to divulge confidential information they normally would not provide to a stranger. The purpose of phishing is to gather the information needed to steal a victim's money or identity.

**Plagiarism:** Using another person's ideas or creative work without giving credit to that person.

**Podcast:** A media file that is distributed over the Internet using syndication feeds, for playback on portable media players and personal computers.

**Pop-ups:** A secondary web browser window of varying size, often containing a form of advertising, which opens outside of the primary web browser window.

**Portfolio:** See Electronic Portfolio.

**Program:** A set of instructions describing operations for a computer to perform to accomplish a task. See Application.

**Projector:** One of several devices that can be connected to a computer to display information to an audience. The most common devices are video projection units and video converters for television monitors.

**Public Domain:** Information that has been made available to the general public and is distributed and redistributed without copyright or patent.

**Research:** Careful study, investigation and experimentation aimed at discovering or interpreting facts to create new knowledge or understandings on the part of the researcher.

**Response System:** A system that allows users to respond to questions posed by the presenter using interactive hand-held devices that resemble a television remote control.

**RSS (Really Simple Syndication):** A format for delivering regularly changing web content. Many news-related sites, weblogs and other online publishers syndicate their content as an RSS feed.

**Search Engine:** A program that searches documents for specified keywords and returns a list of the documents where the keywords were found.

**Section 508:** The section of the 1998 Rehabilitation Act that states that all electronic and information technology procured, used or developed by the federal government after June 25, 2001, must be accessible to people with disabilities.

**Shortcut Keys:** The keys or key combinations that provide quick access to frequently performed commands or operations.

**Social Bookmarking:** Web-based applications that allow users to store, classify, share and search links through the practice of folksonomy on the Internet or an intranet.

**Social Networking:** A category of Internet applications to help connect friends, business partners or other individuals together.

**Software:** The instructions that tell a computer what to do. See Application.

**Spam:** Unsolicited, unwanted junk email.

**Spreadsheet:** Application program that manipulates numerical and string data in rows and columns of cells.

**Tablet:** A notebook or slate-shaped mobile computer, equipped with touch-screen technology which allows the user to operate the computer with a stylus or digital pen, instead of a keyboard or mouse. Also known as a Pen computer.

**Tag:** A relevant keyword or term associated with, or assigned to, a piece of information – picture, article or video clip, etc. – which describes the content and makes keyword-based classification possible.

**Video:** The visual presentation of information.

**Videoconferencing:** The ability for two or more participants to meet from different locations by using computer networks to transmit audio and video data. Usually requires user to have a camera, microphone and speakers on their computer.

**Virtual:** In the context of computing, not concrete or physical. For instance, a completely virtual university does not have actual buildings but instead holds classes over the Internet.

**Virtual Classroom:** The online learning space where students and instructors interact.

**Web or World Wide Web (WWW):** A global hypertext network that is part of the Internet. It is normally viewed through a web browser.

**Web Browser:** An application used to view World Wide Web pages. Firefox and Internet Explorer are examples of web browsers.

**Web Page:** One page of a document on the World Wide Web. Each web page has its own address called a Uniform Resource Locator (URL).

**Webinar:** An online seminar or meeting conducted over the World Wide Web.

**Website:** A location on the World Wide Web. A website usually contains multiple pages.

**Wiki:** A website that allows users to add, remove and edit and change content, typically without the need for registration. It also allows for linking among any number of pages.

**Word Processing:** An application that allows a user to create, edit and format text.