

**W a s h i n g t o n   S t a t e**

**K - 12**

**Educational  
Technology**

# **Learning Standards**

**December 2008**





# **K-12 Educational Technology Learning Standards**

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**December 2008**



# Washington State K-12 Essential Academic Learning Requirements & Grade Level Expectations for Educational Technology

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## ***Education Reform in Washington***

In 1993, Washington State Legislature established the commitment that all children would achieve at high levels. The Basic Education Act of 1993 established **four common learning goals** for all Washington students, designed to create high-quality academic standards and raise student achievement.

The four learning goals provided the foundation for the development of content standards, called Essential Academic Learning Requirements (EALRs), for reading, writing, communication, mathematics, science, social studies, health and fitness, the arts, and in 2007, educational technology. The EALRs articulate clear, high expectations for what students should know and be able to do.

*...provide students with the opportunity to become responsible and **respectful global citizens**, to contribute to their own economic well-being and that of their families and communities, to explore and understand different perspectives and to enjoy productive and satisfying lives.*

Basic Education Act Goal  
(1993, **updated 2007**)

### **Washington State Learning Goals**

1. **Read** with comprehension, **write** effectively, and **communicate** successfully in a variety of ways and settings and with a variety of audiences.
2. **Know and apply the core concepts and principles** of mathematics; social, physical and life sciences; civics and history including different cultures and participation in representative government; geography; arts; and health and fitness.
3. **Think** analytically, logically, and creatively, and to integrate different experiences and knowledge to form reasoned judgments and solve problems.
4. **Understand** the importance of work and how performance, effort and decisions directly affect **future career and educational opportunities**.

The Educational Technology standards are categorized around two EALRs.

**EALR 1 – INTEGRATION** Students use technology within all content areas to collaborate, communicate, generate innovative ideas, investigate and solve problems.

**EALR 2 – DIGITAL CITIZENSHIP** Students demonstrate a clear understanding of technology systems and operations and practice safe, legal and ethical behavior.

## ***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.*

## ***Preparing Washington Students for Tomorrow***

The Washington State Educational Technology Standards were developed by a team of educators from across the state. Two ambitious goals framed the research and development work that led to these innovative and practical standards:

- Integrate technology across core curricula, and provide realistic examples adaptable to available digital equipment.
- Determine what students should know and be able to do in a digital world.

The development team conducted an extensive survey of digital resources for teaching and learning, past and current research, industry standards and best practices from other states, to guide their approach and the construction of Washington's technology standards. Special acknowledgement must be made to the International Society for Technology in Education (ISTE) and the Partnership for 21st Century Skills, two leading organizations whose collective work on technology standards was a rich source of information and knowledge. ISTE's 2007 National Educational Technology Standards for Students were the foundation of the development team's work.

Three main themes emerged in the research:

1. Integrated into teaching, learning and assessment, technology creates a new relevancy to the learning environment in which students, teachers and experts engage new ideas, communicate and work together.
2. With professional development tuned to technology integration, teachers design engaging and imaginative learning experiences that meet academic standards across the core content areas.
3. For high school graduates, the ability to use and adapt technology has direct application within higher education and the work environment.

### **Global Is the New Local**

High school graduates can expect a new brand of globalized opportunity – unbound by borders, enriched by the fusion of industry and culture – available to those who know how to investigate, solve problems, collaborate, create and innovate. These skills help students make the connection between what they learn and what they do in the digital dimensions of a 21st century world.

*One cannot foresee the world in  
which the child we educate will live.*  
John Dewey

If graduates are to act confidently on post-secondary opportunities, their success may well depend on a holistic skill set – founded on strong academics – that includes technological proficiency coupled to the creative, analytical and adaptive abilities described in Washington's technology standards.

The development team envisions a 21st century educational environment in which educators and students engage in dynamic and creative learning communities that promote life-long learning. In this environment, all students are prepared to succeed in a competitive world, and graduate ready for their next challenge.

## ***About Technology Integration***

Technology integration is the use of technology resources – computers, digital cameras, CD-ROMs, software applications, the Internet, handheld devices, etc. – to support teaching and learning across all subject areas and grade levels.

Integrated into the classroom, technology becomes a multi-modal way to extend learning. It provides a medium that unpacks the world and opens new channels through which students show what they know and can do. Also, technology can introduce different perspectives on life and culture through the immediacy of videoconferences, email dialogue and interactive webinars. Conversation among learners and experts anywhere enriches learning and provides insight into the creative tangents that lead to expert knowledge. These learning experiences achieve relevancy, as the struggles, limits and potentials of problem-solving in the real world move theory into practice for young learners.

*Technology should be seen as a natural extension and necessary part of the lesson to support learning in all other subject areas.*

Educational  
Technology Standards  
Development Team,  
January, 2008

Technology integration is achieved when:

- It is a seamless part of the learning process.
- The use of technology is routine and transparent.
- Technology is accessible and readily available for the task at hand.
- Technology tools support curricular goals and state standards.
- It helps students reach their learning goals.

Educators have reported that integrating technology effectively has three positive potentials for the learner:

1. Technology motivates students to delve deeper into a subject area.
2. Technology has an inexhaustible flexibility – mechanically and creatively. Students create, manipulate and individualize their learning artifacts.
3. Technology increases teachers' ability to meet the individual needs of all learners.

## ***Meeting the Needs of All Students***

### **Culturally Responsive Teaching**

Student diversity in the classroom is bringing a greater richness to the American educational setting. Changing demographics, social and economic trends have important implications for education in the 21st century. This culturally and linguistically diverse student population opens new opportunities for greater inclusion and equity. However, uneven access to technology (the digital divide) can hinder success.

### **Honoring All Cultures**

Many areas throughout Washington have seen a tremendous growth in immigration and a corresponding increase in diversity. Technology provides a venue that makes honoring and learning about all cultures easier to do within the confines of a classroom.

### **Differentiating Instruction with Technology**

Teachers must find the instructional balance point between those students who come to school academically and technologically ready to learn, and those who struggle to understand each lesson or have only limited access to technology in daily life. Technology increases the opportunities for teachers to create differentiated content, to address students with different learning styles. One of the great strengths of technology integration lies in its power to create a variety of instructional approaches over the one-size-fits-all lesson plan.

### **Addressing Special Needs**

There is no doubt that technology continues to change the lives of students with special needs. High on the list of the benefits of assistive and adaptive technologies are greater independence and productivity, and expanded opportunities for social inclusion. New and emerging technologies have the power to connect and engage special needs students with 21st century teaching and learning.



### **Equity, Access and the Essential Conditions**

A quality education means every child – with no exceptions – has access to a technology-rich, 21st century skills-based learning environment. Although 99%+ of Washington State classrooms have at least one computer connected to the Internet and many classrooms can take advantage of an LCD projector or document camera, concentration, access and equipment condition varies greatly.

Researchers and educators investigating the many dimensions of technology in education have identified ***essential conditions*** (see Appendix B) that optimize the likelihood that technology integration will make a positive contribution to teaching and learning. Three of these conditions are critical if schools are to integrate these technology standards successfully:

- Equalized access for every classroom to a high-speed Internet connection, up-to-date computers and a variety of digital teaching and learning technologies.
- Professional development that promotes learner-centered instruction and technology integration.
- Sustainable and sufficient funding to keep the infrastructure of network and classroom technologies current and reliable.

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

## **Document Organization**

The educational technology standards are organized to map the learning proficiency sequence from kindergarten through 12th grade. Educators can see how a learning expectation differs from grade to grade across grade spans of K-2, 3-5, 6-8, and 9-12.

*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>
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 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.

### 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.

<b>Examples</b>	<b>Basic Level</b>
	<ul style="list-style-type: none"> <li>• Brainstorm writing topics using a computer or document camera and projector. R, W, M, Sc, SS</li> </ul>
	<b>21st Century Learning Environment</b>
	<ul style="list-style-type: none"> <li>• Create a digital diagram of how volcanoes erupt. Sc</li> <li>• Select exemplary work to store in an electronic portfolio. R, W, M, Sc, SS</li> <li>• Use presentation software to present original stories about classroom topics. R, W, M, Sc, SS</li> </ul>

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

## GRADES K – 2

### 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	K	1	2
1.1.1	<b>Generate ideas and create original works for personal and group expression using a variety of digital tools.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>Organize ideas and produce digital products with assistance.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>Create a picture in a digital drawing program. <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>Brainstorm ideas for a project using software. <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>Create a class graph or survey about student interests. <b>M</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>Use drawing tools to illustrate pages in a digital ABC book. <b>R, W, A</b></li> <li>Sort and classify various items using a document camera or an interactive whiteboard as a class. <b>R, W, M</b></li> </ul>	<ul style="list-style-type: none"> <li>Illustrate and communicate original ideas and stories on various topics using digital tools. <b>R, W</b></li> <li>Record ideas as a class for animal habitats using a graphic organizer. <b>W, Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>Share an answer to a math problem using an interactive whiteboard or tablet. <b>M</b></li> <li>Record the lifecycle of a butterfly using an online graphic organizer with digital images. <b>Sc</b></li> </ul>

Possible content area connections: **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

## 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	K	1	2
1.1.2	Use models and simulations to explore systems, identify trends and forecast possibilities.		
Evidence of Learning	<ul style="list-style-type: none"> <li>Use interactive resources to practice skills, explore new concepts and describe patterns.</li> </ul>		
Examples	<b>Basic Level</b>		
		<ul style="list-style-type: none"> <li>Use templates to explore and identify patterns as a class. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>Predict weather patterns using a template. <b>Sc</b></li> </ul>
	<b>21st Century Learning Environment</b>		
		<ul style="list-style-type: none"> <li>Explore various websites with pictures of animals, foods and colors to reinforce vocabulary as a class. <b>R</b></li> <li>Participate in creating a class digital presentation to display different reading word families. <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>Use digital simulations to explore and depict patterns of growth such as the life cycles of plants. <b>Sc</b></li> <li>Create surveys, collect data and use graphing templates to share results. <b>M</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	K	1	2
1.2.1	<b>Communicate and collaborate to learn with others.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>▪ Participate in online projects as a class.</li> <li>▪ Work with others using technology tools to convey ideas or illustrate simple concepts.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Share and discuss learning using a document camera or computer with LCD projector. <b>R, W, M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Choose digital pictures with a partner to incorporate into a classroom project. <b>R, W, Sc, A</b></li> </ul>	<ul style="list-style-type: none"> <li>• Share information from the author’s website as part of a book report. <b>R, W</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Draw a picture story with a partner using an age appropriate software program. <b>R</b></li> </ul>	<ul style="list-style-type: none"> <li>• Draw pictures of animals and post to classroom web page to share with others. <b>W, A</b></li> <li>• Collaborate with partner to create an animal habitat using drawing software. <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a multimedia project to share learning about a particular animal. <b>R, W, Sc</b></li> <li>• Record the list of books read by class using a spreadsheet and post to classroom web page. <b>R</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	K	1	2
1.2.2	Develop cultural understanding and global awareness by engaging with learners of many cultures.		
Evidence of Learning	<ul style="list-style-type: none"> <li>Learn about many cultures through digital images and stories from around the world.</li> </ul>		
Examples	Basic Level		
		<ul style="list-style-type: none"> <li>Watch videos of cultural events and listen to music of many cultures. SS, A</li> </ul>	<ul style="list-style-type: none"> <li>Watch videos of cultural events, listen to music of many cultures and experience an online virtual tour. SS, A</li> </ul>
	21st Century Learning Environment		
		<ul style="list-style-type: none"> <li>Collaborate as a small group to create a community map using digital tools. SS</li> </ul>	<ul style="list-style-type: none"> <li>Participate in an information exchange with students from another area of the United States. R, W, M, Sc, SS</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	K	1	2
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>▪ Build background knowledge and generate questions by using digital content.</li> <li>▪ Record questions using digital tools with assistance.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Generate questions after viewing a video as a class. <b>R</b></li> </ul>	<ul style="list-style-type: none"> <li>• Visit a website about a subject and generate questions with a partner or a small group. <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Generate questions individually after viewing a videotape or DVD. <b>R, W, M, Sc</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Record questions for a digital KWL chart as a class. <b>R, M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Record questions for a digital KWL chart with a partner or group. <b>R, W, M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Generate questions individually for a digital KWL chart. <b>R, W, M, Sc</b></li> <li>• Investigate a topic and generate questions using a variety of online tools. <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 1.3 Investigate and Think Critically

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

GLE	K	1	2
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>▪ Gather information using teacher-selected digital resources.</li> <li>▪ Organize information using a table, digital template or online tool with assistance.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Gather information about animals as a class using websites. <b>R, W, Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Gather information about animals as a class using websites, videos, CDs and other digital media. <b>R, W, Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Gather and begin to understand the need to cite information from websites. <b>R, W, M</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Use a table to organize information as a class using a presentation tool such as an interactive whiteboard or document camera. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use a digital organizer as a class. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Choose relevant websites from a collection of online resources selected by the teacher. <b>R, W, M</b></li> <li>• Use a digital template with a partner to organize information. <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 1.3 Investigate and Think Critically

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

GLE	K	1	2
1.3.3	<b>Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>▪ Analyze and evaluate results, discuss and identify the solution(s).</li> <li>▪ Share learning and results through a multimedia product.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Use pre-designed templates to explore and depict patterns as a class. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create surveys, collect data and use a spreadsheet to share results as a class. <b>R, W, M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create surveys, collect data and share results using a graphing template. <b>R, W, M, Sc</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Share information and pictures of student projects on a teacher web page. <b>R, W, M</b></li> <li>• Share findings about a specific area of research using presentation software as a class. <b>R, W, M, Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Share information and pictures of student projects on a teacher web page. <b>R, W, M</b></li> <li>• Share findings about a specific area of research using presentation software. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Share research about a specific animal using presentation software. <b>Sc</b></li> <li>• Use a presentation template to share results of specific topic with a partner. <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 1.3 Investigate and Think Critically**

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

GLE	K	1	2
1.3.4	<b>Use multiple processes and diverse perspectives to explore alternative solutions.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>Share different ways to solve problems.</li> </ul>		
Examples	<b>Basic Level</b>		
		<ul style="list-style-type: none"> <li>Explain solutions in mathematics using a document camera or computer with LCD projector. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>Discuss alternative solutions to mathematics problems while sharing work using a document camera or computer with LCD projector. <b>M</b></li> </ul>
	<b>21st Century Learning Environment</b>		
		<ul style="list-style-type: none"> <li>Compare two different math online programs, select favorite and explain why. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>Use word art from a word processing program to type spelling words. <b>R</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.

<b>GLE</b>	<b>K</b>	<b>1</b>	<b>2</b>
<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, responsible sharing of information online.</li><li>▪ Keep passwords private.</li><li>▪ Recognize potential online dangers.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Participate in classroom safety discussions that reference online safety.</li></ul>	<ul style="list-style-type: none"><li>• Discuss danger in using personal name, address, phone number or picture online.</li></ul>	<ul style="list-style-type: none"><li>• Recognize danger in using personal name, address, phone number or picture 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 2.1 Practice Safety

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

GLE	K	1	2
<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>▪ Demonstrate respect for the digital work of others.</li><li>▪ Demonstrate respect for opinions of others posted online.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Use classroom technologies carefully and correctly.</li></ul>	<ul style="list-style-type: none"><li>• Use classroom technologies carefully and correctly.</li></ul>	<ul style="list-style-type: none"><li>• Identify the differences between correct and incorrect use of classroom technologies.</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	K	1	2
2.2.1	<b>Develop skills to use technology effectively.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"> <li>▪ Use correct vocabulary to describe digital technologies.</li> <li>▪ Meet keyboarding proficiency standards for grade level.</li> <li>▪ Open, save and print files.</li> </ul>		
<b>Examples</b>	<ul style="list-style-type: none"> <li>• Use left and right hand side of keyboard, thumb on spacebar.</li> </ul>	<ul style="list-style-type: none"> <li>• Use left and right hand side of keyboard, thumb on spacebar and little finger on the enter key.</li> <li>• Demonstrate correct posture while using the keyboard.</li> <li>• Demonstrate ability to save and retrieve a file to and from a specified folder with assistance.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate correct home row on the keyboard.</li> <li>• Use district program or age appropriate online keyboarding programs.</li> <li>• Demonstrate correct posture while using the keyboard.</li> <li>• Demonstrate ability to save and retrieve a file to and from a specified folder.</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	K	1	2
2.2.2	<b>Use a variety of hardware to support learning.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ 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>• Use digital equipment to share work with class.</li></ul>	<ul style="list-style-type: none"><li>• Use digital equipment to capture an image.</li><li>• Check that monitor is turned on.</li></ul>	<ul style="list-style-type: none"><li>• Use digital equipment to capture sound.</li><li>• Verify that computer is turned on.</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	K	1	2
2.3.1	<b>Select and use common applications.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Use classroom software to reinforce skills in reading and mathematics.</li><li>▪ Use basic navigation skills that increase in complexity across grade levels.</li><li>▪ Communicate learning in reading and writing with beginning level features of a word processing or publishing program.</li></ul>		
<b>Examples</b>		<ul style="list-style-type: none"><li>• Open and close applications.</li><li>• Use clip art to illustrate a story.</li></ul>	<ul style="list-style-type: none"><li>• Open and close applications and print documents.</li><li>• Create a digital image to illustrate a story.</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.

GLE	K	1	2
<b>2.3.2</b>	<b>Select and use online applications.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Visit teacher-selected websites.</li></ul>		
<b>Examples</b>		<ul style="list-style-type: none"><li>• Use interactive reading websites to practice reading skills.</li></ul>	<ul style="list-style-type: none"><li>• Use a variety of interactive websites to practice subject specific skills.</li></ul>

## GRADES 3 – 5

### 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	3	4	5
1.1.1	<b>Generate ideas and create original works for personal and group expression using a variety of digital tools.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>Organize ideas and design and produce multimedia projects.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>Brainstorm writing topics using a computer or document camera and projector. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>Use presentation software to identify and show the unique geographic regions of Washington State. <b>Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>Use presentation software to give examples of the importance of the <i>Bill of Rights</i> in today's world. <b>SS</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>Create a digital diagram of how volcanoes erupt. <b>Sc</b></li> <li>Select exemplary work to store in an electronic portfolio. <b>R, W, M, Sc, SS</b></li> <li>Use presentation software to present original stories about classroom topics. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>Create a digital vocabulary list of new words for subject areas. <b>R, W, M, Sc, SS</b></li> <li>Store and present electronic portfolios of exemplary work. <b>R, W, M</b></li> <li>Use a table to analyze, organize and compare information. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>Use social bookmarking websites for a project on a shared writing topic dealing with the causes of the Revolutionary War. <b>SS</b></li> <li>Store and present electronic portfolios of exemplary work. <b>R, W, M</b></li> <li>Label an image to show parts of the water cycle. <b>Sc</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 1.1 Innovate

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

GLE	3	4	5
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>▪ Practice skills, explore new concepts and recognize patterns using interactive resources and educational games.</li> <li>▪ Collect and graph data to predict outcomes and interpret patterns.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Create a class graph showing weather and temperature data over one week. <b>M, Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Identify trends by using an online coin flipping site. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use online simulations and activities to visualize fractions. <b>M</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Identify trends using online weather and temperature data. <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a spreadsheet to display and analyze data. <b>M</b></li> <li>• Use online models and simulations to conceptualize area and perimeter. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use online resources to demonstrate transfer of energy between systems. <b>Sc</b></li> <li>• Investigate earthquake locations around the world using online mapping tools. <b>SS, Sc</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	3	4	5
1.2.1	<b>Communicate and collaborate to learn with others.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>▪ Participate in online projects.</li> <li>▪ Interact with others using email or other communication tools.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Compare the life cycle of different plants using digital images. <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Connect with pen pal using digital tools to share favorite hobbies. <b>W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Participate in collaborative projects with students from outside classroom. <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>• Create a multimedia project to share learning about a particular animal. <b>R, W, Sc</b></li> <li>• Record the list of books read by class using a spreadsheet and post to classroom web page. <b>R</b></li> </ul>	<ul style="list-style-type: none"> <li>• Communicate effectively using digital tools (e.g., construct a simple geometric design, write instructions for replication and share with others). <b>R, W, M, C</b></li> <li>• Share and comment, using digital tools, on student science projects. <b>Sc</b></li> <li>• Solve a mathematics problem and post online for feedback or comments. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Debate issues on water quality using shared documents. <b>R, W</b></li> <li>• Share book reviews and make book recommendations on a classroom wiki, blog or web page. <b>R, W</b></li> <li>• Connect to other students to reflect on and share poems using a blog. <b>W</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	3	4	5
1.2.2	<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 images and stories from around the world and share relevant information.</li> <li>▪ Participate as a class in global online projects that include a wide variety of perspectives.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Explore a variety of teacher-selected websites of cultural events, listen to music from many cultures and experience an online virtual tour. <b>SS, A</b></li> </ul>	<ul style="list-style-type: none"> <li>• Compare characteristics of native people from several regions of Washington State using selected websites. <b>Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Collect images from the Internet and take digital pictures of objects to create a collection of art from various countries. <b>SS, A</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Articulate uniquenesses and commonalities between cultures in your community using a graphic organizer in pairs or small groups. <b>R, W, SS</b></li> <li>• Participate in an online class project with other classrooms. <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use online interactive tools to engage with students from other cultures. <b>R, W, M, Sc, SS</b></li> <li>• Learn about another country by participating in a videoconference with students from that country. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Identify and investigate a global issue and generate possible solutions by sharing ideas with students from another school. <b>R, W, M, Sc, SS</b></li> <li>• Compare Veterans Day and Remembrance Day with students from Canada and Australia. <b>W, 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	3	4	5
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>▪ Build background knowledge and generate questions by viewing multimedia.</li> <li>▪ Use digital tools to help plan projects.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Generate questions individually after viewing a video or DVD. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Record summer activities in a digital template. <b>W, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Develop research questions using a digital template. <b>R, W, M, Sc, SS</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Use selected websites to find out more about a problem or topic for research. <b>R, W, M, Sc, SS</b></li> <li>• Record ideas and questions about a topic using digital tools. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use online mapping software to hypothesize the reasons different summer activities occur in various geographic regions. <b>SS</b></li> <li>• Identify key words and questions using digital search tools. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Build background knowledge about a problem using selected websites. <b>R, W, 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 1.3 Investigate and Think Critically

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

GLE	3	4	5
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>▪ Gather information using selected digital resources.</li> <li>▪ Organize information using digital tools.</li> <li>▪ Record sources used in research.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Locate information using teacher-selected websites to answer a question. <b>R, W, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Question information to determine fact vs. fiction on a web page. <b>R, W, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Locate useful information to copy and paste into an organized list. <b>R, W</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Identify which online resources provided answers to questions. <b>R, W, Sc, SS</b></li> <li>• Copy key words from digital sources into a table or document. <b>R, W, M, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Tag and share bookmarked sites. <b>R, W, Sc, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Select and bookmark websites that will answer questions or find information. <b>R, W, Sc, SS</b></li> <li>• Work with others to complete a task using online resources selected by the teacher. <b>R, W, 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 1.3 Investigate and Think Critically

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

GLE	3	4	5
1.3.3	<b>Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>▪ Identify, evaluate and select information for decision making.</li> <li>▪ Create and present solutions using multimedia software.</li> <li>▪ Begin to recognize potential bias in websites.</li> <li>▪ Understand the basic ideas involved in copyrighted materials.</li> <li>▪ Cite all sources.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Collect and use digital images to show the unique features that help an animal survive. <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use concept mapping software to label important parts of the electrical circuits or other systems. <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use presentation software to show the causes of conflict leading to the Revolutionary War. <b>SS</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Highlight or hyperlink important words that show the three unique features of an animal that helps it survive in its environment. <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use concept mapping software to identify and select information to help make decisions. <b>R, W, M, Sc, SS, C, H/F</b></li> <li>• Share research about a specific animal using presentation software and publish on a class website. <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create an illustrated online timeline to demonstrate the causes of conflict leading to the Civil War. <b>SS</b></li> <li>• Use classroom blogs to evaluate and determine which early American explorer had the most impact on the growth of the United States. <b>R, W</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	3	4	5
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>▪ Compare results to evaluate the best solution.</li> <li>▪ Explore and integrate alternative concepts and feedback from multiple audiences.</li> <li>▪ Compare different ways to solve problems.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Share solutions to mathematics problems using a document camera. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use software to evaluate social and economic data to forecast trends. <b>SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Analyze survey data using a spreadsheet to support a change in local or state laws. <b>M, SS</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Share solutions to mathematics problems on a classroom blog. <b>M</b></li> </ul>	<ul style="list-style-type: none"> <li>• Present solutions to a panel using digital tools to determine best solution. <b>R, W, M, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Collect blog comments from other classrooms on which book should be the top children’s book of the year. <b>R, W</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	3	4	5
2.1.1	<b>Practice personal safety.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>▪ Practice the safe, responsible sharing of information online.</li> <li>▪ Keep passwords private.</li> <li>▪ Recognize potential online dangers.</li> </ul>		
Examples	<ul style="list-style-type: none"> <li>• Use a secure password to protect the privacy of information.</li> <li>• Know not to click on pop-ups or advertisements.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in class discussions about online safety.</li> <li>• Understand why not to click on pop-ups or advertisements.</li> </ul>	<ul style="list-style-type: none"> <li>• Create and use an anonymous online name.</li> <li>• Demonstrate knowledge of when to share personal information.</li> <li>• Explain why not to click on pop-ups or advertisements.</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	3	4	5
<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>▪ Demonstrate respect for the digital work of others.</li><li>▪ Demonstrate respect for opinions of others posted online.</li><li>▪ Recognize and report cyberbullying.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Identify the differences between ethical and unethical behavior.</li><li>• Describe appropriate and inappropriate use of the creative digital work of others.</li></ul>	<ul style="list-style-type: none"><li>• Identify the consequences of unethical uses of technology.</li><li>• Comply with copyright law when copying and pasting from websites.</li></ul>	<ul style="list-style-type: none"><li>• Describe the impact of unethical and illegal use of technology on individuals and society.</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	3	4	5
<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>▪ Use correct vocabulary to describe digital technologies.</li> <li>▪ Meet keyboarding proficiency standards for grade level.</li> <li>▪ Manage files effectively.</li> </ul>		
<b>Examples</b>	<ul style="list-style-type: none"> <li>• Use age appropriate keyboarding programs to increase speed and accuracy.</li> <li>• Demonstrate correct posture consistently.</li> <li>• Use basic file commands (e.g., Open, Save, Print and Save As).</li> </ul>	<ul style="list-style-type: none"> <li>• Use age appropriate keyboarding programs to increase speed and accuracy.</li> <li>• Use shortcut keys to increase speed.</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>• Demonstrate the correct use of all letters, numbers, punctuation keys, shift, enter, symbol and command keys using proper techniques.</li> <li>• Save or backup 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>

## 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	3	4	5
2.2.2	<b>Use a variety of hardware to support learning.</b>		
Evidence of Learning	<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>		
Examples	<ul style="list-style-type: none"><li>• Use a multimedia device to show a video.</li><li>• Verify that cables are connected and power is on.</li></ul>	<ul style="list-style-type: none"><li>• Use external storage device to save files.</li><li>• Verify cable connections and that caps lock is off.</li></ul>	<ul style="list-style-type: none"><li>• Configure digital equipment for multimedia presentation.</li><li>• Troubleshoot using help wizard.</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	3	4	5
<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>▪ Use basic navigation skills that increase in complexity across grade levels.</li> <li>▪ Use common 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>• Print documents independently and responsibly.</li> <li>• Use a template to create a graph.</li> <li>• Make a multi-slide presentation.</li> </ul>	<ul style="list-style-type: none"> <li>• Use common features of applications (e.g., Save, Print, Close, Quit).</li> <li>• Graph results from a survey.</li> <li>• Insert images and sounds.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and use proper file formats (e.g., .doc, .docx, .ods, .txt).</li> <li>• Create tables and make outlines.</li> <li>• Use graphics, sounds and music to enhance a presentation.</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.

GLE	3	4	5
2.3.2	<b>Select and use online applications.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Use basic navigation skills to search for and find information.</li><li>▪ Use collaborative technologies to support learning.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Recognize basic web browser navigation.</li><li>• Use teacher bookmarked websites.</li></ul>	<ul style="list-style-type: none"><li>• Use a search engine or an online database to find information.</li><li>• Read classroom website, wikis or blogs.</li></ul>	<ul style="list-style-type: none"><li>• Use interactive online tools to comment, link, post and embed information at a beginning level (e.g., wikis, blogs).</li></ul>

## 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

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
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>		
Evidence of Learning	<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>		
Examples	<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>		
Evidence of Learning	<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>		
Examples	<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.

<b>GLE</b>	<b>6</b>	<b>7</b>	<b>8</b>
<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
<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 <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**

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**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>



## GRADES 9 - 12

### 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	9	10	11/12
1.1.1	<b>Generate ideas and create original works for personal and group expression using a variety of digital tools.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>▪ Combine technologies to create and share products from different content areas.</li> <li>▪ Create digital products for culminating projects or inclusion in portfolios.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Enhance a presentation by adding graphics and sounds. <b>R, W, M, Sc, SS, C, A, H/F,</b> CTE</li> </ul>	<ul style="list-style-type: none"> <li>• Enhance a presentation by adding images, video and audio files. <b>R, W, M, Sc, SS, C, A, H/F,</b> CTE</li> </ul>	<ul style="list-style-type: none"> <li>• Use a wide variety of digital media to collect and present information for a Senior Project. <b>R, W, M, Sc, SS, C, A, H/F,</b> CTE</li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Create a virtual literature trip when reading an assigned historic novel, map important parts, integrate textual excerpts with archival images, and video of evidence and eyewitness accounts from the American Memory database sponsored by the Library of Congress. <b>R, SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Compare the merits of different presentation software to communicate results from a national survey. <b>R, W, M, Sc, SS, C, A, H/F,</b> CTE</li> </ul>	<ul style="list-style-type: none"> <li>• Publish chemistry lab reports using blogs in order to share results with peers, receive input and data from other sources and process and display data. <b>Sc</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 1.1 Innovate

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

GLE	9	10	11/12
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>▪ Analyze survey data, report information and display the data in a variety of ways to support conclusions.</li> <li>▪ Identify patterns and correlations of data to build understanding and recognize relationships between common and uncommon elements.</li> <li>▪ Determine and explore cause and effect using virtual simulations in different contexts.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Collect data on stress points in different Popsicle bridge designs and analyze the data to make hypotheses about general bridge-making principles. <b>Sc, CTE</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use the results of an online survey to determine which products customers prefer in the student store. <b>CTE</b></li> </ul>	<ul style="list-style-type: none"> <li>• Research, analyze and share information regarding career paths (e.g., use <i>WOIS</i> or <i>CareerVoyages</i>). <b>R, W, C</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Participate in an online simulation (e.g., students act as reporters breaking a story on a mysterious outbreak of illness in an elementary school; <i>Be A Reporter Game</i> by <a href="http://NewsU.org">NewsU.org</a>). <b>W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Design, create and play simple video games and simulations to illustrate concepts. <b>R, W, C, Sc, SS</b></li> <li>• Compare and contrast post-secondary options using multimedia software. <b>R, W, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Participate in an online simulation that investigates a current global concern. <b>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	9	10	11/12
1.2.1	<b>Communicate and collaborate to learn with others.</b>		
Evidence of Learning	<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>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Share documents to collaborate and peer-edit short stories and expository writing. <b>R, W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Collect school-wide data in a spreadsheet and create charts or other graphical representations (e.g., bacteria counts from household kitchen appliances). <b>Sc, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Practice foreign language skills using online tools. <b>WL</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Compose music using digital tools and post online for peer review. <b>A</b></li> </ul>	<ul style="list-style-type: none"> <li>• Participate in an online music community (e.g., share and comment on lyrics, tracks, music clips, beats, samples and remixes). <b>A</b></li> </ul>	<ul style="list-style-type: none"> <li>• Rewrite the lyrics to a folk song, record and store the music files to be remixed by classmates. <b>W, A</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	9	10	11/12
1.2.2	<b>Develop cultural understanding and global awareness by engaging with learners of many cultures.</b>		
Evidence of Learning	<ul style="list-style-type: none"> <li>Build empathy by learning about many cultures through digital content from around the world.</li> <li>Participate in an online community dedicated to understanding or solving a local or global issue.</li> </ul>		
Examples	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>Contribute to an online project that combines photos and personal stories in order to share perspectives and understanding. <b>R, W, Sc, SS, A, WL</b></li> </ul>	<ul style="list-style-type: none"> <li>Interact online with other students within your community, from various regions, states or other countries to compare and contrast high school experiences. <b>W, SS, C, WL</b></li> </ul>	<ul style="list-style-type: none"> <li>Participate in desktop or group videoconferencing with local, state, national or international learners. <b>R, W, Sc, SS, C, WL</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>Participate in a world-wide writing workshop which has students writing, editing and publishing stories on a wiki and then publishing to a blog. <b>R, W, C, WL</b></li> </ul>	<ul style="list-style-type: none"> <li>Engage in a discussion board pertinent to a current global event. <b>R, W, Sc, SS, C, WL</b></li> </ul>	<ul style="list-style-type: none"> <li>Create video digital stories, publish to a storytelling website and trade comments and ideas with storytellers from around the globe. <b>R, W, WL</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	9	10	11/12
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>Explore possible topics and available information on current issues using 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>Identify sources using a database to research material for a persuasive speech. <b>R, W, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>Use global online news media to compare point of view or bias of the same event. <b>R, W, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>Compare and contrast information found about the same global issue from different databases and analyze bias and fairness to the topic. <b>W, Sc, SS, C, H/F, CTE</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>Compare and contrast norms of healthy behavior by collecting and analyzing data on student health (e.g., measure BMI, physical fitness and nutrition using digital tools). <b>Sc, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>Analyze scientific data and draw conclusions (e.g., participate in an online project collecting data on frog populations and habitat). <b>Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>Engage in an online mock debate on current issues. <b>R, Sc, SS, C, H/F</b></li> <li>Analyze the capabilities and limitations of current and emerging technology resources and assess their potential to address career needs. <b>R, W, Sc, SS, C, H/F, CTE</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	9	10	11/12
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 advanced 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 online citation websites to learn how to correctly cite sources. <b>W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use advance search features in a library database to identify documents for different purposes. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Develop a digital plan to organize a culminating project. <b>R, W, M, Sc, SS, C, H/F, CTE</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Use an online calendar to plan a semester-long art project that uses the work of several students assembled into a large installation. <b>A</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a digital photo gallery that depicts the Industrial Revolution using royalty free images with permission. <b>SS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Create a Gantt chart to manage a project that constructs a business plan for a new enterprise in the local community. <b>R, M, 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	9	10	11/12
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>▪ Apply copyright law to correctly excerpt, paraphrase and publish results to a wider audience.</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>• Practice extracting portions of sources from teacher-provided articles in accordance with copyright law. <b>W</b></li> </ul>	<ul style="list-style-type: none"> <li>• Research alternative energy use options by exploring several websites, books, reference materials and interviewing experts. <b>W, Sc</b></li> </ul>	<ul style="list-style-type: none"> <li>• Research a current topic and select online information that is appropriate and credible to support a point of view. <b>W</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Compare and contrast the relative strengths of various search engines and databases. <b>R, W, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate the reliability of news reports on voting machine issues in the 2004 election by tracing the sources (e.g., press releases and academic research) the reports were based on. <b>R, W, Sc, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Survey and analyze media coverage of a topic over several decades and publish an evaluation on a wiki. <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	9	10	11/12
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 and integrate alternative concepts and feedback from multiple audiences.</li> <li>▪ Develop a range of problem-solving skills.</li> </ul>		
<b>Examples</b>	<b>Basic Level</b>		
	<ul style="list-style-type: none"> <li>• Identify and analyze websites with opposing points of view. <b>R, W, SS, C</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use online survey results to analyze different points of view regarding an identified problem at school. <b>R, W, M, Sc, SS, C, H/F</b></li> </ul>	<ul style="list-style-type: none"> <li>• Identify a local issue or problem and investigate how other communities have solved a similar issue and share results online. <b>R, W, Sc</b></li> </ul>
	<b>21st Century Learning Environment</b>		
	<ul style="list-style-type: none"> <li>• Participate in a class project through iEARN (International Education and Resource Network). <b>R, W, M, Sc, SS, C, H/F, A</b></li> </ul>	<ul style="list-style-type: none"> <li>• Subscribe to RSS feeds of relevant websites, blogs and other online references in order to follow the development of a social issue. <b>R, W, Sc, SS, C, H/F, CTE</b></li> </ul>	<ul style="list-style-type: none"> <li>• Use GIS software to evaluate social and economic data to analyze population and economic trends. <b>SS, C</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	9	10	11/12
<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, data and opinions 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>• Demonstrate knowledge of passwords, privacy and anonymity and recognize spam, phishing, 419 fraud and identity theft.</li></ul>	<ul style="list-style-type: none"><li>• Demonstrate knowledge of passwords, privacy and anonymity and recognize spam, phishing, 419 fraud and identity theft.</li></ul>	<ul style="list-style-type: none"><li>• Demonstrate knowledge of 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	9	10	11/12
<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>• Compare Acceptable Use Policies:               <ul style="list-style-type: none"> <li>- Student to staff.</li> <li>- School to school.</li> </ul> </li> <li>• Cite all sources properly.</li> </ul>	<ul style="list-style-type: none"> <li>• Predict how technology misuse could damage business processes and relationships.</li> <li>• Cite all sources properly.</li> </ul>	<ul style="list-style-type: none"> <li>• Rewrite your school’s Acceptable Use Policy so that elementary students can understand it.</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	9	10	11/12
2.2.1	<b>Develop skills to use technology effectively.</b>		
Evidence of Learning	<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>		
Examples	<ul style="list-style-type: none"><li>• Complete a Digital Communication Tools (DigiTools) or a computer applications class.</li><li>• Use access rights independently for a variety of storage applications (e.g., local, network or external drives).</li></ul>	<ul style="list-style-type: none"><li>• Use access rights independently for a variety of storage applications (e.g., local, network or external drives).</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	9	10	11/12
2.2.2	<b>Use a variety of hardware to support learning.</b>		
Evidence of Learning	<ul style="list-style-type: none"><li>▪ Apply prior knowledge to operate digital equipment.*</li><li>▪ Implement adaptive approach to digital equipment problem solving.</li></ul>		
Examples	<ul style="list-style-type: none"><li>• Seek out technology mentors and online resources.</li></ul>	<ul style="list-style-type: none"><li>• Find, participate in and learn from online forums and discussion boards.</li></ul>	<ul style="list-style-type: none"><li>• Identify and share solutions and ideas within a larger learning community that extends beyond the classroom.</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	9	10	11/12
<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.</li></ul></li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Create an interactive digital product about the periodic table.</li><li>• Create a portfolio of digital images.</li><li>• Create a presentation using custom animation features.</li></ul>	<ul style="list-style-type: none"><li>• Design and produce a DVD with video, images and an audio soundtrack (e.g., interview a military veteran speaking about his or her experience).</li><li>• Analyze results from a chemistry lab experiment using a spreadsheet or database.</li></ul>	<ul style="list-style-type: none"><li>• Design and record a multi-track podcast (e.g., book report with voice main track and background theme music).</li><li>• Demonstrate knowledge of various advanced features of a productivity application (e.g., macros, add-ons, master document and track changes).</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.

GLE	9	10	11/12
<b>2.3.2</b>	<b>Select and use online applications.</b>		
<b>Evidence of Learning</b>	<ul style="list-style-type: none"><li>▪ Explore and evaluate various databases and other sources.</li><li>▪ Use collaborative technologies to support learning.</li><li>▪ Design and publish content incorporating a variety of media and formats.</li></ul>		
<b>Examples</b>	<ul style="list-style-type: none"><li>• Participate in school-approved online groups to support learning.</li></ul>	<ul style="list-style-type: none"><li>• Improve individual productivity using collaborative networking tools and develop personal learning networks.</li></ul>	<ul style="list-style-type: none"><li>• Use appropriate collaborative networks according to purpose or interest (e.g., <i>TakingItGlobal</i> for social justice).</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	9	10	11/12
<b>2.4.1</b>	<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>• Create and publish original multimedia products (e.g., music, video, literature).</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate the effectiveness, appropriateness or stability of a new social networking site for sharing information in a school newspaper.</li> </ul>	<ul style="list-style-type: none"> <li>• Modify a virtual world environment by creating a representation of an assigned novel, with images of important parts of the book.</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.

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## ***Appendix B – Essential Conditions for Technology Integration***

Certain conditions are necessary for schools to effectively use technology for learning, teaching and educational management. Physical, human, financial and policy dimensions greatly affect the success of technology use in schools. Essential Conditions that are required to create equitable learning environments conducive to powerful uses of technology include:

### **Forward-Thinking, Shared Vision**

- Vision, Planning and Policy.
- Student Technology Literacy Standards.
- Technology Standards for Teachers.
- Technology Standards for Education Leaders and Staff.
- Community Connections.

### **Technology Administration and Support Focused on Teaching and Learning**

- Technology Support.
- Instructional Technology Staffing.
- Adequate Ongoing Funding.
- Electronic Data Support Systems.

### **Technology Capacity, Equity and Access to Support Teaching and Learning**

- Student Access to Technology.
- Teacher/Education Leader/Staff Access to Technology.
- Network.
- Capability/Internet Access/Video Capacity.
- Aligned Curriculum-based Tools and Online Resources.

### **Leadership and Professional Development to Improve Teaching and Learning**

- Leadership/Learning Community.
- Technology Professional Development Plan and Funding.
- Models and Content of Professional Development.

### **Student-Centered 21st Century Learning Environment**

- Student Use of Technology.
- Technology Integration.

When the essential conditions are in place, educators can create powerful 21st century learning environments that share these characteristics:

- Knowledge is an open-ended, fathomless commodity, unbound by the limits of textbook facts and bias.
- The teacher doesn't have to know everything about a subject but must know how to hook, guide and coach students into the realm of deep, meaningful understanding of subject content.
- Academic standards come to life with learning projects that apply the core skills and disciplines of science, literature, mathematics, the arts, history and geography to solve real-world problems.
- Connected classrooms use the power of web presence – real-time dialogue with scientists, artists, historians, politicians and writers whose ideas and actions are defining culture and society.
- Just as real world professionals do not partition writing from science, mathematics from archeology, reading from cartography, classrooms become a rich centrifugal hub where the integration of academic skills across subject areas is a natural outcome of the conversation taking place between students and the real-world.
- The artifacts of learning play to a real audience online – peers and experts who charge the learning experience with analysis, critique and new ideas.
- The teacher is free to learn along with the class – embodying by example – the joy and benefit of life-long learning.

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