



*Forward Thinking, High Achieving.*

# **K-12 Technology Standards**

**Adopted May, 2011**

## Table of Contents

Mission, Vision.....	3
Strategies, Guiding Principles.....	5
MCPS 5 Measurable District Goals, Professional Development, Assessment .....	6
Meeting Diverse Student Needs, Technology, Library Media .....	7
Indian Education For All.....	8
Teaching About Controversial Issues .....	10
Kindergarten Technology Standards .....	11
1 <sup>st</sup> Grade Technology Standards .....	14
2 <sup>nd</sup> Grade Technology Standards .....	17
3 <sup>rd</sup> Grade Technology Standards.....	20
4 <sup>th</sup> Grade Technology Standards .....	23
5 <sup>th</sup> and 6 <sup>th</sup> Grade Technology Standards .....	27
7 <sup>th</sup> and 8 <sup>th</sup> Grade Technology Standards .....	31
9 <sup>th</sup> and 10 <sup>th</sup> Grade Technology Standards .....	35
11 <sup>th</sup> and 12 <sup>th</sup> Grade Technology Standards .....	39
Technology Standards Review Committee .....	44

## **MISSION**

At Missoula County Public Schools (MCPS), our mission is to ensure that each student achieves his/her full and unique potential.

## **VISION**

The MCPS Board of Trustees represents all citizens of the District in their stewardship of Missoula County Public Schools. To this end, the Strategic Plan includes the following vision that describes what the Board of Trustees strives to provide.

### **MCPS Learning Environment**

MCPS is a non-judgmental, inclusive, personalized, adaptable, learning environment where individual talents are identified and explored and children are fully challenged in small learning communities with adults who care. Children are celebrated and “membership” in the school is facilitated for every child. Children have stimulating interdependent and independent learning experiences and learning is related to the outside world at all grade levels. A climate of respect exists, and rules and policies are in place, understood, and consistently applied within buildings and across the District. District high schools continue to be evaluated with movement toward a model that addresses identified issues; meets the District’s vision and goals; assures equity and challenge regarding class and program opportunities regardless of building attended; encourages active involvement of all students; facilitates the flexibility (scheduling) to accommodate the diverse needs of today’s high school students; and works collaboratively with families, teachers, and counselors to successfully transition students from feeder Districts.

### **MCPS Educators**

Educators at MCPS are experts in their fields, critical thinkers, problem-solvers, and planners who are actively involved in accomplishing District goals and strategies. Educators’ enthusiasm, nurturing, and love for working with children are demonstrated by efforts to meet the needs and goals of individual children and their learning styles. MCPS educators creatively stimulate and challenge students with the result being children who discover they can do more than they ever imagined. All staff members successfully communicate and are competent in behavior management strategies. They value opportunities to work collaboratively to increase their individual depth and breadth of knowledge about learning as well as subject matter. MCPS educators mirror local diversity and work to understand the local community and its educational values and goals. Professional development is aligned with District vision and goals, curriculum, and assessment data. MCPS educators are publicly recognized for creative, successful strategies and their ability to teach.

### **MCPS Instruction**

MCPS offers a variety of whole child instructional programs, practices, and literatures that are integrated rather than compartmentalized – curriculum content to content, building to building, and throughout the K-12 system. Decisions are made based on instructional goals, and best practices and processes in education are embraced. Teaching plans, aligned to learning targets, guide all classrooms. Technology is used appropriately. A number of assessment tools are used in addition to current required testing.

## **MCPS Facilities**

All MCPS facilities are safe, clean and inviting; age-appropriate; in good repair; wired for technology and wireless for information access; handicapped accessible; family-friendly; and have space for all activities. Wherever possible, buildings are designed and operated to address societal goals such as energy conservation and recycling. At the same time, the District recognizes the importance of buildings that are historical community assets. MCPS exhibits stewardship and responsible planning regarding facilities through a facilities master plan. It works carefully with the community regarding use and disposition of school buildings and appraises the real and long term value of District assets before making decisions. The District recognizes that budget and size are not the only influencing factors regarding the opening and closing of buildings and reconfiguring attendance boundaries. Facilities are considered vehicles for public education and the District uses public services to support them.

## **MCPS Community**

MCPS is committed to implementation of an active model for genuine community partnership and ongoing evaluation of the success of that model. Through that partnership, the District develops understanding of the needs and desires of the community regarding its public schools and charges the community with active involvement. MCPS provides access to information and facilitates two-way communication and ongoing conversations among students, educators, parents, the Board and the general public. The District's Strategic Plan is a dynamic document and timelines and benchmarks for achieving its desired ends are shared, discussed, and monitored with the community. The District facilitates attachment and involvement and capitalizes on volunteer expertise in the community. Active involvement with stakeholders (i.e., families/parents, students, teachers, counselors, etc.) from feeder districts, internal and external to MCPS, results in a smooth transition for students and their families.

## **STRATEGIES**

In support of achieving the vision and goals described in the 2007-2012 Strategic Plan, MCPS actively applies the following broad strategies:

- Use planned and sequential “building blocks” in development and delivery of curriculum from kindergarten through twelfth grade.
- Use assessment and instruction to challenge students to meet their individual potential.
- Analyze student achievement data frequently. Provide specific interventions when learning problems are identified.
- Encourage parent and adult involvement in support of academic and activity programs.
- Use school/community partnerships to better understand the needs and desires of the community regarding its public schools.

## **GUIDING PRINCIPLES**

The MCPS Board of Trustees, elected by the community, has an obligation to safeguard the public’s trust in public education, and our decisions and actions should reflect that obligation. District dollars should be used effectively and efficiently to achieve positive results for students.

The MCPS Board of Trustees bases its decisions and actions on the following set of guiding principles.

- We believe the District has a responsibility to provide students with a safe, motivating, innovative learning environment.
- We believe that all children, regardless of differences, deserve to be fully challenged and equipped to meet their individual potential.
- We believe that K-12 education should address the “whole child” and that holistic education leads to: A value for academic knowledge and competency; an appreciation for one’s broader community; a world view; and life-long love for learning.
- We believe that instructional competency and educational best practices in the classroom are critical factors in reaching individual student potential.
- We believe that physical and emotional health and wellness are important contributing factors to achieving the individual and collective goals of students and staff.
- We believe that a professional and supportive working environment is essential.
- We believe parent and adult involvement support, strengthen, and expand learning.
- We believe that a public school district has a responsibility to build community; develop partnership and cohesiveness in the community; and challenge the community to be everything it can be.

*(Finalized by the MCPS Board of Trustees, August, 2007.)*

## **MISSOULA COUNTY PUBLIC SCHOOLS**

### **FIVE MEASURABLE DISTRICT GOALS**

- Achievement and graduation for all students, regardless of their circumstances and abilities.
- Refine and implement a quality supervision and evaluation program for all staff.
- Define and implement a quality professional development program that encompasses best practices and supports the needs of all staff.
- Restructure the organization to become more efficient, effective and accountable to support the goals of the District.
- Cultivate and enhance staff, student, parent, business and community involvement.

### **PROFESSIONAL DEVELOPMENT**

In 2008, the Missoula County Public Schools Board of Trustees approved the district goals above in order to address the needs of 21<sup>st</sup> Century learners. One of the goals focuses on professional development “to provide staff with best practices and the expertise to make a difference for all students regardless of their circumstances.”

*(Superintendent, Dr. Alex Apostle’s, message August, 2008.)*

Ongoing, job-embedded professional development builds a foundation of teacher excellence, a critical component to improving student achievement. Teachers must have not only an extensive knowledge of instructional technology, but must also possess a deep understanding of how students learn. Appropriate content and pedagogical preparation enables teachers to design lessons and implement curriculum using research proven practices and strategies in an environment where all students have an opportunity to succeed.

### **ASSESSMENT**

Assessment means finding out what students know and are able to do. It is intended to improve teaching and learning. Information gathered through formative assessment assists teachers during instructional planning to determine students’ prior knowledge, provide feedback to students during instruction, make decisions on how to modify instruction, and identify strengths and weaknesses. In all classes, a variety of data is collected to provide evidence of achievement and success to students, families, and the community. Principles of effective assessment are as follows:

1. Treat assessment as an integral part of curriculum and instruction.
2. Direct assessments toward essential learning.
3. Set high standards for teaching and learning.
4. Clarify learning targets early.
5. Assess student performance through authentic tasks.
6. Collect multiple indicators of learning.
7. Provide ample opportunities for students to learn.

*(Adapted from Walter Parker, Science in Elementary Education, Upper Saddle River, NJ: Pearson, 2005.)*

## **MEETING DIVERSE STUDENT NEEDS**

Students with diverse needs--those with unique abilities and/or disabilities--will have differentiated opportunities to achieve learning targets, benchmarks, and standards at rates and in manners consistent with their needs. Accommodations and modifications will be implemented to ensure that all students have the opportunity to meet established learning goals and to gain full access to the curriculum.

The needs of struggling learners will be met in a variety of ways in the classroom both through informal intervention and formally prescribed intervention, as necessary.

Gifted students and students of high ability require, at times, differentiated instruction and additional challenge beyond what the standard curriculum can provide. These provisions can include but are not limited to: more challenging content or assignments, critical and higher level thinking skills, instructional grouping, extension activities, and independent research.

Students at all ability levels benefit as they explore concepts in depth through inquiry-based learning.

## **TECHNOLOGY**

The integration of curriculum and technology is essential to prepare today's students for participation in a viable democratic society. Therefore, the MCPS Technology Standards are integral to all curricula, K-12. In this document, technology may refer to the instruments and techniques for investigations, inquiry, and analysis, as well as to technological literacy, knowledge of technologies and the associated costs, risks, and benefits to society.

## **LIBRARY MEDIA**

Teacher librarians play an essential role in curriculum implementation. They are important instructional partners and consultants in supporting and expanding existing curricula. As information specialists, teacher librarians work collaboratively with students, teachers, administrators, and parents to:

- Provide knowledge of availability and suitability of information resources to support the implementation of Montana and MCPS Standards. This is particularly relevant with the Indian Education for All Law.
- Partner in educating students, developing curricula, and integrating resources into teaching and learning.
- Serve as an expert in organizing, synthesizing, and communicating information. Acquisition, organization, and dissemination of resources to support the curricular areas through the library media center are cost-effective methods for the entire school district.
- Teach and integrate literature and information skills into the curriculum. They plan and teach collaboratively based on the needs of the student.

*(Adapted from ALA statements, and School Libraries Work!, Scholastic Library Publishing, c2008.)*

## **INDIAN EDUCATION FOR ALL**

Missoula County Public Schools is committed to developing for all students an understanding of American and Montana Indian people and their histories, fostering respect for their cultures. In view of the unique role of the American Indian peoples in the development of the United States and the experience of Montana tribes in particular, their history and culture will be integrated wherever appropriate in the instruction of MCPS students, in accordance with the state constitution, statutes, and curriculum standards.

### ***ESSENTIAL UNDERSTANDINGS REGARDING MONTANA INDIANS***

1. There is great diversity among the 12 tribal Nations of Montana in their languages, cultures, histories, and governments. Each Nation has a distinct and unique cultural heritage that contributes to modern Montana.
2. There is great diversity among individual American Indians as identity is developed, defined, and redefined by many entities, organizations, and people. There is a continuum of Indian identity ranging from assimilated to traditional and this is unique to each individual. There is no generic American Indian.
3. The ideologies of Native traditional beliefs and spirituality persist into modern day life as tribal cultures, traditions and languages are still practiced by many American Indian people and are incorporated into how tribes govern and manage their affairs.  
Additionally, each tribe has their own oral history beginning with their genesis that is a valid as written histories. These histories pre-date the “discovery” of North America.
4. Reservations are land that have been reserved by the tribes for their own use through treaties and was not “given” to them. The principle that land should be acquired from the Indians only through their consent with treaties involved three assumptions:
  - a. That both parties to treaties were sovereign powers.
  - b. Those Indian tribes had some form of transferable title to the land.
  - c. That acquisition of Indian lands was solely a government matter not to be left to individual colonists.
5. There were many federal policies put into place throughout American history that have impacted Indian people and shape who they are today. Much of Indian history can be related through several major federal policy periods.
6. History is a story most often related through the subjective experience of the teller. Histories are being rediscovered and revised. History told from an Indian perspective conflicts with what most of mainstream history tells us.
7. Under the American legal system, Indian tribes have sovereign powers separate and independent from the federal and state governments. However, the extent and breadth of tribal sovereignty is not the same for each tribe.



## Missoula County Public Schools

### INSTRUCTION

2450

#### Recognition of American Indian Peoples' Culture and Heritage in the Curriculum Process

The Board fully supports Article X of the Montana Constitution and is actively committed to develop for all students an understanding of American and Montana Indian people and their histories, as well as foster respect for their respective cultures.

Because of the unique position and place in American history, the American Indian peoples' role in the development of the United States, with emphasis on the experience of the Montana Tribes, shall be included wherever appropriate in the instruction of Missoula County Public School students, in accordance with the state Constitution and state standards. Instructions concerning the historic and current roles of Indian people shall be delivered in a respectful, informative, and sensitive manner. When the social studies curriculum and other curricula are updated according to the District's curriculum cycle, the written curriculum shall reflect this policy. Staff development will be provided pertinent to curriculum implementation.

*NOTE: The District has nondiscriminatory policies in effect, which may be referenced.*

Legal Reference: Art. X, Sec. 1(2), Montana Constitution §§ 20-1-501, et seq.,  
MCA Recognition of American Indian cultural heritage - legislative intent

10.55.603 ARM	Curriculum Development and Assessment
10.55.701 ARM	Board of Trustees
10.55.803 ARM	Learner Access

#### Policy History:

History of Previous File 2121:

Presented to PN&P Committee for first reading, 3/30/00

Approved First Reading, 4/11/00

Presented to PN&P Committee for second reading, 4/27/00

Revised at C&I Committee, 5/2/00

Adopted on: October 10, 2000

Adopted on: January 14, 2003 (Policy recodified in Series 2000 adoption)

## **TEACHING ABOUT CONTROVERSIAL ISSUES**

### **Missoula County Public Schools**

#### **INSTRUCTION**

2330

##### **Academic Freedom**

The Board recognizes and supports Academic Freedom as necessary for an environment conducive to the free exchange of ideas and learning.

Academic Freedom is the view that if teachers are to promote the growth of knowledge, they require the freedom to teach and conduct inquiry without fear of sanction or reprisals should they present an unpopular or controversial idea.

Teachers shall help students learn to objectively and respectfully examine differences of opinion, analyze and evaluate facts and their sources, and form their own reasoned judgments about the relative value of competing perspectives.

The Board directs the teaching staff to:

- Refrain from using one's classroom position to promote one's own ideology or any partisan point of view.
- Ensure that issues presented pertain to course objectives.
- Provide students opportunities to develop critical thinking: that is the ability to detect propaganda and to distinguish between fact, opinion and misinformation.
- Respect each student's right to form, choose, hold and/or change an opinion or belief.
- Create an environment in which students are free to form judgments independently.

Any person may file complaints pursuant to this policy through Board Policy 4310P, the uniform grievance procedure.

This policy may not be used to challenge educational materials themselves. Please see:

BP 2313 Dealing with Challenged Educational Resources

BP 2313P Procedure for Dealing with Challenged Educational Resources

Legal Reference: Article X, Sec. 8, Montana Constitution - School district trustees  
§ 20-3-324(16) and (17), MCA Powers and duties

##### **Policy History:**

Adopted on: January 14, 2003

Revision presented to PN&P Committee on March 25, 2009

Approved on first reading: May 12, 2009

Posted for public comment until: July 22, 2009

Adopted on second reading: August 11, 2009

# Kindergarten Technology Standards

*NOTE: Throughout this document, learning targets are identified by type as Knowledge ("K"), Reasoning ("R"), Skill ("S"), or Product ("P").*

## **Kindergarten Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

**Benchmark 1: The student can identify and investigate a problem and generate possible solutions.**

### **Learning Targets (Type) 1.1:**

- a. I can list keywords from a question asked or a topic given by my teacher. (K)

**Benchmark 2: The student can collect data and information using digital tools.**

### **Learning Targets (Type) 1.2:**

- a. I can use teacher selected sources to gather information (websites, search engines, etc.). (S)
- b. I can help my teacher collect data with a digital tool. (S)

**Benchmark 3: The student can organize collected data and information using a variety of digital tools.**

### **Learning Targets (Type) 1.3:**

- a. I can sort information into groups using digital tools. (S)
- b. I can observe visual patterns when looking at digital graphs and charts. (S)

**Benchmark 4: The student can identify the accuracy, diversity and point of view, including Montana American Indians, of digital information.**

### **Learning Targets (Type) 1.4:**

- a. I can tell what is real and what is make-believe. (S)
- b. I can explore other cultures using digital tools. (S)

**Benchmark 5: The student can share information ethically and note sources.**

### **Learning Targets (Type) 1.5:**

*NOT ADDRESSED AT THIS GRADE LEVEL.*

## **Kindergarten Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Benchmark 1: The student can identify and explore online collaboration and communication tools.**

**Learning Targets (Type) 2.1:**

- a. I can communicate with others as a whole class using digital tools. (S)
- b. I can collaborate with my class to research a topic using digital tools. (S)

**Benchmark 2: The student can identify and explore safe, legal, and responsible use of digital collaboration and communication tools.**

**Learning Targets (Type) 2.2:**

- a. I can demonstrate safe behavior when using digital environments and tools. (S)
- b. I can identify when it is appropriate to use personal digital devices. (K)
- c. I can demonstrate understanding of our District Acceptable Use Policy. (K)
- d. I can tell why it may be dangerous to visit certain Internet sites. (K)
- e. I can tell why there are rules for using technology at home and at school. (K)

**Benchmark 3: The student can communicate the results of research and learning with others using digital tools.**

**Learning Targets (Type) 2.3:**

- a. I can explain my thinking using digital tools (interactive whiteboard, document camera). (K)

**Benchmark 4: The student can explore how technology has expanded the learning environment beyond the traditional classroom.**

**Learning Targets (Type) 2.4:**

- a. I can identify examples of technology used in daily life. (K)

**Kindergarten Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Benchmark 1: The student can use digital tools for personal expression.**

**Learning Targets (Type) 3.1:**

- a. I can create a project using digital creativity tools (Kidpix, interactive white board drawing, Tux Paint, etc.) (P)

**Benchmark 2: The student can use various digital media to share information and tell stories.**

**Learning Targets (Type) 3.2:**

- a. I can collaborate to create a digital story with my class. (S)

**Benchmark 3: The student can use technology to discover connections between facts.**

**Learning Targets (Type) 3.3:**

- a. I can investigate facts using technology with teacher assistance. (S)

**Benchmark 4: The student can understand ownership of digital media.**

**Learning Targets (Type) 3.4:**

- a. I can label my digital work with my name. (K)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

- a. I can identify digital tools. (K)

**Kindergarten Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

**Benchmark 1: The student can show skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

- a. I can click on icons, buttons, and menus to produce a desired outcome. (S)
- b. I can demonstrate developmentally appropriate keyboarding skills (S)
- c. I can locate and use basic parts of digital devices (desktop, laptop, digital cameras, other digital devices, etc.). (S)
- d. I can follow lab and classroom rules related to responsible use of digital equipment. (S)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

**Learning Targets (Type) 4.2:**

- a. I can identify basic technology terms (computer, monitor, keyboard, headphones, speaker, mouse, printer, cursor, icon, projector, acceptable use, etc.). (K)
- b. I can identify basic technology process terms (print, exit, close, open, click, drag, scroll, etc.). (K)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

**Learning Targets (Type) 4.3:**

- a. I can apply prior knowledge when learning different digital tools. (S)

# 1<sup>st</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge ("K"), Reasoning ("R"), Skill ("S"), or Product ("P").

## **1<sup>st</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

**Benchmark 1: The student can identify and investigate a problem and generate possible solutions.**

### **Learning Targets (Type) 1.1:**

- a. I can generate a list of key words or phrases related to my problem. (K)
- b. I can generate solutions by discussing data collected to answer a question. (R)

**Benchmark 2: The student can collect data and information using digital tools.**

### **Learning Targets (Type) 1.2:**

- a. I can use teacher selected sources to gather information (websites, search engines, digital cameras, etc.). (S)
- b. I can give an example of data. (K)
- c. I can explore information and online sources. (S)

**Benchmark 3: The student can organize collected data and information using a variety of tools.**

### **Learning Targets (Type) 1.3:**

- a. I can sort information by topic using digital tools. (S)
- b. I can describe visual patterns when looking at digital graphs and charts. (S)

**Benchmark 4: The student can identify the accuracy, diversity, and point of view, including Montana American Indians, of digital information.**

### **Learning Targets (Type) 1.4:**

- a. I can tell what the difference is between a fact, an untruth, and an opinion. (S, R)

**Benchmark 5: The student can share information ethically and note sources.**

### **Learning Targets (Type) 1.5:**

- a. I can recognize that the work of others needs to be cited. (K)

## **1<sup>st</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Benchmark 1: The student can identify and explore online collaboration and communication tools.**

### **Learning Targets (Type) 2.1:**

- a. I can communicate with others as a whole class using digital tools. (S)
- b. I can collaborate with my class or small group to research a topic using digital tools. (S)

**Benchmark 2: The student can identify and explore safe, legal, and responsible use of digital collaboration and communication tools.**

### **Learning Targets (Type) 2.2:**

- a. I can demonstrate safe behavior when using digital environments and tools. (S)
- b. I can identify when it is appropriate to use a personal digital device. (K)
- c. I can define cyber-bullying. (K)
- d. I can demonstrate understanding of our District Acceptable Use Policy. (K)
- e. I can tell why it may be dangerous to visit certain Internet sites. (K)

f. I can demonstrate appropriate behavior with technology. (S)

**Benchmark 3: The student can communicate the results of research and learning with others using digital tools.**

**Learning Targets (Type) 2.3:**

a. I can explain my thinking using digital tools (interactive whiteboard, document camera). (K)

**Benchmark 4: The student can explore how technology has expanded the learning environment beyond the traditional classroom.**

**Learning Targets (Type) 2.4:**

a. I can explain how students and families use technology to make their lives better. (K)

**1<sup>st</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Benchmark 1: The student can use digital tools for personal expression.**

**Learning Targets (Type) 3.1:**

a. I can create a project using digital creativity tools (Kidpix, Interwrite board drawing, Tux Paint, etc.) (P)

**Benchmark 2: The student can use various digital media to share information and tell stories.**

**Learning Targets (Type) 3.2:**

a. I can collaborate to create a multimedia project to show what we are learning. (S)

**Benchmark 3: The student can use technology to discover connections between facts.**

**Learning Targets (Type) 3.3:**

a. I can investigate facts using technology with teacher assistance. (S)

**Benchmark 4: The student can understand ownership of digital media.**

**Learning Targets (Type) 3.4:**

a. I can identify myself and others as digital authors. (K)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

a. I can explore the use of digital tools. (K)

**1<sup>st</sup> Grade Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

**Benchmark 1: The student can show skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

a. I can click on icons, buttons, and menus to produce a desired outcome. (S)

b. I can demonstrate developmentally appropriate keyboarding skills. (S)

c. I can locate and use basic parts of digital devices (desktop, laptop, digital cameras, other digital devices, etc.). (S)

d. I can follow lab and classroom rules related to responsible use of digital equipment. (S)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

**Learning Targets (Type) 4.2:**

- a. I can define basic technology terms (computer, monitor, keyboard, headphones, speaker, mouse, printer, cursor, icon, projector, acceptable use, etc.). (K)
- b. I can define basic technology process terms (print, exit, close, open, click, drag, scroll, etc.) (K)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

**Learning Targets (Type) 4.3:**

- a. I can apply prior knowledge when learning different digital tools. (S)



# 2<sup>nd</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge (“K”), Reasoning (“R”), Skill (“S”), or Product (“P”).

## **2<sup>nd</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

**Benchmark 1: The student can identify and investigate a problem and generate possible solutions.**

### **Learning Targets (Type) 1.1:**

- a. I can identify meaningful topics to research. (K)
- b. I can list keywords and synonyms for a search I have chosen. (K)
- c. I can generate solutions by discussing data collected to answer a question. (R)

**Benchmark 2: The student can collect data and information using digital tools.**

### **Learning Targets (Type) 1.2:**

- a. I can select an appropriate online source for research. (K)
- b. I can explain the difference between a primary and secondary source. (K)

**Benchmark 3: The student can organize collected data and information using a variety of tools.**

### **Learning Targets (Type) 1.3:**

- a. I can sort information, using digital tools, into major topics, sub-topics and ideas. (R, P)
- b. I can analyze patterns in data to identify trends. (K, R)

**Benchmark 4: The student can identify the accuracy, diversity, and point of view, including Montana American Indians, of digital information.**

### **Learning Targets (Type) 1.4:**

- a. I can tell what the difference is between a fact, an untruth, and an opinion. (S)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

### **Learning Targets (Type) 1.5:**

- a. I can tell why it is important to say what work is mine and what work belongs to others. (K)

## **2<sup>nd</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Benchmark 1: The student can identify and explore online collaboration and communication tools.**

### **Learning Targets (Type) 2.1:**

- a. I can communicate with others as a whole class or small group using digital tools. (S)
- b. I can collaborate with my class or small group to research a topic using digital tools. (S)

**Benchmark 2: The student can identify and explore safe, legal, and responsible use of digital collaboration and communication tools.**

### **Learning Targets (Type) 2.2:**

- a. I can demonstrate safe behavior when using digital environments and tools to communicate. (S)
- b. I can identify when it is appropriate to use a personal digital device. (K)
- c. I can define cyber-bullying. (K)
- d. I can demonstrate understanding of our District Acceptable Use Policy. (K)

- e. I can describe ways to stay safe on the Internet. (K)
- f. I can demonstrate appropriate behavior with technology. (S)

**Benchmark 3: The student can communicate the results of research and learning with others using digital tools.**

**Learning Targets (Type) 2.3:**

- a. I can show my thinking using digital tools (interactive whiteboard, document camera). (K)

**Benchmark 4: The student can explore how technology has expanded the learning environment beyond the traditional classroom.**

**Learning Targets (Type) 2.4:**

- a. I can explain different types of technologies used in current and past cultures. (K)

**2<sup>nd</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Benchmark 1: The student can use digital tools for personal expression.**

**Learning Targets (Type) 3.1:**

- a. I can independently create a project using digital creativity tools (Kidpix, Interwrite board drawing, Tux Paint, Flip Camera, Digital Camera, etc.) (P)

**Benchmark 2: The student can use various digital media to share information and tell stories.**

**Learning Targets (Type) 3.2:**

- a. I can work in a small group to create a digital story. (S)
- b. I can explore digital tools to create a multimedia project (audio recorder, digital camera, video camera, presentation software or web-based application, etc.). (S)

**Benchmark 3: The student can use technology to discover connections between facts.**

**Learning Targets (Type) 3.3:**

- a. I can investigate facts using technology with teacher assistance. (S)
- b. I can organize facts using technology with assistance. (R)

**Benchmark 4: The student can understand ownership of digital media.**

**Learning Targets (Type) 3.4:**

- a. I can identify myself and others as digital authors. (K)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

- a. I can demonstrate the use of digital tools. (K)
- b. I can explain how digital tools are used in school and home. (K)

**2<sup>nd</sup> Grade Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

**Benchmark 1: The student can show skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

- a. I can click on icons, buttons, and menus to produce a desired outcome. (S)
- b. I can demonstrate developmentally appropriate keyboarding skills. (S)
- c. I can locate and use basic parts of digital devices (desktop, laptop, digital cameras, other digital

devices, etc.). (S)

d. I can follow lab and classroom rules related to responsible use of digital equipment. (S)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

**Learning Targets (Type) 4.2:**

a. I can define basic technology terms (computer, monitor, keyboard, headphones, speaker, mouse, printer, cursor, icon, projector, acceptable use, etc.). (K)

b. I can define basic technology process terms (print, exit, close, open, click, drag, scroll, save, login, log-off, menu bar, save, etc.). (K)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

**Learning Targets (Type) 4.3:**

a. I can apply prior knowledge when learning different digital tools. (S)

# 3<sup>rd</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge ("K"), Reasoning ("R"), Skill ("S"), or Product ("P").

## **3<sup>rd</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

**Benchmark 1: The student can identify and investigate a problem and generate possible solutions.**

### **Learning Targets (Type) 1.1:**

- a. I can use digital tools to collaborate with my class to define an essential question. (S)
- b. I can determine the best key words for use in information searches. (R)
- c. I can generate a possible solution using digital tools and data. (S, R)

**Benchmark 2: The student can collect data and information using digital tools.**

### **Learning Targets (Type) 1.2:**

- a. I can evaluate the usefulness of sources. (K,R)
- b. I can collect information from a primary source (photograph, audio speech, etc.) and a secondary source (Factmonster, Wikipedia, textbook, etc.). (S)
- c. I can select appropriate online sources for research. (K)

**Benchmark 3: The student can organize collected data and information using a variety of tools.**

### **Learning Targets (Type) 1.3:**

- a. I can organize collected data, using digital tools, into major topics, sub-topics, and ideas (e.g., graphic organizer, spreadsheet, graphing software). (K,S)
- b. I can generalize patterns in data to identify trends. (K,R)

**Benchmark 4: The student can identify the accuracy, diversity, and point of view, including Montana American Indians, of digital information.**

### **Learning Targets (Type) 1.4:**

- a. I can explain the difference between facts, opinions, and inaccurate information. (R)

**Benchmark 5: The student can share information ethically and note sources.**

### **Learning Targets (Type) 1.5:**

- a. I can explain the consequences of inappropriate use of information (copyright, plagiarism, etc). (K)
- b. I can describe why the work of others needs to be cited. (S)

## **3<sup>rd</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Benchmark 1: The student can identify and explore online collaboration and communication tools.**

### **Learning Targets (Type) 2.1:**

- a. I can communicate digitally with others by selecting and using a variety of communication tools. (S)
- b. I can collaborate with a small group or global partner to research a topic using digital tools. (S)

**Benchmark 2: The student can identify and explore safe, legal, and responsible use of digital collaboration and communication tools.**

### **Learning Targets (Type) 2.2:**

- a. I can demonstrate safe and appropriate behavior when using digital environments and tools to communicate. (S)

- b. I can explain when it is appropriate to use a personal device. (K)
- c. I can explain cyber-bullying and strategies to get help. (K)
- d. I can demonstrate understanding of our District Acceptable Use Policy. (K)
- e. I can describe ways to stay safe on the Internet. (K)
- f. I can describe why it is important not to provide personal information online. (K)
- g. I can explain the importance of respecting the privacy of others' information and digital workspace. (K)

**Benchmark 3: The student can communicate the results of research and learning with others using digital tools.**

**Learning Targets (Type) 2.3:**

- a. I can show my thinking using digital tools (interactive whiteboard, document camera). (K)

**Benchmark 4: The student can explore how technology has expanded the learning environment beyond the traditional classroom.**

**Learning Targets (Type) 2.4:**

- a. I can compare how past and present cultures used technology to improve their lives. (K,R)

**3<sup>rd</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Benchmark 1: The student can use digital tools for personal expression.**

**Learning Targets (Type) 3.1:**

- a. I can independently create a project using digital creativity tools (Kidpix, Interwrite board drawing, Tux Paint, etc.). (P)

**Benchmark 2: The student can use various digital media to share information and tell stories.**

**Learning Targets (Type) 3.2:**

- a. I can create a multimedia project using digital tools (audio recorder, Photo Story, digital camera, video camera, presentation software, or web-based application, etc.). (P)

**Benchmark 3: The student can use technology to discover connections between facts.**

**Learning Targets (Type) 3.3:**

- a. I can organize facts using technology. (R)
- b. I can evaluate facts by finding multiple sources to confirm information. (R)

**Benchmark 4: The student can understand ownership of digital media.**

**Learning Targets (Type) 3.4:**

- a. I can identify individuals' and groups' ownership of digital media (YouTube, SchoolTube, Flickr, etc.). (K)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

- a. I can demonstrate the use of digital tools. (K)
- b. I can explain how digital tools influence school, work, and home. (K)

**3<sup>rd</sup> Grade Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

**Benchmark 1: The student can show skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

- a. I can click on icons, buttons, and menus to produce a desired outcome (font, size, bold, underline, alignment, text color). (S)
- b. I can demonstrate developmentally appropriate keyboarding skills. (S)
- c. I can locate and use basic parts of digital devices (desktop, laptop, digital cameras, other digital devices, etc.). (S)
- d. I can follow lab and classroom rules related to responsible use of digital equipment. (S)
- e. I can use operating systems, user interfaces, or web applications (file management, basic settings, save, save as, delete, copy, paste, etc.). (S)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.****Learning Targets (Type) 4.2:**

- a. I can define and label various technical system terms (computer, monitor, keyboard, headphones, speaker, mouse, printer, cursor, icon, projector, acceptable use, etc.). (K)
- b. I can define and apply knowledge of technology process terminology (print, exit, close, open, click, drag, scroll, login, log-off, menu bar, save, bookmark, email, chat, instant messaging-IM, texting, etc.). (K, S)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.****Learning Targets (Type) 4.3:**

- a. I can apply existing skills to explore the possible uses of a new digital tool. (S)

# 4<sup>th</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge (“K”), Reasoning (“R”), Skill (“S”), or Product (“P”).

## **4<sup>th</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

**Benchmark 1: The student can identify and investigate a problem and generate possible solutions.**

### **Learning Targets (Type) 1.1:**

- a. I can identify a problem/authentic issue to investigate. (S)
- b. I can conduct a search using keywords to narrow or broaden search results. (S,R)
- c. I can generate possible solutions using digital tools and data. (S,K)

**Benchmark 2: The student can collect data and information using digital tools.**

### **Learning Targets (Type) 1.2:**

- a. I can predict which sources will provide the desired data. (K,R)
- b. I can select and use a variety of primary and secondary sources. (K)
- c. I can collect information using digital tools (e.g., Internet, digital thermometer, camera, probe, weather station, survey, database). (S)
- d. I can use online concept mapping software to help me identify and select information to make decisions. (S)

**Benchmark 3: The student can organize collected data and information using a variety of tools.**

### **Learning Targets (Type) 1.3:**

- a. I can create and record categories, using digital tools, for organizing information into major topics, sub-topics, and ideas. (S)
- b. I can predict a result using patterns and trends in data. (R)

**Benchmark 4: The student can identify the accuracy, diversity, and point of view including, Montana American Indians, of digital information.**

### **Learning Targets (Type) 1.4:**

- a. I can recognize that all authors have a personal bias. (K)
- b. I can evaluate relevance and currency of information. (K)
- c. I can explain the difference of basic domain names (e.g., .com, .gov, .edu, .org). (K)
- d. I can compare information from multiple sources, including digital sources, to help determine accuracy. (R)

**Benchmark 5: The student can share information ethically and note sources.**

### **Learning Targets (Type) 1.5:**

- a. I can create projects using digital information ethically. (K,P)
- b. I can tag and share bookmarked sites. (S)
- c. I can note digital sources used to complete projects. (S)
- d. I can follow copyright laws when using text, images, videos, and/or other sources and obtain permission to use the work of others, and cite resources appropriately. (K)

## **4<sup>th</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Benchmark 1: The student can identify and explore online collaboration and communication tools.**

**Learning Targets (Type) 2.1:**

- a. I can use online communication tools with teacher assistance (e.g., e-mail, VoIP, chat/IM). (K)
- b. I can participate in a whole class online collaboration project (e.g., class-to-class, Flat Stanley, author communication, pen pals). (K,S)

**Benchmark 2: The student can identify and explore safe, legal, and responsible use of digital collaboration and communication tools.**

**Learning Targets (Type) 2.2:**

- a. I can recognize and describe the potential risks and dangers associated with various forms of online communication. (K)
- b. I can explain when and why it is appropriate to use a personal digital device. (K)
- c. I can describe cyber-bullying and strategies to deal with such situations. (K,R)
- d. I can discuss and follow district and school acceptable use policy. (K)
- e. I can articulate how to respect the privacy of others' information and digital workspace. (K,R)
- f. I can explain the importance of online identity and password protection. (K,R)
- g. I can recognize and describe the advantages and risks of making a personal spending choice online. (K,R)

**Benchmark 3: The student can communicate the results of research and learning with others using digital tools.**

**Learning Targets (Type) 2.3:**

- a. I can observe and discuss digital presentations media. (K)
- b. I can tag and share bookmarked sites. (K)
- c. I can share research on a specific topic using presentation software. (K,S)
- d. I can publish my research presentation on a class or other website. (K,S)

**Benchmark 4: The student can explore how technology has expanded the learning environment beyond the traditional classroom.**

**Learning Targets (Type) 2.4:**

- a. I can establish a connection with others using a digital tool. (K,S)
- b. I can collaborate with others outside the classroom. (K,S)
- c. I can participate in a global learning environment with guidance. (K,S)
- d. I can provide examples of technologies that might be used to solve a specific economic, environmental, health, political, scientific or social problem. (K,R)

**4<sup>th</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Benchmark 1: The student can use digital tools for personal expression.**

**Learning Targets (Type) 3.1:**

- a. I can use digital tools for personal expression (e.g., use music, sound, or video programs to create a project). (S)
- b. I can create a labeled diagram using drawing software. (S)
- c. I can select exemplary work to store in an electronic portfolio. (K)
- d. I can create multiple slides in a presentation. (S)

**Benchmark 2: The student can use various digital media to share information and tell stories.**

**Learning Targets (Type) 3.2:**

- a. I can explore various digital tools to create multimedia projects. (S)
- b. I can record narration in a slide show. (S)



- c. I can perform some simple photo editing. (S)
- d. I can create multimedia projects using multiple digital tools. (K,S)
- e. I can explore online presentation tools. (S)
- f. I can explore presentation software installed on my computer. (S)
- g. I can share projects with others. (S)
- h. I can prepare a multimedia project for publication online. (S)
- i. I can display my work with a digital projector. (K)

**Benchmark 3: The student can use technology to discover connections between facts.**

**Learning Targets (Type) 3.3:**

- a. I can use technology to discover connections between facts. (S)
- b. I can use technology to organize facts. (R)
- c. I can corroborate a fact using more than one source. (R)
- d. I can compare one digital source with another. (R)
- e. I can use online reference tools appropriate for my grade level. (K)
- f. I can rearrange facts using cut and paste commands. (S)
- g. I can use technology to discover connections between facts. (S,R)

**Benchmark 4: The student can understand ownership of digital media.**

**Learning Targets (Type) 3.4:**

- a. I can discuss and define the rights of the digital author copyright. (K)
- b. I can explain why there are restrictions on the way digital information can be used. (K)
- c. I can define plagiarism in my own words. (K)
- d. I can discuss how to identify the author/creator of digital material. (K)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

- a. I can evaluate how technology affects work and play (e.g., compare and contrast life with and without a digital tools). (R)
- b. I can tell the difference between using technology products and creating digital products. (K)
- c. I can articulate how computers are used in my home. (K)
- d. I can identify common household appliances that use computer technology. (K)
- e. I can develop a new personal understanding using digital tools. (R)

**4<sup>th</sup> Grade Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

**Benchmark 1: The student can show skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

- a. I can click on icons, buttons, and menus to produce a desired outcome. (K)
- b. I can identify functions represented by symbols and icons commonly found in application programs (e.g., font, size, bold, underline, alignment, color of type). (K)
- c. I can demonstrate developmentally appropriate keyboarding skills. (S)
- d. I can use correct posture and hand, arm, and fingering positions to type complete sentences. (K)
- e. I can locate and correctly use parts of various digital devices (desktop computer, laptop computer, digital cameras, etc.). (S)
- f. I can follow lab and classroom rules related to responsible use of digital equipment. (K)
- g. I can effectively use operating systems and user interfaces (file management, settings, control panel, etc.). (S)
- h. I can work with a digital template. (S)
- i. I can save and retrieve files from my own folder on a network drive. (K)
- j. I can navigate the hierarchy of network drives and folders as directed. (S)

k. I can change how files are viewed (e.g., “show thumbnails”). (K)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

**Learning Targets (Type) 4.2:**

a. I can use appropriate terminology when communicating about current technology digital tools, Global Positioning System (GPS), Geographic Information System (GIS), digital, database terms: category, field, records, online, email, chat, IM (instant messaging), texting, VoIP), acceptable use, wiki, blog.

(K)

b. I can understand the difference between “save” and “save as.” (K)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

**Learning Targets (Type) 4.3:**

a. I can apply existing skills to assess the possible uses of a new digital tool (e.g., software, hardware).

(K,S)

# 5<sup>th</sup> and 6<sup>th</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge (“K”), Reasoning (“R”), Skill (“S”), or Product (“P”).

## **5<sup>th</sup> and 6<sup>th</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

### **Benchmark 1: The student can use multiple approaches to explore alternative solutions.**

#### **Learning Targets (Type) 1.1:**

- a. I can use digital tools to identify and define an authentic problem and write significant questions for investigation. (S)
- b. I can predict and use key words and phrases that narrow or broaden information searches. (R)
- c. I can use digital tools, data bases, and digital resources to organize a project or solve a problem. (S,R)
- d. I can investigate a problem using digital tools (e.g., create a survey, collect data, and research a question). (S)
- e. I can use digital tools to help me generate alternative solutions using collected resources and data. (R)

### **Benchmark 2: Collect relevant data and information on a subject from a variety of digital resources.**

#### **Learning Targets (Type) 1.2:**

- a. I can use online sources to access and gather information, with appropriate citation, for research projects. (S)
- b. I can select and use authoritative primary and/or secondary sources. (K,S)
- c. I can select and use appropriate digital tools to collect data. (K,R)
- d. I can select the appropriate search engines or directories to find data. (K)
- e. I can use basic functions of search engines and databases. (S)
- f. I can predict which information sources will provide the desired data. (R)

### **Benchmark 3: Analyze and ethically use data and information from digital resources.**

#### **Learning Targets (Type) 1.3:**

- a. I can examine data and information from digital resources. (S)
- b. I can organize and manipulate data with digital tools, as needed (e.g., charts, comparisons, tables). (S)
- c. I can synthesize information from separate sources to produce, support, and counter arguments. (R)

### **Benchmark 4: The student can compare accuracy, diversity, relevance, and point of view (including that of Montana American Indians) of digital information.**

#### **Learning Targets (Type) 1.4:**

- a. I can use multiple sources to determine the accuracy of information (e.g., authenticity, validity). (R)

### **Benchmark 5: The student can share data and information ethically and appropriately cite sources.**

#### **Learning Targets (Type) 1.5:**

- a. I can describe ethical practices related to data, privacy, plagiarism, spam, viruses, hacking, and file sharing. (K)
- b. I can describe copyright law to protect the ownership of intellectual property, and explain possible consequences of violating the law. (K)
- c. I can describe fair use guidelines for using copyrighted materials (e.g., images, music, video, text) in school projects point of view, including Montana American Indians, of digital information. (K)

**5<sup>th</sup> and 6<sup>th</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Benchmark 1: The student can select and use online collaboration and communication tools.**

**Learning Targets (Type) 2.1:**

- a. I can explore online communication tools with teacher assistance. (K,S)
- b. I can participate in a whole class online collaboration project. (K,S)
- c. I can interact and collaborate with others using a variety of digital tools. (K,S)
- d. I can communicate information and ideas effectively to multiple audiences using a variety of media and formats. (K,S,R)

**Benchmark 2: The student can use collaboration and communication tools in a safe, legal, and responsible manner.**

**Learning Targets (Type) 2.2:**

- a. I can discuss and follow district and school acceptable use policy. (K)
- b. I can discuss and follow Internet safety practices and responsible cyber citizenship: personal safety, identity protection, bullying prevention, and password protection. (K)
- c. I can contribute to a cooperative learning project respectfully. (K,S,R)
- d. I can demonstrate effective group behaviors while using digital collaborative resources. (K,S,R)

**Benchmark 3: The student can communicate the results of research and learning with others using digital tools.**

**Learning Targets (Type) 2.3:**

- a. I can observe and discuss digital presentations. (K)
- b. I can create and share a group digital project. (K,S)
- c. I can comment on a writing project using online tools. (K,S,R)

**Benchmark 4: The student can use technology in a global learning environment.**

**Learning Targets (Type) 2.4:**

- a. I can establish a connection with others using a digital tool. (K,S,R)
- b. I can collaborate with students in other learning environments that are studying common topics. (K,S,R)
- c. I can participate in a global learning project with guidance. (K,S)
- d. I can participate in a live video conference. (K,S)

**5<sup>th</sup> and 6<sup>th</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Benchmark 1: The student can apply a variety of digital tools for personal and group expression.**

**Learning Targets (Type) 3.1:**

- a. I can create products using a combination of text, images, and sound. (K,S,R)
- b. I can use online creativity tools to create multimedia projects. (K,S,R)
- c. I can use presentation software to deliver information effectively. (K,S)
- d. I can use concept mapping applications to plan a project. (K,S,R)
- e. I can generate categories and subcategories using concept mapping software. (K)
- f. I can group related ideas using concept mapping software. (K)
- g. I can generate creative solutions and present ideas effectively. (K,S,R)
- h. I can judge the strengths and weaknesses of different presentation tools. (K,R)
- i. I can contribute my own ideas to collaborative forums in a positive manner. (K,S,R)

**Benchmark 2: The student can use a variety of digital tools to create a product.**

**Learning Targets (Type) 3.2:**

- a. I can gather knowledge or information on a topic from a variety of digital resources. (K)
- b. I can name different sources of online information (e.g., library catalog, subscription database). (K)
- c. I can select the most suitable digital resources for school assignments. (K,R)
- d. I can use bookmarking tools to organize online sources for easy access. (K,R)
- e. I can display search results in different way (e.g., Wonder Wheel, Google Squared). (K,S,P)
- f. I can design an original product that demonstrates the knowledge learned from research. (K,S,P)
- g. I can create a storyboard to organize and sequence information. (K,S,P)
- h. I can write a narrative to accompany a series of images. (K,S,R,P)
- i. I can develop a product explaining the information or concepts learned. (K,S,R,P)
- j. I can show a sequence of events using a time-line application. (K,S,R,P)
- k. I can demonstrate the steps in a process using a slide-show application. (K,S,R,P)
- l. I can present the product to a targeted audience using a variety of digital tools. (K,S,R,P)
- m. I can make my presentations more engaging with the help of technology. (K,S)
- n. I can predict how my choice of digital images and music influence my audience. (K,R)

**Benchmark 3: The student can use technology to recognize trends and possible outcomes.****Learning Targets (Type) 3.3:**

- a. I can use online simulations to explore systems and draw conclusions. (K,S)
- b. I can access various digital resources to gather data. (K,S)
- c. I can make predictions based on information gathered on line. (K,R)
- d. I can compare and contrast data to identify patterns and trends using various digital resources. (K,R)
- e. I can collect information from real-time data sources, such as the National Weather Service. (K)
- f. I can record observations over time via live video streams, such as animal cams. (K,S,R)
- g. I can communicate ideas and concepts using various digital resources. (K,S)
- h. I can work on shared documents with others. (K,S)
- i. I can communicate across geographic and political boundaries in real-time, using face-to-face video conferencing tools. (K,S,R)
- j. I can use data-collection devices (such as online forms or polls) to gather feedback. (K,S)

**Benchmark 4: The student can examine the relationship of copyright to ownership of digital media.****Learning Targets (Type) 3.4:**

- a. I can credit the creators of digital content as directed. (K)
- b. I can identify examples of copyright infringement in student projects. (K)
- c. I can explain why copyright laws are needed. (K)
- d. I can compare and contrast student options and choices regarding copyright of digital media. (K,R)
- e. I can explain how online piracy affects the creators of artistic and intellectual works. (K)
- f. I can find Creative Commons materials to use in my projects. (K)
- g. I can recognize examples of plagiarism. (K,R)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.****Learning Targets (Type) 3.5:**

- a. I can evaluate how technology affects life (e.g., compare and contrast life with and without a digital tool). (K,R)
- b. I can reflect on how online environments are a forum for differing points of view. (K,R)
- c. I can identify how media messages affect my own decision making. (K,R)
- d. I can develop a new personal understanding, individually and collaboratively, using digital tools. (K,S,R)
- e. I can make personal connections with others through my work online. (K,S)
- f. I can communicate with individuals that share my interests online. (K,S)

**5<sup>th</sup> and 6<sup>th</sup> Grade Technology Standard 4: A student must possess a**

## **functional understanding of technology concepts and operations.**

**Benchmark 1: The student can apply and refine the skills needed to use communication, information, and processing technologies.**

### **Learning Targets (Type) 4.1:**

- a. I can click on icons, buttons, and menus to produce a desired outcome. (K)
- b. I can use bullets, columns, and other intermediate formatting as directed. (K)
- c. I can make formatting decisions that make my documents more readable and attractive. (K,S,R)
- d. I can effectively apply grammar and spell-check tools. (K)
- e. I can use a thesaurus tool to improve my writing. (K)
- f. I can demonstrate developmentally appropriate keyboarding skills. (K,S)
- g. I can insert the correct punctuation while typing. (K)
- h. I can type with adequate speed and accuracy to complete assignments as given. (K,S)
- i. I can enter numerical data into a spreadsheet expediently. (K,S)
- j. I can locate and correctly use parts of various digital devices. (K)
- k. I can use a digital camera and download the image files to my computer. (K)
- l. I can use imaging devices (e.g., scanner) to make digital files. (K)
- m. I can make and download a digital sound file of my own voice. (K,S)
- n. I can effectively use operating systems and user interfaces (file management, settings, control panel, etc.). (K)
- o. I can select from multiple printers. (K)
- p. I can manage my own files and sub folders. (K)
- q. I can use network storage drives to access and share files. (K)
- r. I can work within a shared document effectively. (K)
- s. I can send an attachment via email. (K)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

### **Learning Targets (Type) 4.2:**

- a. I can use appropriate terminology when communicating about current technology. (K)
- b. I can identify examples of spreadsheets, word processing documents, and presentations. (K)
- c. I can specify the meanings of some commonly used file extensions, URL suffixes, acronyms and abbreviations pertaining to technology. (K)
- d. I can read “text speak” and know when it is appropriate to use in my own communication. (K,R)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

### **Learning Targets (Type) 4.3:**

- a. I can use existing knowledge to explore and implement new technologies as appropriate from situation to situation. (K,S,R)
- b. I can recognize similarities between applications and transfer skills between programs. (K,S,R)
- c. I can generalize my knowledge of a word processing application to online word processing. (K)
- d. I can personalize my work environment to meet my needs and interests. (K,S,R)

# 7<sup>th</sup> and 8<sup>th</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge (“K”), Reasoning (“R”), Skill (“S”), or Product (“P”).

## **7<sup>th</sup> and 8<sup>th</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

### **Benchmark 1: The student can use multiple approaches to explore alternative solutions.**

#### **Learning Targets (Type) 1.1:**

- a. I can select and use a variety of digital resources and tools to identify and define a current world problem and write significant questions for investigation. (K,S)
- b. I can use Boolean terms and advanced search settings to narrow or broaden information searches. (K)
- c. I can use a variety of digital resources to organize a project or investigate a problem. (K)
- d. I can use digital tools to publish my information in order to solicit feedback from multiple audiences and explore alternative solutions. (S)

### **Benchmark 2: The student can collect relevant data and information on a subject from a variety of digital resources.**

#### **Learning Targets (Type) 1.2:**

- a. I can perform searches in a database (e.g., browse, sort, filter, search on selected criteria, delete data, enter data). (S)
- b. I can utilize online tools to access information. (S)
- c. I can select and use appropriate digital tools to collect data (e.g., probeware, handhelds, Global Positioning System). (K,S)
- d. I can use navigation skills to perform searches. (S)

### **Benchmark 3: The student can analyze and ethically use data and information from digital resources.**

#### **Learning Targets (Type) 1.3:**

- a. I can use processing software to organize my data. (S)

### **Benchmark 4: The student can compare accuracy, diversity, relevance, and point of view, including Montana American Indians, of digital information.**

#### **Learning Targets (Type) 1.4:**

- a. I can evaluate the authenticity of a source of information. (K,R)
- b. I can evaluate the point of view of digital information pertaining to cultural issues. (K,R)
- c. I can use multiple sources to compare the accuracy of information. (K)
- d. I can identify an authors’ point of view and its potential impact. (K,R)
- e. I can learn about many cultures through digital content from local communities and around the world and share relevant information. (K)
- f. I can engage with learners from many cultures using online interactive tools or videoconferencing. (S)
- g. I can participate in an online community to understand a local or global issue. (S)

### **Benchmark 5: The student can share data and information ethically and appropriately cite sources.**

#### **Learning Targets (Type) 1.5:**

- a. I can use ethical practices related to data, privacy, plagiarism, spam, viruses, hacking, and file sharing. (K)
- b. I can follow copyright law to protect the ownership of intellectual property. (K)

- c. I can follow fair use guidelines for using copyrighted materials when creating digital multimedia projects. (K)
- d. I can explain possible consequences of violating the law. (K)

## **7<sup>th</sup> and 8<sup>th</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Benchmark 1: The student can select and use online collaboration and communication tools.**

### **Learning Targets (Type) 2.1:**

- a. I can use online communication tools effectively. (K,S)
- b. I can participate in online collaborative projects. (K,S)
- c. I can communicate information and ideas effectively to multiple audiences using a variety of media and formats. (K,S)
- d. I can create multimedia products that promote community resources. (K,S,R,P)
- e. I can create a multimedia presentation that targets various audiences using the same topic. (K,S,R,P)
- f. I can discuss a cultural or environmental topic with a class in a different locale using conferencing software. (K,S)

**Benchmark 2: The student can use digital collaboration and communication tools in a safe, legal, and responsible manner.**

### **Learning Targets (Type) 2.2:**

- a. I can follow district and school acceptable use policy. (K)
- b. I can operate within the guidelines of the law to collaborate and communicate ethically, safely, and responsibly. (K,R)
- c. I can follow Internet safety practices and responsible cyber-citizenship: personal safety, identify protection, bullying prevention, and password protection. (K,R)
- d. I can investigate and take responsibility for my own digital footprint. (K,R)
- e. I can participate and engage with the global community within expected norms of behavior and positive interaction. (K,S)
- f. I can explain the legal consequences of breaking acceptable use policies. (K)

**Benchmark 3: The student can communicate the results of research and learning with others using digital tools.**

### **Learning Targets (Type) 2.3:**

- a. I can create digital presentations and/or products with a variety of on-line tools. (K,S,R,P)
- b. I can evaluate digital presentations and/or products. (K,S,R)
- c. I can use email to communicate with others. (K,S)

**Benchmark 4: The student can use technology in a global learning environment.**

### **Learning Targets (Type) 2.4:**

- a. I can establish a connection with others using online tools. (K,S)
- b. I can collaborate with students in other learning environments that are studying common topics. (K,S)
- c. I can participate in a global collaborative learning project. (K,S)
- d. I can debate a topic using online tools. (K,S,R)

## **7<sup>th</sup> and 8<sup>th</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Benchmark 1: The student can apply a variety of digital tools for personal and group expression.**

### **Learning Targets (Type) 3.1:**

- a. I can create products using a combination of text, images, sound, and video. (K,S,R,P)
- b. I can use interactive applications to create a poll or survey. (K,S,R,P)



- c. I can use spreadsheet applications to display results of data collection to others. (K,S,R,P)
- d. I can illustrate complex or multi-faceted ideas using concept mapping applications. (K,S,R,P)
- e. I can show how topics are related by using concept mapping applications. (K,S,R)
- f. I can diagram subtopics using the tools in concept mapping applications. (K,S)
- g. I can generate creative solutions and present ideas effectively. (K,S,R,P)
- h. I can create a blog, wiki, or some other collaborative forum to share ideas. (K,S,R,P)
- i. I can contribute my own ideas to collaborative forums in a positive manner. (K,S)
- j. I can evaluate the strengths and weaknesses of different presentation tools. (K,R)

**Benchmark 2: The student can use a variety of digital tools to create a product.**

**Learning Targets (Type) 3.2:**

- a. I can gather knowledge or information on a topic from a variety of digital resources. (K)
- b. I can access multiple sources of information online. (K)
- c. I can gather information and present it in an original project. (K,P)
- d. I can use bookmarking tools to organize online sources for easy access. (K,R)
- e. I can design an original product that demonstrates the knowledge learned from the research. (K,S,R,P)
- f. I can create effective charts, posters and graphs using online applications independently. (K,S,R,P)
- g. I can produce a video montage with music and narration independently. (K,S,R,P)
- h. I can show a sequence of events using time-line applications independently. (K,S,R,P)
- i. I can demonstrate the steps in a process using slide-show applications. (K,S,R)
- j. I can develop a product explaining the information or concepts learned. (K,S,R,P)
- k. I can present the product to a targeted audience using a variety of digital tools. (K,S,R,P)
- l. I can embed digital projects into a blog, wiki, or web page. (K,S,R)
- m. I can expand my audience using social networking tools. (K,S)

**Benchmark 3: The student can use technology to recognize trends and possible outcomes.**

**Learning Targets (Type) 3.3:**

- a. I can use online simulations to explore systems and draw conclusions independently. (K,R)
- b. I can access various digital resources to gather data. (K)
- c. I can make predictions based on information gathered online. (K,R)
- d. I can compare and contrast data to identify patterns and trends using various digital resources. (K,R)
- e. I can use real-time data sources, such as Google Earth, to observe change over time. (K)
- f. I can communicate ideas and concepts using various digital resources. (K,S,R)
- g. I can manage the viewing and editing rights on digital products that I share with others. (K,S,R)
- h. I can discuss cultural or environmental issues across geographic and political boundaries in real time, using face-to-face video conferencing tools. (K,S,R)

**Benchmark 4: The student can examine the relationship of copyright to ownership of digital media.**

**Learning Targets (Type) 3.4:**

- a. I can paraphrase the Fair Use Guidelines of the U.S. Copyright Law as it pertains to student projects. (K)
- b. I can identify examples of fair use in student projects. (K)
- c. I can identify examples of copyright infringement in student projects. (K)
- d. I can explain the legal and social consequences of violating copyright laws. (K,R)
- e. I can compare and contrast student options and choices regarding copyright of digital media. (K,R)
- f. I can explain how copyright law protects the creators of artistic and intellectual works. (K)
- g. I can explain the differences in usage rights for reusing or modifying images, music, or video. (K,R)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

- a. I can evaluate how technology affects life (e.g., compare and contrast life with and without a digital tool). (KR)
- b. I can analyze how technology has impacted different industries. (K,R)
- c. I can identify how technology affects my education, leisure, and possible career paths. (K,R)
- d. I can infer how limited access to technology could handicap earning potential. (K,R)
- e. I can control my personal flow of information with syndicated subscription services (RSS Feeds). (K)
- f. I can develop a new personal understanding, individually and collaboratively, using digital tools. (K,R)
- g. I can identify examples of how technology plays a role in a democracy. (K,R)
- h. I can defend free access to ideas and information available via technology. (K,R)
- i. I can articulate the dangers of censorship and oppression in relation to information access. (K,S)

**7<sup>th</sup> and 8<sup>th</sup> Grade Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

**Benchmark 1: The student can apply and refine the skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

- a. I can click on icons, buttons, and menus to produce a desired outcome. (K)
- b. I can demonstrate developmentally appropriate keyboarding skills. (K,S)
- c. I can use function keys and keyboard shortcuts to execute tasks. (K)
- d. I can locate and correctly use parts of various digital devices as directed. (K)
- e. I can effectively use operating systems and user interfaces. (K)
- f. I can save and retrieve files from various locations as directed. (K)
- g. I can identify the advantages and disadvantages of cloud computing/storage. (K,R)
- h. I can navigate in several browser environments. (K)
- i. I can sort my files in different ways. (K)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

**Learning Targets (Type) 4.2:**

- a. I can learn new vocabulary as technologies emerge. (K)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

**Learning Targets (Type) 4.3:**

- a. I can use existing knowledge to explore and implement new technologies as appropriate. (K,S)
- b. I can independently locate help files, and seek tutorials or user guides for new technology tools. (K)
- c. I can identify similar tools in different applications and predict their functions. (K)

# 9<sup>th</sup> and 10<sup>th</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge ("K"), Reasoning ("R"), Skill ("S"), or Product ("P").

## **9<sup>th</sup> and 10<sup>th</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

### **Rationale**

As personal and global problems become more complex, digital tools are powerful vehicles for data collection and analysis, collaboration, and presentation of solutions. Therefore, all learners must select and use digital tools to make sound, accurate, data-supported decisions and presentations.

### **Benchmark 1: The student can use multiple approaches and diverse perspectives, including Montana American Indians, to explore alternative solutions.**

#### **Learning Targets (Type) 1.1:**

- a. I can investigate a problem from multiple perspectives using a variety of digital tools. (e.g. GIS, digital camera, computer applications). (S)
- b. I can identify possible solutions based on the data collected by the digital tools. (K)
- c. I can use Boolean terms and advanced search settings to narrow or broaden information searches. (S)

### **Benchmark 2: The student can collect relevant data and information on a subject from a variety of digital resources.**

#### **Learning Targets (Type) 1.2:**

- a. I can collect data and/or information on a specific subject using a variety of digital resources (e.g. websites, online catalogs, electronic encyclopedias, online databases). (S)
- b. I can explain the data results based on the data collected by the digital tools. (K)
- c. I can demonstrate the ability to work effectively with digital tools. (S)

### **Benchmark 3: The student can select from an array of digital tools to organize and analyze data from a variety of resources.**

#### **Learning Targets (Type) 1.3:**

- a. I can make informed decisions using appropriate digital tools and resources. (P)
- b. I can select and use digital tools appropriate to a specific task. (K)

### **Benchmark 4: The student can evaluate and synthesize data and information.**

#### **Learning Targets (Type) 1.4:**

- a. I can evaluate digital resources for currency, accuracy, bias, and credibility. (R)
- b. I can pose/interpret possible solutions based on the data collected by the digital tools. (R)
- c. I can analyze data using digital tools (i.e. science probes, graphing calculators, spreadsheets). (R)

### **Benchmark 5: The student can share data and information ethically and appropriately cite sources.**

#### **Learning Targets (Type) 1.5:**

- a. I can cite sources appropriately. (S)
- b. I can create an appropriate citation list. (P)

## **9<sup>th</sup> and 10<sup>th</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

### **Rationale**

Digital tools can facilitate collaboration and communication by opening pathways to a global learning environment.

All learners share the responsibility to practice and advocate the safe and responsible use of these digital tools.

**Benchmark 1: The student can evaluate and apply online collaboration and communication tools to exchange ideas and information and participate in projects.**

**Learning Targets (Type) 2.1:**

- a. I can use online collaboration and communication tools to exchange ideas and information with teacher moderation (e.g., blog, skype, wiki, email, etc.). (S)
- b. I can select and use the appropriate collaboration/communication tool to participate in projects. (S)

**Benchmark 2: The student can use digital collaboration and communication tools in a safe, legal, and responsible manner and advocate for such use by others.**

**Learning Targets (Type) 2.2:**

- a. I can communicate information and ideas respectfully and effectively to multiple audiences using a variety of digital environments. (S)
- b. I can advocate and practice safe, legal, ethical and responsible use of digital tools as defined by school board policy and procedures (AUP) (e.g. cyber citizenship, personal safety, identity protection, bullying prevention, and password protection). (S)
- c. I can determine when it is appropriate and safe to use various personal digital devices. (S)
- d. I can critique the effects of cyber-bullying. (R)
- e. I can demonstrate safe online communication practices regarding personal information (e.g. social network sites). (S)
- f. I can investigate how web advertising influences consumer choices. (R)
- g. I can acknowledge the consequences inherent in the acceptable use policy by signing it. (K)
- h. I can demonstrate when it is appropriate and safe to use various personal digital devices. (S)

**Benchmark 3: The student can synthesize and communicate the results of research and learning with others using various digital tools.**

**Learning Targets (Type) 2.3:**

- a. I can collaborate with peers, experts, or others in the global community employing a variety of digital tools to share findings and/or publish in a variety of ways. (S)
- b. I can share and/or publish my research and learn globally with my peers and others through the use of digital tools. (S)

**Benchmark 4: The student can apply technology that supports collaboration, learning, and productivity in a global environment.**

**Learning Targets (Type) 2.4:**

- a. I can interact in a global community using digital tools to contribute to a specific global issue (e.g., iEarn-International Education and Resource Network, Global Nomads, skype, wikis, blogs, etc.). (S)

**9<sup>th</sup> and 10<sup>th</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.**

**Rationale**

Digital tools can support creative and innovative expression, which is increasingly necessary in our changing world. The use of these tools can also facilitate the realization and fulfillment of one's talents and interests. The education community has the responsibility to provide access to the new avenues for creation and require nuanced understandings of digital citizenship and ownership.

**Benchmark 1: The student can develop projects combining multiple digital tools to suit a variety of audiences and purposes.**

**Learning Targets (Type) 3.1:**

- a. I can create an original multimedia project, combining multiple digital tools for the appropriate audience and purpose. (P)

- b. I can define the task. (K)
- c. I can select multiple approaches to suit audience and purpose. (K)
- d. I can devise a timeline for a project. (P)
- e. I can select various digital tools to decide upon the best tools for the project. (K)
- f. I can collect materials and resources using digital tools (e.g. websites, online catalogs, electronic encyclopedias, online databases, podcasts). (S)

**Benchmark 2: The student can evaluate and employ a variety of digital tools to effectively produce an original work.**

**Learning Targets (Type) 3.2:**

- a. I can compare/contrast a variety of digital tools to select the best tools for the project. (R)

**Benchmark 3: The student can use models and simulations to identify trends, predict outcomes, and investigate information.**

**Learning Targets (Type) 3.3:**

- a. I can identify trends, predict outcomes, and investigate information using digital models. (K)
- b. I can determine whether or not using a model/simulation would be beneficial in evaluating a situation. (K)
- c. I can select the most appropriate tools for analyzing a real-world situation. (K)
- d. I can summarize the relationship among interdependent elements of a digital model or simulation. (K)
- e. I can use a model/simulation to investigate a given task. (S)
- f. I can predict how one software would be more appropriate to use over another (e.g., using a graphic organizer such as Inspiration to outline a paper instead of using Word; using Prezi instead of PowerPoint, etc.). (R)
- g. I can critique the results of a model/simulation. (R)
- h. I can identify patterns and trends to forecast possibilities from different perspectives. (K)

**Benchmark 4: The student can evaluate legal protections for intellectual property and apply that understanding to personally-created digital media.**

**Learning Targets (Type) 3.4:**

- a. I can define legal protections for intellectual property. (K)
- b. I can define Fair Use Guidelines of the U.S. Copyright Law as it pertains to my projects. (K)
- c. I can compare and contrast my options and choices regarding legal protections (e.g., copyright, creative commons, public domain, etc.). (R)
- d. I can abide by copyright and intellectual property regulations. (S)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

- a. I can analyze how technology has impacted different industries. (R)
- b. I can identify how technology affects my education, leisure, and possible career paths. (K)
- c. I can infer how limited access to technology could handicap earning potential. (R)

**9<sup>th</sup> and 10<sup>th</sup> Grade Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

#### **Rationale**

Solely teaching application- and device-specific skills is no longer sufficient. While core computer skills are required to harness the power of digital tools, these skills need to be adaptable to the quickly changing technological landscape.

**Benchmark 1: The student can apply and refine the skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

- a. I can demonstrate speed and accuracy using appropriate data entry tools. (S)
- b. I can compose a multiple section document using advanced formatting. (P)

- c. I can use spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings. (S)
- d. I can create and edit visual and audio material to generate a stand-alone multimedia product. (P)
- e. I can organize my files and folders. (S)
- f. I can identify and use online help and other support to learn about features of hardware, software, and connectivity as well as to assess and resolve problems. (K, S)
- g. I can perform searches to locate files. (S)
- h. I can convert files (e.g. word document to PDF or wav to Mp3). (S)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

**Learning Targets (Type) 4.2:**

- a. I can use appropriate terminology when communicating about current technology. (K)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

**Learning Targets (Type) 4.3:**

- a. I can transfer understanding of current technologies to new and novel learning situations. (R)
- b. I can compare and contrast operating systems. (R)
- c. I can adjust to a new program with ease. (S)

# 11<sup>th</sup> and 12<sup>th</sup> Grade Technology Standards

NOTE: Throughout this document, learning targets are identified by type as Knowledge (“K”), Reasoning (“R”), Skill (“S”), or Product (“P”).

## **11<sup>th</sup> and 12<sup>th</sup> Grade Technology Standard 1: A student must use digital tools and resources for problem solving and decision making.**

### **Rationale**

As personal and global problems become more complex, digital tools are powerful vehicles for data collection and analysis, collaboration, and presentation of solutions. Therefore, all learners must select and use digital tools to make sound, accurate, data-supported decisions and presentations.

### **Benchmark 1: The student can use multiple approaches and diverse perspectives, including Montana American Indians, to explore alternative solutions.**

#### **Learning Targets (Type) 1.1:**

- a. I can evaluate a problem from multiple perspectives using a variety of digital tools (e.g. GIS, digital camera, computer applications). (R)
- b. I can formulate possible solutions based on the data collected by the digital tools. (R)
- c. I can use Boolean terms and advanced search settings to narrow or broaden information searches. (S)
- d. I can critique alternative solutions to a problem. (R)
- e. I can justify my selected solution. (R)

### **Benchmark 2: The student can collect relevant data and information on a subject from a variety of digital resources.**

#### **Learning Targets (Type) 1.2:**

- a. I can collect data and/or information on a specific subject using a variety of digital resources (e.g. websites, online catalogs, electronic encyclopedias, online databases). (S)
- b. I can critique the data results based on the data collected by the digital tools. (R)
- c. I can demonstrate the ability to work effectively with digital tools. (S)

### **Benchmark 3: The student can select from an array of digital tools to organize and analyze data from a variety of resources.**

#### **Learning Targets (Type) 1.3:**

- a. I can make informed decisions using appropriate digital tools and resources. (P)
- b. I can justify my choice of digital tools. (R)

### **Benchmark 4: The student can evaluate and synthesize data and information.**

#### **Learning Targets (Type) 1.4:**

- a. I can evaluate digital resources for currency, accuracy, bias, and credibility. (R)
- b. I can formulate possible solutions based on the data collected by the digital tools. (R)
- c. I can analyze data using digital tools (i.e., science probes, graphing calculators, spreadsheets). (R)
- d. I can formulate an experiment and test data collected by the digital tools. (P)

### **Benchmark 5: The student can share data and information ethically and appropriately cite sources.**

**Learning Targets (Type) 1.5:**

- a. I can cite sources appropriately. (S)
- b. I can create an appropriate citation list. (P)

**11<sup>th</sup> and 12<sup>th</sup> Grade Technology Standard 2: A student must collaborate and communicate globally in a digital environment.**

**Rationale**

Digital tools can facilitate collaboration and communication by opening pathways to a global learning environment. All learners share the responsibility to practice and advocate the safe and responsible use of these digital tools.

**Benchmark 1: The student can evaluate and apply online collaboration and communication tools to exchange ideas and information and participate in projects.**

**Learning Targets (Type) 2.1:**

- a. I can evaluate online collaboration and communication tools to exchange ideas and information. (R)
- b. I can evaluate online collaboration and communication tools to participate in projects with a variety of audiences. (R)
- c. I can select and use the appropriate collaboration/communication tool to participate in projects. (S)

**Benchmark 2: The student can use digital collaboration and communication tools in a safe, legal, and responsible manner and advocate for such use by others.**

**Learning Targets (Type) 2.2:**

- a. I can communicate information and ideas respectfully and effectively to multiple audiences using a variety of digital environments. (S)
- b. I can advocate and practice safe, legal, ethical and responsible use of digital tools as defined by school board policy and procedures (AUP) (e.g. cyber citizenship, personal safety, identity protection, bullying prevention, and password protection). (S)
- c. I can determine when it is appropriate and safe to use various personal digital devices. (S)
- d. I can critique the effects of cyber-bullying. (R)
- e. I can demonstrate safe online communication practices regarding personal information (e.g. social network sites). (S)
- f. I can analyze how web advertising influences consumer choices. (R)
- g. I can acknowledge the consequences inherent in the acceptable use policy by signing it. (K)
- h. I can demonstrate when it is appropriate and safe to use various personal digital devices. (S)

**Benchmark 3: The student can synthesize and communicate the results of research and learning with others using various digital tools.**

**Learning Targets (Type) 2.3:**

- a. I can collaborate with peers, experts, or others in the global community employing a variety of digital tools to share findings and/or publish in a variety of ways. (S)
- b. I can share and/or publish my research and learn globally with my peers and others through the use of digital tools. (S)

**Benchmark 4: The student can apply technology that supports collaboration, learning, and productivity in a global environment.**



**Learning Targets (Type) 2.4:**

- a. I can interact in a global community using digital tools to contribute to a specific global issue (e.g., iEarn-International Education and Resource Network, Global Nomads, skype, wikis, blogs, etc.). (S)

**11<sup>th</sup> and 12<sup>th</sup> Grade Technology Standard 3: A student must apply digital tools and skills with creativity and innovation to express his/herself, construct knowledge, and develop products and processes.****Rationale**

Digital tools can support creative and innovative expression, which is increasingly necessary in our changing world. The use of these tools can also facilitate the realization and fulfillment of one's talents and interests. The education community has the responsibility to provide access to the new avenues for creation and require nuanced understandings of digital citizenship and ownership.

**Benchmark 1: The student can develop projects combining multiple digital tools to suit a variety of audiences and purposes.****Learning Targets (Type) 3.1:**

- a. I can create an original multimedia project, combining multiple digital tools for the appropriate audience and purpose. (P)
- b. I can define the task. (K)
- c. I can critique multiple approaches and justify the best approach to suit audience and purpose. (R)
- d. I can devise a timeline for a project. (P)
- e. I can collect materials and resources using digital tools (e.g. websites, online catalogs, electronic encyclopedias, online databases, podcasts). (S)

**Benchmark 2: The student can evaluate and employ a variety of digital tools to effectively produce an original work.****Learning Targets (Type) 3.2:**

- a. I can analyze various digital tools to decide upon the best tools for the project. (R)

**Benchmark 3: The student can use models and simulations to identify trends, predict outcomes, and investigate information.****Learning Targets (Type) 3.3:**

- a. I can identify trends, predict outcomes, and investigate information using digital models. (K)
- b. I can determine whether or not using a model/simulation would be beneficial in evaluating a situation. (K)
- c. I can select the most appropriate tools for analyzing a real-world problem. (K)
- d. I can predict and test the relationships among interdependent elements of a digital model, simulation, or system. (R)
- e. I can create a model, simulation, or system. (P)
- f. I can predict how one software would be more appropriate to use over another (e.g., using a graphic organizer such as Inspiration to outline a paper instead of using Word; using Prezi instead of PowerPoint, etc.). (R)
- g. I can critique the results of model/simulations. (R)
- h. I can analyze patterns and trends and their logical links to form inferences and forecast possibilities

providing novel insights. (R)

**Benchmark 4: The student can evaluate legal protections for intellectual property and apply that understanding to personally-created digital media.**

**Learning Targets (Type) 3.4:**

- a. I can evaluate legal protections for intellectual property. (K)
- b. I can critique the various legal protections for digital works. (R)
- c. I can select appropriate legal protection for my original work. (K)
- d. I can justify the use of chosen legal protection (e.g., copyright, creative commons, public domain, etc.). (R)
- e. I can abide by copyright and intellectual property regulations. (S)

**Benchmark 5: The student can use digital tools and skills to construct new personal understandings.**

**Learning Targets (Type) 3.5:**

- a. I can analyze how technology has impacted different industries. (R)
- b. I can evaluate how technology affects my education, leisure, and possible career paths. (R)
- c. I can infer how limited access to technology could handicap earning potential. (R)

**11<sup>th</sup> and 12<sup>th</sup> Grade Technology Standard 4: A student must possess a functional understanding of technology concepts and operations.**

**Rationale**

Solely teaching application- and device-specific skills is no longer sufficient. While core computer skills are required to harness the power of digital tools, these skills need to be adaptable to the quickly changing technological landscape.

**Benchmark 1: The student can apply and refine the skills needed to use communication, information, and processing technologies.**

**Learning Targets (Type) 4.1:**

- a. I can demonstrate speed and accuracy using appropriate data entry tools. (S)
- b. I can compose a multiple section document that applies the most appropriate media and advanced formatting. (P)
- c. I can use spreadsheets to calculate, graph, organize, and present data in a variety of real-world settings. (S)
- d. I can compose media for the web with interactive capabilities. (S)
- e. I can identify and use online help and other support to learn about features of hardware, software, and connectivity as well as to assess and resolve problems. (K,S)
- f. I can perform searches to locate files. (S)
- g. I can convert files (e.g., Word document to PDF or wav to Mp3). (S)

**Benchmark 2: The student can use appropriate terminology when communicating about current technology.**

**Learning Targets (Type) 4.2:**

- a. I can use appropriate terminology when communicating about current technology. (*K*)

**Benchmark 3: The student can transfer current knowledge to learning of new technology skills.**

**Learning Targets (Type) 4.3:**

- a. I can transfer understanding of current technologies to new and novel learning situations. (*R*)
- b. I can compare and contrast operating systems. (*R*)
- c. I can adjust to a new program with ease. (*S*)

## 2010-11 Technology Standards Review Committee

Name	Grade	Discipline	Building
<b>Andersen, Rita</b>	<b>6</b>	<b>Classroom</b>	<b>Meadow Hill</b>
Anderson, Crista	1	Classroom	Hawthorne
<b>Clausen, Matt</b>	<b>K-12</b>	<b>Director of Creativity, Innovation &amp; Technology</b>	<b>Administration</b>
<b>Cole, Beth</b>	<b>9-12</b>	<b>Business</b>	<b>Hellgate</b>
Cox, Becky	4	Classroom	Lewis & Clark
<b>Dirnberger, Kasey</b>	<b>6-8</b>	<b>Classroom</b>	<b>Porter</b>
<b>Fines, Jon</b>	<b>K</b>	<b>Classroom</b>	<b>Cold Springs</b>
<b>Hainline, Julie</b>	<b>K-12</b>	<b>Curriculum Coordinator</b>	<b>Administration</b>
<b>Lawrence, Junell</b>	<b>9-12</b>	<b>Library</b>	<b>Big Sky/Willard</b>
McHugh, Casey	4	Classroom	Cold Springs
<b>Nokleby, Michele</b>	<b>K-5</b>	<b>Library</b>	<b>Hawthorne</b>
O'Reilly, Judy	9-12	Study Skills	Big Sky
Peterson, Nancy	K-5	Library	Franklin
Stout, Katrina	9-12	Library	Seeley-Swan

**Bold indicates Steering Committee**

**MISSOULA**  
COUNTY PUBLIC SCHOOLS

**Department of Teaching & Learning**  
**Administration Building**  
**215 S. 6<sup>th</sup> Street W.**  
**Missoula, MT 59801**  
**406-728-2400 Fax 406-542-4009**  
**[www.mcps.k12.mt.us](http://www.mcps.k12.mt.us)**