LCB File No. R008-10

PROPOSED REGULATION OF THE
STATE BOARD OF EDUCATION

[NAC 389.289 Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the third grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction in the third grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the third grade:

1. To develop the ability to use productivity tools, pupils must be able to use appropriate productivity tools, including, without limitation, word processing, spreadsheets, databases, multimedia and telecommunications, as demonstrated by the ability of the pupil to:

(a) Locate and use letters, numbers and special keys on a keyboard using the left and right hands, as appropriate;

(b) Type and edit an existing document;

(c) Search a database to locate specific information;

(d) Use a predesigned spreadsheet to enter simple labels, values and formulas, including, without limitation, three-cell formulas such as "2+2=4";

(e) Use multimedia software;

(f) Explain the purpose of a multimedia presentation;

(g) Create and save files on various storage media;

(h) Identify the differences between network and stand-alone computer systems; and

(i) Identify a variety of electronic communication devices.

2. In the area of tools used for research, pupils must be able to use various tools of technology to research information and evaluate the accuracy and appropriateness of the information to solve problems and make decisions, as demonstrated by the ability of the pupil to:

(a) Contribute an idea for a topic or definition of a problem;

(b) Contribute one appropriate keyword to a group of keywords for a topic or problem, and use the keyword to conduct an electronic search;

(c) Work within a group to select research materials successfully;

(d) Identify an organizational tool and place information within a format;

(e) Participate in sharing his portion of the research with other members of his group; and

(f) Summarize the research process of the class and discuss the results of the research process.

3. In the area of tools and processes, pupils must be able to identify, apply and manage various concepts, tools and resources to evaluate their accuracy and appropriateness in solving problems and making decisions, as demonstrated by the ability of the pupil to:

(a) Identify tools and resources used in technology and computers;

(b) Regularly select and manipulate tools to use for tasks in the areas of technology and computers;

(c) Demonstrate the importance of safety while working with technology and computers; and

(d) Regularly resolve difficulties using tools or devices, with practice guided by a teacher.

4. In the area of systems, pupils must be able to recognize that systems are made up of individual components and that each component affects the operation of the entire system and its relationship with other systems, as demonstrated by the ability of the pupil to:

(a) List the parts of an open and a closed loop system;

(b) Given a system, explain how the parts of that system work together to achieve a desired outcome; and

(c) List and group technological systems, including, without limitation, construction, energy, power, transportation, biotechnology and manufacturing.

5. In the area of implications of technology and computers on society, pupils must be able to evaluate the impact and ethical implications of technology and computers on persons, society and the environment, as demonstrated by the ability of the pupil to:

(a) Discuss common uses of technology in daily life and the advantages and disadvantages provided by those uses of technology;

(b) Explain computer piracy and its implications;

(c) Use proper etiquette when using electronic communications;

(d) Identify changes in the school environment and in the community that are a result of technology;

(e) With the assistance of a teacher, list several careers which currently exist that were not in existence when the pupil was born; and

(f) Explain how physical environments are changed by human activity through technology.

NAC 389.2948 Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the fifth grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction in the fifth grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the fifth grade:

1. To develop the ability to use productivity tools, pupils must be able to use appropriate productivity tools, including, without limitation, word processing, spreadsheets, databases, multimedia and telecommunications, as demonstrated by the ability of the pupil to:

(a) Demonstrate and use correct finger placement for basic keyboarding skills;

(b) Use basic formatting techniques on a computer, including, without limitation, selection of the font type, size and color;

(c) Use the tools of a computer to edit a composed document, including, without limitation, spell check;

(d) Include a graphic in a document;

(e) Print a document;

(f) Create a database using predefined fields, such as listing fields and formulas for an entry in a database or spreadsheet;

(g) Enter data for multiple records;

(h) Print reports based on sort and query, such as searching for certain criteria in a specified field;

(i) Under the guidance of a teacher or media specialist, construct a spreadsheet;

(j) Create a multimedia document or presentation to organize and present an idea using text, graphics or sounds, or any combination thereof;

(k) Describe and use the file management system of a computer;

(l) Explain the differences between data files, program files and operating system files;

(m) Describe access privileges and demonstrate the process of obtaining access where possible;

(n) Identify a local area network, or LAN;

(o) Explain the uses of electronic communication devices; and

(p) Define distance learning, telecommuting and teleconferencing.

2. In the area of tools used for research, pupils must be able to use various tools of technology to research information and evaluate the accuracy and appropriateness of the information to solve problems and make decisions, as demonstrated by the ability of the pupil to:

(a) With the direction of a teacher or a media specialist:

(1) Individually select a research topic or define a problem, give a possible outcome of the research of the topic or problem, and list available tools of technology that can be used;

(2) Generate a list of keywords to conduct an electronic search; and

(3) Explore hyperlinks to select and evaluate information useful to the research of a topic or problem;

(b) While working in a group, identify a tool for organizing the research of a topic or problem, and place information within a format;

(c) Demonstrate an understanding of intellectual property, and identify the source and content of information collected;

(d) Collaboratively list sources used to research a topic or problem; and

(e) With the direction of a teacher or a media specialist, summarize the research process and evaluate its outcome.

3. In the area of tools and processes, pupils must be able to identify, apply and manage various concepts, tools and resources to evaluate their accuracy and appropriateness in solving problems and making decisions, as demonstrated by the ability of the pupil to:

(a) List technological resources, including, without limitation, people, information, materials, machines, energy, effort, capital resources and time;

(b) Demonstrate the use of tools and materials to design or develop products or projects;

(c) Select and demonstrate the safe use of tools; and

(d) Identify situations where incorrect, inoperable or inappropriate tools are being used and cooperatively take appropriate actions to correct such situations.

4. In the area of systems, pupils must be able to recognize that systems are made up of individual components and that each component affects the operation of the system and its relationship with other systems, as demonstrated by the ability of the pupil to:

(a) List the parts of open, closed, simple, complex, micro and macro systems;

(b) Cooperatively identify resources necessary to achieve a desired outcome; and

(c) Given a multitude of systems, including, without limitation, open, closed, macro, micro, simple and complex systems, sort the systems according to the type and level of the system.

5. In the area of implications of technology and computers on society, pupils must be able to evaluate the impact and ethical implications of technology and computers on persons, society and the environment, as demonstrated by the ability of the pupil to:

(a) Explain how a given object was developed to meet a human need or desire;

(b) Communicate the positive or negative outcomes of technology;

(c) Compare and contrast the technological developments within a given career; and

(d) Discuss changes in information technologies and the effect that these changes have on the workplace and society.

NAC 389.3905 Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the eighth grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction in the

eighth grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the eighth grade:

    1. To develop the ability to solve problems, pupils must be able to use problem-solving processes and resources to reach a desired outcome, as demonstrated by the ability of the pupil to:
    (a) Describe more than one design or problem-solving method;
    (b) Select an appropriate design or problem-solving method; and
    (c) Generate a desired outcome using a design or problem-solving method.
    2. To develop the ability to use productivity tools, pupils must be able to use appropriate productivity tools, including, without limitation, word processing, spreadsheets, databases, multimedia and telecommunications, as demonstrated by the ability of the pupil to:
    (a) Demonstrate proficiency and accuracy in keyboarding skills;
    (b) Type, edit and print a document;
    (c) Use advanced formatting techniques, including, without limitation, margins, line spacing and tabs;
    (d) Import graphics with appropriate placement into a document;
    (e) Search for and replace text within a document;
    (f) Create a database, define fields and enter data for multiple records;
    (g) Develop a spreadsheet that includes, without limitation, labels, values, formulas and functions;
    (h) Create a chart that visually represents data;
    (i) Print a spreadsheet showing the formulas used in the spreadsheet;
    (j) Create a multipage, multimedia presentation using text, graphics and sound to communicate a concept effectively;
    (k) Organize files on a computer disc, hard drive, server or other storage device;
    (l) Explain how:
        (1) A local area network, or LAN;
        (2) An Intranet; and
        (3) The Internet,
    operates when compared to a stand-alone system;
    (m) Use an available electronic communication device, including, without limitation, e-mail, a facsimile machine, a telephone and a two-way radio; and
    (n) Explain the advantages of connectivity for sharing information and resources.
    3. In the area of tools used for research, pupils must be able to use various tools of technology to research information and evaluate the accuracy and appropriateness of the information to solve problems and make decisions, as demonstrated by the ability of the pupil to:
    (a) With the assistance of a teacher or media specialist, select a research topic or develop a statement of a problem, and identify the elements, scope and expected outcome of the research on the topic or problem;
    (b) Independently generate a list of keywords to conduct a search using electronic-based sources;
    (c) Use hyperlinks to explore additional possible sources of information when collecting information;
    (d) Place information within an organizational format;
    (e) Demonstrate an understanding of intellectual property by citing sources of copyrighted materials in papers, projects and multimedia;

(f) Analyze selected information for reliability, authenticity and timeliness;

(g) Contribute to generating a standard bibliography while working within a group; and

(h) Independently list the steps of the process of the research and judge the outcome of the research.

4. In the area of tools and processes, pupils must be able to identify, apply and manage various concepts, tools and resources to evaluate their accuracy and appropriateness in solving problems and making decisions, as demonstrated by the ability of the pupil to:

(a) List the tools and resources needed to solve a problem in a technology or computer area;

(b) Demonstrate the proper use of tools, instrumentation, equipment, materials and processes while fabricating models, designs, simulations and prototypes;

(c) Given a situation, describe or define the correct use of tools, processes and materials in diverse technology and computer applications; and

(d) Correctly operate and perform appropriate maintenance on technology tools.

5. In the area of systems, pupils must be able to recognize that systems are made up of individual components and that each component affects the operation of the system and its relationship with other systems, as demonstrated by the ability of the pupil to:

(a) List resources necessary to achieve a desired outcome;

(b) Describe how the output of one system could be the input for another system;

(c) Given the systems in the area of technology, determine how those systems are controlled to achieve a desired outcome; and

(d) Select and use an appropriate system to achieve a given outcome.

6. In the area of implications of technology and computers on society, pupils must be able to evaluate the impact and ethical implications of technology and computers on persons, society and the environment, as demonstrated by the ability of the pupil to:

(a) Practice legal and ethical behaviors when using information and technology, and discuss the consequences of misusing such information and technology;

(b) Describe how technology is affecting society and the environment;

(c) Discuss the impact of technology on career options; and

(d) Demonstrate that people control technology and are responsible for the effects of technology.

NAC 389.505 Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the 12th grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction in the 12th grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the 12th grade:

1. To develop the ability to solve problems, pupils must be able to use problem-solving processes and resources to reach a desired outcome, as demonstrated by the ability of the pupil to:

(a) Compare and contrast a variety of approaches to problem solving;

(b) When given a problem, effectively design a method for solving the problem; and

(c) Create, with technical accuracy, designs or models for solving problems in one of the following areas of technology:

(1) Energy, power and transportation;

(2) Communications;

(3) Construction; and

(4) Manufacturing.

2. To develop the ability to use productivity tools, pupils must be able to use appropriate productivity tools, including, without limitation, word processing, spreadsheets, databases, multimedia and telecommunications, as demonstrated by the ability of the pupil to:

(a) Type a multipage word processing document that is correctly formatted, including, without limitation, using headers, footers, pagination, line spacing and margin settings;

(b) Use appropriate tools such as spell check and a thesaurus;

(c) Create a database, define fields and enter data for multiple records;

(d) Interpret reports based on data;

(e) Create and print a chart that visually represents data from a spreadsheet;

(f) Analyze the significance of the data that is included in a spreadsheet;

(g) Create and present a multipage, multimedia presentation using:

(1) Animation;

(2) Digital video; or

(3) Linking,

with text, graphics and sound;

(h) Identify the intended message of a multimedia presentation;

(i) Organize files on a computer disc, hard drive, server or other storage device;

(j) Compare and contrast:

(1) A local area network, or LAN;

(2) A wide area network, or WAN;

(3) An Intranet; and

(4) The Internet;

(k) Compare and analyze the appropriate uses of a variety of electronic communications; and

(l) Locate and evaluate sources of distance learning, telecommuting and teleconferencing.

3. In the area of tools used for research, pupils must be able to use various tools of technology to research information and evaluate the accuracy and appropriateness of the information to solve problems and make decisions, as demonstrated by the ability of the pupil to:

(a) State a research topic or problem and list the elements, limits and expected outcomes of the research on the topic or problem;

(b) Independently generate a list of keywords for a research topic or problem, with qualifying modifiers to narrow a search of electronic-based resources;

(c) Using a variety of search strategies, use hyperlinks to select information;

(d) Select an organizational tool and accurately place collected information within a format to aid in making a decision;

(e) Create a standard bibliography or work-cited page; and

(f) Complete a rubric for the evaluation of the results of the research of a topic or problem.

4. In the area of tools and processes, pupils must be able to identify, apply and manage various concepts, tools and resources to evaluate their accuracy and appropriateness in solving problems and making decisions, as demonstrated by the ability of the pupil to:

(a) Conduct research in an area related to computers or technology, and explain how new tools, materials and processes are necessary to maintain and improve high productivity and quality;

(b) Use tools, with minimal direction, to produce solutions in an area related to computers or technology;

(c) Select the correct tool and process to complete a task; and

~~(d) Under the supervision of a teacher or media specialist, correct nonfunctioning technology systems.~~
~~5. In the area of systems, pupils must be able to recognize that systems are made up of individual components and that each component affects the operation of the entire system and its relationship with other systems, as demonstrated by the ability of the pupil to:~~
~~(a) Explain the evolution of a given system or process;~~
~~(b) Design a model of a system to produce a desired outcome; and~~
~~(c) Given a system, identify possible ways to improve the product, productivity or management, or any combination thereof, generated by the system.~~
~~6. In the area of implications of technology and computers on society, pupils must be able to evaluate the impact and ethical implications of technology and computers on persons, society and the environment, as demonstrated by the ability of the pupil to:~~
~~(a) Compare and contrast the impacts of new products and services on the quality of life;~~
~~(b) Given a specific technology, determine possible outcomes from the use of the technology and the acceptability of those outcomes;~~
~~(c) Develop a career plan; and~~
~~(d) Discuss the advantages and disadvantages of widespread use of and reliance on technology in the workplace and in society as a whole.]~~

New Section Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the second grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction in the second grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the second grade:

1. *Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.*
   a. *Apply existing knowledge to generate new ideas, products or processes.*
      i. *Use digital tools to brainstorm and organize new ideas.*
   b. *Create original works as a means of personal or group expression.*
      i. *Create an original work using a variety of digital tools as a means of personal or group expression.*
   c. *Use models and simulations to explore complex systems and issues.*
      i. *Use digital models and simulations with teacher assistance.*
   d. *Identify trends and forecast possibilities.*
      i. *Identify patterns and predict possibilities with classroom data using digital tools.*
2. *Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.*
   a. *Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.*
      i. *Work in classroom groups to create and publish digital products.*
   b. *Communicate information and ideas effectively to multiple audiences using a variety of media and formats.*

        i.   *Communicate information and ideas to peers and parents using digital text and illustrations.*

   c. *Develop cultural understanding and global awareness by engaging with learners of other cultures.*

        i.   *Use digital resources to learn about places, people, celebrations, and maps.*

   d. *Contribute to project teams to produce original works or solve problems.*

        i.   *Work in a team to solve problems using digital tools.*

3. *Students apply digital tools to gather, evaluate, and use information*

   a. *Plan strategies to guide inquiry.*

        i.   *Determine steps to answer a question using digital tools.*

   b. *Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.*

        i.   *Identify and organize keywords and use multiple sources used to answer an essential question.*

   c. *Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.*

        i.   *Recognize that different information sources and digital tools are appropriate for different tasks.*

   d. *Process data and report results.*

        i.   *Collect and display data using a variety of technology resources and report results.*

4. *Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.*

   a. *Identify and define authentic problems and significant questions for investigation.*

        i.   *Investigate an authentic problem using digital resources.*

   b. *Plan and manage activities to develop a solution or complete a project.*

        i.   *Use a digital planning tool.*

   c. *Collect and analyze data to identify solutions and/or make informed decisions.*

        i.   *Use data to answer an authentic problem using digital tools.*

   d. *Use multiple processes and diverse perspectives to explore alternative solutions.*

        i.   *Explore alternative solutions to and diverse perspectives on authentic problems using digital tools.*

5. *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*

   a. *Advocate and practice safe, legal, and responsible use of information and technology.*

        i.   *List classroom rules of safe technology use.*

        ii.   *List potential dangers in digital environments and how to report potentially unsafe situations.*

   b. *Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.*

        i.   *Use technologies in learning activities.*

   c. *Demonstrate personal responsibility for lifelong learning.*

      i.   Describe how technology can enhance learning.
   d.   Exhibit leadership for digital citizenship.
      i.   Describe the meaning and responsibilities of digital citizenship.
6. *Students demonstrate a sound understanding of technology concepts, systems, and operations.*
   a.   Understand and use technology systems.
      i.   List examples of technology tools.
      ii.   Use proper beginning keyboarding techniques
   b.   Select and use applications effectively and productively.
      i.   Navigate age-appropriate software.
   c.   Troubleshoot systems and applications.
      i.   Demonstrate proper care of equipment.
   d.   Transfer current knowledge to learning of new technologies.
      i.   Use routine procedures in classroom technology tools.

New Section Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the fifth grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction in the fifth grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the fifth grade:

1. *Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.*
   a.   Apply existing knowledge to generate new ideas, products or processes.
      i.   Process new ideas based on existing knowledge to brainstorm solutions to an authentic problem using digital tools.
   b.   Create original works as a means of personal or group expression.
      i.   Create an original, digital work as a form of personal or group expression with minimal teacher support.
   c.   Use models and simulations to explore complex systems and issues.
      i.   Use digital models and simulations to explore complex systems and issues.
   d.   Identify trends and forecast possibilities.
      i.   Identify and represent trends and make predictions using classroom data.
2. *Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.*
   a.   Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
      i.   Collaborate to create and publish digital products to share beyond the classroom.
   b.   Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
      i.   Communicate information and ideas using digital text, images, and sound.
      ii.   Describe appropriate media and formats for specific audiences.

   c. Develop cultural understanding and global awareness by engaging with learners of other cultures.
     i. Use digital resources to research about places, people, and world cultures.
   d. Contribute to project teams to produce original works or solve problems.
     i. Contribute to a group production of an original digital work.
     ii. Describe a variety of ways to interact and contribute to a digital product.
3. *Students apply digital tools to gather, evaluate, and use information.*
   a. Plan strategies to guide inquiry.
     i. Use digital tools to plan a timeline and track progress for a research project.
   b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
     i. Use keywords to search, organize, locate, and synthesize information in multiple sources to create an original product.
     ii. Explain the importance of using more than one source and recognize possible bias in digital resources.
   c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
     i. Discern between facts and opinions in digital content.
     ii. Select and use a digital tool appropriate to a task.
   d. Process data and report results.
     i. Collect, organize, analyze and manipulate data using digital tools and report results in a format appropriate to the task.
4. *Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.*
   a. Identify and define authentic problems and significant questions for investigation.
     i. Create essential questions to guide investigation of an authentic problem using digital resources.
   b. Plan and manage activities to develop a solution or complete a project.
     i. Plan and manage projects using a digital planning tool.
   c. Collect and analyze data to identify solutions and/or make informed decisions.
     i. Propose a solution to an authentic problem using collected data and digital tools and.
   d. Use multiple processes and diverse perspectives to explore alternative solutions.
     i. Explore alternative solutions to and diverse perspectives on authentic problems and propose a solution using digital tools.
5. *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*
   a. Advocate and practice safe, legal, and responsible use of information and technology.
     i. Describe codes of conduct for using technology at school and the consequences for breaking those rules.

Agency Draft of Proposed Regulation R008-10

       b. *Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.*
           i. *Use technology resources for problem solving, self-directed learning, collaboration, and extended learning activities.*
       c. *Demonstrate personal responsibility for lifelong learning.*
           i. *Describe the need for life-long learning in a dynamic, global world.*
       d. *Exhibit leadership for digital citizenship.*
           i. *Explain the concepts of digital etiquette, access, and literacy and the personal and societal responsibilities attached to each.*

5. *Students demonstrate a sound understanding of technology concepts, systems, and operations.*
       a. *Understand and use technology systems.*
           i. *Give examples of technology systems.*
           ii. *Demonstrate appropriate keyboarding skills.*
       b. *Select and use applications effectively and productively.*
           i. *Select appropriate digital tools for learning activities.*
       c. *Troubleshoot systems and applications.*
           i. *Analyze and apply given strategies for solving routine hardware and software problems.*
       d. *Transfer current knowledge to learning of new technologies.*
           i. *Generalize routine procedures across a variety of technologies.*

New Sections Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the eighth grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction in the eighth grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the eighth grade:

1. *Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.*
       a. *Apply existing knowledge to generate new ideas, products or processes.*
           i. *Apply existing knowledge to independently generate new ideas, products, or processes with digital tools.*
       b. *Create original works as a means of personal or group expression.*
           i. *Create an original, digital work as a form of personal or group expression.*
       c. *Use models and simulations to explore complex systems and issues.*
           i. *Use digital models and simulations to answer questions or to solve problems.*
       d. *Identify trends and forecast possibilities.*
           i. *Use technology to track trends and predict possibilities using evidence, experiments, and collaboration to justify their predictions.*

2. *Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.*
       a. *Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.*

Agency Draft of Proposed Regulation R008-10

       i.   *Collaborate to create and publish digital products for authentic audiences in a variety of digital environments.*

   b.   *Communicate information and ideas effectively to multiple audiences using a variety of media and formats.*

       i.   *Communicate using digital text, images, sound, and video.*

       ii.   *Create digital products in formats appropriately targeted to specific audiences or purposes.*

   c.   *Develop cultural understanding and global awareness by engaging with learners of other cultures.*

       i.   *Use digital resources to communicate with peers and others from a variety of cultures and places.*

   d.   *Contribute to project teams to produce original works or solve problems.*

       i.   *Contribute to project teams to produce original works or solve problems.*

       ii.   *Choose a method of electronically interacting for a specific goal or purpose.*

3. *Students apply digital tools to gather, evaluate, and use information.*

   a.   *Plan strategies to guide inquiry.*

       i.   *Use digital tools to plan and organize research-based inquiry.*

       ii.   *Use digital tools to plan a timeline, track progress, and cite sources for a research project.*

   b.   *Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.*

       i.   *Use advances search techniques to locate, access, synthesize, and evaluate information in multiple sources to create an original product.*

       ii.   *Use digital tools to organize information with main ideas and supporting documentation.*

   c.   *Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.*

       i.   *Evaluate and compare facts and opinions in digital content sources and describe the point of view..*

       ii.   *Select and justify using appropriate digital resources to accomplish a variety of tasks.*

   d.   *Process data and report results.*

       i.   *Use multiple digital tools to collect and process data to test theories and hypotheses.*

       ii.   *Use a variety of formats to report results and evaluate the strengths and weaknesses of different reporting formats.*

4. *Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.*

   a.   *Identify and define authentic problems and significant questions for investigation.*

       i.   *Identify a problem and create essential questions that guide investigation of an authentic problem using digital resources.*

   b.   *Plan and manage activities to develop a solution or complete a project.*

       i.   *Select and use appropriate digital planning tools to complete a project..*

Agency Draft of Proposed Regulation R008-10

      c. *Collect and analyze data to identify solutions and/or make informed decisions.*
         i. *Use data, examine patterns, and research an authentic problem using digital tools and present a solution.*
      d. *Use multiple processes and diverse perspectives to explore alternative solutions.*
         i. *Use multiple processes to explore alternative solutions and diverse perspectives on authentic problems and present a solution using digital tools.*

5. *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*
      a. *Advocate and practice safe, legal, and responsible use of information and technology.*
         i. *Model legal and ethical behaviors when using information and technology including properly selecting, acquiring, and citing resources.*
         ii. *Develop an argument for using technology resource safely, legally, and responsibly.*
      b. *Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.*
         i. *Explain the value of existing and emerging technologies on individuals, society, and the global community.*
      c. *Demonstrate personal responsibility for lifelong learning.*
         i. *Assess the potential of current and emerging technologies to address personal, social, lifelong learning, and career needs.*
      d. *Exhibit leadership for digital citizenship.*
         i. *Describe principles of leadership and ways to responsibly use current and emerging technologies to foster leadership skills.*

6. *Students demonstrate a sound understanding of technology concepts, systems, and operations.*
      a. *Understand and use technology systems.*
         i. *Explain uses for and advantages of technology systems.*
         ii. *Demonstrate keyboarding skills by completing a variety of productivity assignment in a timely manner.*
      b. *Select and use applications effectively and productively.*
         i. *Select and justify the use of digital tools and resources to accomplish a variety of tasks.*
      c. *Troubleshoot systems and applications.*
         i. *Develop and apply strategies for solving common hardware and software problems.*
      d. *Transfer current knowledge to learning of new technologies.*
         i. *Apply existing knowledge of technology to a current or emerging technology to answer an authentic question.*

New Section Technology and computers. (NRS 385.080, 385.110, 389.0185, 389.520) By the end of the twelfth grade, pupils must know and be able to do everything required in the previous grades for courses in technology and computers offered in public schools. Instruction

in the twelfth grade in technology and computers must be designed so that pupils meet the following performance standards by the completion of the twelfth grade:

1. *Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.*
   a. *Apply existing knowledge to generate new ideas, products or processes.*
      i. *Apply new and existing knowledge to independently, or in collaboration with others, generate new ideas, products, or processes with digital tools.*
   b. *Create original works as a means of personal or group expression.*
      i. *Create an original work using digital tools, including planning, research, editing, and production.*
   c. *Use models and simulations to explore complex systems and issues.*
      i. *Develop digital models and simulations to answer questions or to solve problems.*
   d. *Identify trends and forecast possibilities.*
      i. *Use technology to research, conduct, and report experimental data, to determine trends and possibilities using evidence to justify their predictions.*

2. *Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.*
   a. *Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.*
      i. *Collaborate electronically with peers, experts and others to create and publish digital products for authentic audiences.*
   b. *Communicate information and ideas effectively to multiple audiences using a variety of media and formats.*
      i. *Create digital text, images, sound, and video for use in communication.*
      i. *Critique appropriateness of digital formats for audiences and purposes.*
   c. *Develop cultural understanding and global awareness by engaging with learners of other cultures.*
      i. *Interact electronically with culturally diverse groups for specific purposes.*
   d. *Contribute to project teams to produce original works or solve problems.*
      i. *Choose a method of electronically interacting for a specific goal or purpose.*

3. *Students apply digital tools to gather, evaluate, and use information.*
   a. *Plan strategies to guide inquiry.*
      i. *Use digital tools to plan and organize research-based inquiry.*
      ii. *Use digital tools to plan a timeline, track progress, and cite sources for a research project.*
   b. *Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.*
      i *Use advances search techniques to locate, access, synthesize, and evaluate information in multiple sources to create an original product for an authentic audience.*
      ii. *Use digital tools to organize information with main ideas and supporting documentation.*
   c. *Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.*

   i. Use digital resources to assemble and evaluate facts, opinions, and points of view appropriate to the task.
   ii. Evaluate peers' use of resources appropriate to a task.
  d. Process data and report results.
   i Use multiple digital tools to analyze data and critique theories and hypotheses.
   i. Evaluate and justify the formats for reporting results to a variety of audiences.
4. *Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.*
  a. Identify and define authentic problems and significant questions for investigation.
   i. Identify a complex issue, develop a systematic plan of investigation, and present innovative solutions.
  b. Plan and manage activities to develop a solution or complete a project.
   i. Analyze the capabilities and limitations of several different digital planning tools for developing solutions or for completing a project..
  c. Collect and analyze data to identify solutions and/or make informed decisions.
   i. Select and apply digital tools to collect, organize and analyze data to evaluate theories or test hypotheses.
  d. Use multiple processes and diverse perspectives to explore alternative solutions.
   i. Use multiple processes and consider diverse perspectives to derive original solutions to authentic problems using digital resources and assess their potential to address social, lifelong learning, and career needs.
5. *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*
  a. Advocate and practice safe, legal, and responsible use of information and technology.
   i Articulate the concepts and issues revolving around intellectual and digital property rights.
   ii. Compare the similarities and differences between acceptable use of technology resources in school and work environments.
  b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
   i Extrapolate how technology will impact collaboration, learning, and productivity of post-secondary life and career.
  c. Demonstrate personal responsibility for lifelong learning.
   i Analyze the capabilities and limitations of current and emerging technologies and assess their potential to address personal, social, lifelong learning, and career needs.
  d. Exhibit leadership for digital citizenship.
   Model digital citizenship while leading a group of peers through a collaborative project using current and emerging technologies.
6. *Students demonstrate a sound understanding of technology concepts, systems, and operations.*
  a. Understand and use technology systems.
   i Describe the components of technology systems and how they interact.
  b. Select and use applications effectively and productively.
   i Critique the selection of digital tools, based on efficiency and effectiveness.
  c. Troubleshoot systems and applications.

> > > *i*   *Analyze and troubleshoot common hardware and software issues to optimize learning and productivity.*
> > *d.*   *Transfer current knowledge to learning of new technologies.*
> > > *i*   *Analyze the capabilities and limitations of current and emerging technologies based on their potential to address personal learning and career needs, as well as societal issues.*

Agency Draft of Proposed Regulation R008-10