

REGIONAL TECHNOLOGY CURRICULUM GUIDE

DEVELOPED BY AND FOR:

**THE REGIONAL DISTRICTS OF
FRANKFORD, LAFAYETTE, AND
SUSSEX-WANTAGE SCHOOLS**

2007

TABLE OF CONTENTS

	Page
Credits.....	1
Philosophy.....	2
Implementation.....	3
Assessment.....	4
Technology Standards.....	5
Instructional Units	
Pre-Kindergarten & Kindergarten.....	12
Grade 1.....	15
Grade 2.....	18
Grade 3.....	21
Grade 4.....	25
Grade 5.....	29
Grade 6.....	34
Grade 7.....	39
Grade 8.....	44
Grade 9 (High Point Regional High School) Technology Courses.....	49
Appendix –Technology Terms.....	51

CREDITS

*Grateful recognition is made to
the following individuals
for their level of expertise and
dedicated work:*

Dorothy Caufield, Ann Cook, Barbara Klinck,
Diane Lungaro – Sussex Wantage

Maureen Drake, Craig Lubey, Steve Salvesten,
Jessica Tryde – Frankford

Theresa Butler, Patty Erhardt, Michael Herzenburg,
Tom Shuman – Lafayette

**Appreciation to the following for
their
organization and guidance:**

Susan Petrick – Sussex Wantage
Genene Pagliaro – Lafayette & Frankford

PHILOSOPHY

Technology is evolving at an amazing rate, with both frequent advancements of existing technology and the creation of new technologies. All students must be provided with the knowledge and expertise to foster success with the concepts and application of technology, not only in order to function in today's complex society, but also to become informed and productive adults of tomorrow.

The technology curriculum has been created to provide students with the skills and knowledge necessary for them to integrate technology as part of their everyday learning and living. This curriculum guide is aligned with the New Jersey Core Curriculum Content Standards for Technological Literacy, which were developed to ensure the literacy needed by all students to succeed in a highly technological world. Early studies with design and technology curriculum indicate that students who learn important technological concepts develop positive attitudes about technology, math, science, and learning in general.

Referenced from NJ CCCS

IMPLEMENTATION

This curriculum has been developed utilizing the NJCCCS for Technological Literacy and the Technology Plan of 2007 – 2010, and is based on the projected resources that are expected to be available to the staff and students.

To effectively implement this Pre-K through Grade 8 curriculum, the following need to occur:

1. Professional development for all staff
2. Technology resources are accessible to all staff and students
3. Maintain upgrades of hardware and software to keep pace with technological advances
4. Cross curricular collaboration

The classroom teachers, media specialists, and computer technology educators address 8.1 and 8.2 Technological Literacy skills in all areas of the curriculum. This curriculum is designed to be implemented across all grade levels and subject areas through integration and direct instruction.

ASSESSMENT

Assessment should be ongoing throughout the year. Teachers should observe student achievement both informally and formally. Assessment options may include:

- Rubrics
- Checklist
- Projects
- Performance tasks
- Self-evaluation
- Surveys

Assessment should be refined as the curriculum evolves.

Technology Curriculum

New Jersey Standards and Strands

There are two technological literacy standards, each of which has a number of lettered strands. The standards and strands include:

8.1 Computer and Information Literacy

A. Basic Computer Tools and Skills

- Keyboarding
- Word processing
- Internet usage
- Spreadsheets
- Database concepts and usage
- Publications and presentations

B. Application of Productivity Tools

- Social Aspects
- Information Access and Research
- Problem Solving

8.2 Technology Education

A. Nature and Impact of Technology

B. Design Process and Impact Assessment

C. Systems in the Designed World

References

American Library Association and Association for Educational Communications and Technology. (1998), *Information literacy standards for student learning*. Online: http://www.ala.org/aaslTemplate.cfm?Section=Information_Power&Template=/ContentManagement/ContentDisplay.cfm&ContentID=19937.

Arizona Department of Education. (2000). *Technology education standards*. Online: <http://ade.state.az.us/standards/technology>.

International Society for Technology in Education. (1998). *National educational technology standards for students*. Eugene, OR: Author.

International Society for Technology in Education. (2000). *Standards for technological literacy (STL): Content for the Study of Technology*. Online: www.iteawww.org.

National Business Education Association. (2001). *National standards for business education*. Online: <http://www.nbea.org/curriculum/bes.html>.

STANDARD 8.1 (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

Descriptive Statement: Using computer applications and technology tools students will conduct research, solve problems, improve learning, achieve goals, and produce products and presentations in conjunction with standards in all content areas, including career education and consumer family, and life skills. They will also develop, locate, summarize, organize, synthesize, and evaluate information for lifelong learning.

Strands and Cumulative Progress Indicators

By the end of Grade 4, students will:

A. Basic Computer Skills and Tools

1. Use basic technology vocabulary.
2. Use basic features of an operating system (e.g., accessing programs, identifying and selecting a printer, finding help).
3. Input and access text and data, using appropriate keyboarding techniques or other input devices.
4. Produce a simple finished document using word processing software.
5. Produce and interpret a simple graph or chart by entering and editing data on a prepared spreadsheet template.
6. Create and present a multimedia presentation using appropriate software.
7. Create and maintain files and folders.
8. Use a graphic organizer.
9. Use basic computer icons.

B. Application of Productivity Tools

Social Aspects

1. Discuss the common uses of computer applications and identify their advantages and disadvantages.
2. Recognize and practice responsible social and ethical behaviors when using technology, and understand the consequences of inappropriate use including:
 - Internet access
 - Copyrighted materials
 - On-line library resources
 - Personal security and safety issues
3. Practice appropriate Internet etiquette.
4. Recognize the ethical and legal implications of plagiarism of copyrighted materials.

Information Access and Research

5. Recognize the need for accessing and using information.
6. Identify and use web browsers, search engines, and directories to obtain information to solve real world problems.
7. Locate specific information by searching a database.

8. Recognize accuracy and/or bias of information.

Problem Solving and Decision Making

9. Solve problems individually and/or collaboratively using computer applications.

10. Identify basic hardware problems and solve simple problems.

Building upon knowledge and skills gained in preceding grades, by the end of Grade 8, students will:

A. Basic Computer Skills and Tools

1. Use appropriate technology vocabulary.

2. Use common features of an operating system (e.g., creating and organizing files and folders).

3. Demonstrate effective input of text and data, using touch keyboarding with proper technique.

4. Input and access data and text efficiently and accurately through proficient use of other input devices, such as the mouse.

5. Create documents with advanced text-formatting and graphics using word processing.

6. Create a file containing customized information by merging documents.

7. Construct a simple spreadsheet, enter data, and interpret the information.

8. Design and produce a basic multimedia project.

9. Plan and create a simple database, define fields, input data, and produce a report using sort and query.

10. Use network resources for storing and retrieving data.

11. Choose appropriate electronic graphic organizers to create, construct, or design a document.

12. Create, organize and manipulate shortcuts.

B. Application of Productivity Tools

Social Aspects

1. Demonstrate an understanding of how changes in technology impact the workplace and society.

2. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.

3. Explain the purpose of an Acceptable Use Policy and the consequences of inappropriate use of technology.

4. Describe and practice safe Internet usage.

5. Describe and practice "etiquette" when using the Internet and electronic mail.

Information Access and Research

6. Choose appropriate tools and information resources to support research and solve real world problems, including but not limited to:

- On-line resources and databases
- Search engines and subject directories

7. Evaluate the accuracy, relevance, and appropriateness of print and non-print electronic information sources.

Problem Solving and Decision Making

8. Use computer applications to modify information independently and/or collaboratively to solve problems.
9. Identify basic hardware problems and demonstrate the ability to solve common problems.
10. Determine when technology tools are appropriate to solve a problem and make a decision.

Building upon knowledge and skills gained in preceding grades, by the end of Grade 12, students will:

A. Basic Computer Skills and Tools

1. Create a multi-page document with citations using word processing software in conjunction with other tools that demonstrates the ability to format, edit, and print.
2. Create documents including a resume and a business letter using professional format.
3. Construct a spreadsheet, enter data, use mathematical or logical functions to manipulate and process data, generate charts and graphs, and interpret the results.
4. Given a database, define fields, input data from multiple records, produce a report using sort and query, and interpret the data.
5. Produce a multimedia project using text, graphics, moving images, and sound.
6. Produce and edit page layouts in different formats using desktop publishing and graphics software.
7. Develop a document or file for inclusion into a website or web page.
8. Discuss and/or demonstrate the capability of emerging technologies and software in the creation of documents or files.
9. Merge information from one document to another.

B. Application of Productivity Tools

Social Aspects

1. Describe the potential and implications of contemporary and emerging computer applications for personal, social, lifelong learning, and workplace needs.
2. Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.
3. Make informed choices among technology systems, resources, and services in a variety of contexts.
4. Use appropriate language when communicating with diverse audiences using computer and information literacy.

Information Access and Research

5. Select and use specialized databases for advanced research to solve real world problems.
6. Identify new technologies and other organizational tools to use in personal, home, and/or work environments for information retrieval, entry, and presentation.
7. Evaluate information sources for accuracy, relevance, and appropriateness.
8. Compose, send, and organize e-mail messages with and without attachments.

Problem-Solving and Decision Making

9. Create and manipulate information, independently and/or collaboratively, to solve problems and design and develop products.
10. Identify, diagnose, and suggest solutions for non-functioning technology systems.
11. Identify a problem in a content area and formulate a strategy to solve the problem using brainstorming, flowcharting, and appropriate resources.
12. Integrate new information into an existing knowledge base and communicate the results in a project or presentation.

STANDARD 8.2 (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

Descriptive Statement: The following indicators are based on the Standards for Technological Literacy (STL, 2000) and support the National Academy of Engineering's (2002) call for students to gain technological literacy. Students will be expected to understand the various facets of technology and the design process. They will analyze and evaluate design options and then apply the design process to solve problems. A systems perspective is employed to emphasize the interconnectedness of all knowledge and the impact of technology and technological change. Students will be expected to use technology as it applies to physical systems, biological systems, and information and communication systems. The intent at the elementary and middle school levels is that all students develop technological literacy and are prepared for the option of further study in the field of technology education. At the elementary level, the foundation for technology education is found in the science standards, particularly standards 5.2 and 5.4.

Strands and Cumulative Progress Indicators

By the end of Grade 4, students will:

A. Nature and Impact of Technology

Refer to Science Standards 5.2 and 5.4.

B. Design Process and Impact Assessment

Refer to Science Standards 5.2 and 5.4.

C. Systems in the Designed World

Refer to Science Standards 5.2 and 5.4.

Building upon knowledge and skills gained in the preceding grades, by the end of Grade 8, students will:

A. Nature and Impact of Technology

1. Describe the nature of technology and the consequences of technological activity.

2. Describe how components of a technological product, system, or environment interact.
3. Describe how one technological innovation can be applied to solve another human problem that enhances human life or extends human capability.
4. Describe how technological activity has an affect on economic development, political actions, and cultural change.
5. Explain the cultural and societal effects resulting from the dramatic increases of knowledge and information available today.

B. Design Process and Impact Assessment

1. Demonstrate and explain how the design process is not linear.
2. Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.
3. Identify a technological problem and use the design process to create an appropriate solution.
4. Describe how variations in resources can affect solutions to a technological problem.
5. Select and safely use appropriate tools and materials in analyzing, designing, modeling or making a technological product, system or environment.

C. Systems in the Designed World

1. Explain technological advances in medical, agricultural, energy and power, information and communication, transportation, manufacturing, and construction technologies.
2. Explain reasons why human-designed systems, products, and environments need to be monitored, maintained, and improved to ensure safety, quality, cost efficiency, and sustainability.
3. Explain the functions and interdependence of subsystems such as waste disposal, water purification, electrical, structural, safety, climatic control, and communication.

Building upon knowledge and skills gained in preceding grades, by the end of Grade 12, students electing courses in technology education will:

A. Nature and Impact of Technology

1. Use appropriate data to discuss the full costs, benefits and trade-offs, and risks related to the use of technologies.
2. Explain how technological development is affected by competition through a variety of management activities associated with planning, organizing, and controlling the enterprise.
3. Provide various examples of how technological developments have shaped human history.

B. Design Process and Impact Assessment

1. Analyze a given technological product, system, or environment to understand how the engineering design process and design specification limitations influenced the final solution.
2. Evaluate the function, value, and appearance of technological products, systems, and environments from the perspective of the user and the producer.
3. Develop methods for creating possible solutions, modeling and testing solutions, and modifying proposed design in the solution of a technological problem using hands-on activities.
4. Use a computer assisted design (CAD) system in the development of an appropriate design solution.
5. Diagnose a malfunctioning product and system using appropriate critical thinking methods.

6. Create a technological product, system, or environment using given design specifications and constraints by applying design and engineering principles.

C. Systems in the Designed World

1. Explain the life cycle of a product from initial design to reuse, recycling, remanufacture, or final disposal, and its relationship to people, society, and the environment, including conservation and sustainability principles.
2. Analyze the factors that influence design of products, systems, and environments.
3. Compare and contrast the effectiveness of various products, systems, and environments associated with technological activities in energy, transportation, manufacturing, and information and communication.

TECHNOLOGY CURRICULUM

Pre-K and Kindergarten

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Computer Vocabulary	8.1.A.1 – Use basic technology vocabulary.	Teacher-created activities to introduce students to technology vocabulary such as mouse, speakers, keyboard, enter, space bar, monitor, point and click, CD-Rom, click and drag.
Computer Application	8.1.A.3 – Input and access text and data, using appropriate keyboarding techniques or other input devices.	Students will interact with developmentally appropriate software.

TECHNOLOGY CURRICULUM

Grades Kindergarten – 4

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
<p>STANDARD 8.2.4.A (NATURE AND IMPACT OF TECHNOLOGY)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	<p>Integrated through grade-level science curriculum.</p>
<p>STANDARD 8.2.4.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p>	

<p>questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	
<p>STANDARD 8.2.4.C (SYSTEMS IN THE DESIGNED WORLD)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	

Science Standards 5.2 and 5.4 are process standards and are developed and demonstrated through the instruction of the content standards.

TECHNOLOGY CURRICULUM

Grade 1

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Computer Vocabulary	8.1.A.1 – Use basic technology vocabulary.	Teacher-created activities to introduce students to technology vocabulary such as mouse, keyboard, enter, space bar, monitor, point and click, CD-Rom, click and drag, Internet, icon, shift key, printer, program, pointer.
Computer Application	8.1.A.3 – Input and access text and data, using appropriate keyboarding techniques or other input devices.	Students will interact with developmentally appropriate software.

***Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.**

TECHNOLOGY CURRICULUM

Grades Kindergarten – 4

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
<p>STANDARD 8.2.4.A (NATURE AND IMPACT OF TECHNOLOGY)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	<p>Integrated through grade-level science curriculum.</p>
<p>STANDARD 8.2.4.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p>	

<p>questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	
<p>STANDARD 8.2.4.C (SYSTEMS IN THE DESIGNED WORLD)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	

Science Standards 5.2 and 5.4 are process standards and are developed and demonstrated through the instruction of the content standards.

TECHNOLOGY CURRICULUM

Grade 2

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Basic Operating System	8.1.A.1 – Use basic technology vocabulary. 8.1.A.2 – Use basic features of an operating system (e.g., accessing programs, identifying and selecting a printer, finding help). 8.1.A.9 – Use basic computer icons.	Teacher-created activities to introduce students to technology vocabulary: mouse, keyboard, enter, space bar, monitor, point and click, CD-Rom, click and drag, Internet, icon, shift key, printer, program, pointer. Students will be able to launch programs, open, save, and print documents, double-click, use a cursor.
Keyboarding	8.1.A.3 – Input and access text and data, using appropriate keyboarding techniques or other input devices.	Students will learn keyboarding and vocabulary through instruction and use of developmentally appropriate keyboarding software.

*Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.

TECHNOLOGY CURRICULUM

Grades Kindergarten – 4

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
<p>STANDARD 8.2.4.A (NATURE AND IMPACT OF TECHNOLOGY)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	<p>Integrated through grade-level science curriculum.</p>
<p>STANDARD 8.2.4.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p>	

<p>questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	
<p>STANDARD 8.2.4.C (SYSTEMS IN THE DESIGNED WORLD)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	

Science Standards 5.2 and 5.4 are process standards and are developed and demonstrated through the instruction of the content standards.

TECHNOLOGY CURRICULUM

Grade 3

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Basic Operating System	8.1.A.2 – Use basic features of an operating system (e.g., accessing programs, identifying and selecting a printer, finding help). 8.1.A.9 – Use basic computer icons.	Students will be able to launch programs, open, save, and print documents, save to different locations, navigate between open windows, log on and off; students will be introduced to different disk drives.
Keyboarding	8.1.A.3 – Input and access text and data, using appropriate keyboarding techniques or other input devices.	Students will learn keyboarding and vocabulary through instruction and use of developmentally appropriate keyboarding software.
Word Processing	8.1.A.1 – Use basic technology vocabulary. 8.1.A.4 – Produce a simple finished document using word processing software.	Students will use word processing software to produce pieces of writing. Students will be introduced to inserting graphics, scrolling, cutting and pasting, minimizing, manipulating fonts, using tool bars and spell check, and highlighting.
Additional Software Applications	8.1.A.5 – Produce and interpret a simple graph or chart by entering and editing data on a prepared spreadsheet template. 8.1.A.8 – Use a graphic organizer.	Students will be introduced to graphic organizers and prepared spreadsheets.

<p>Application of Productivity Tools</p>	<p>8.1.B.2 – Recognize and practice responsible social and ethical behaviors when using technology, and understand the consequences of inappropriate use including:</p> <ul style="list-style-type: none"> • Internet access • Copyrighted materials • On-line library resources • Personal security and safety issues <p>8.1.B.3 – Practice appropriate Internet etiquette.</p> <p>8.1.B.4 – Recognize the ethical and legal implications of plagiarism of copyrighted materials.</p> <p>8.1.B.5 – Recognize the need for accessing and using information.</p> <p>8.1.B.7 – Locate specific information by searching a database.</p>	<p>Identify copyright symbol and understand its significance.</p> <p>Introduce students to appropriate Internet etiquette.</p> <p>Possible activity could be keypals.</p> <p>Utilize on-line catalog.</p>
---	--	---

***Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.**

TECHNOLOGY CURRICULUM

Grades Kindergarten – 4

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
<p>STANDARD 8.2.4.A (NATURE AND IMPACT OF TECHNOLOGY)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	<p>Integrated through grade-level science curriculum.</p>
<p>STANDARD 8.2.4.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p>	

<p>questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	
<p>STANDARD 8.2.4.C (SYSTEMS IN THE DESIGNED WORLD)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	

Science Standards 5.2 and 5.4 are process standards and are developed and demonstrated through the instruction of the content standards.

TECHNOLOGY CURRICULUM

Grade 4

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Basic Operating System	8.1.A.2 – Use basic features of an operating system (e.g., accessing programs, identifying and selecting a printer, finding help). 8.1.A.7 – Create and maintain files and folders. 8.1.A.9 – Use basic computer icons.	Students will be able to launch programs, open, save, and print documents, save to different locations, navigate between open windows, log on and off, identify different disk drives, create and maintain files and folders.
Keyboarding	8.1.A.3 – Input and access text and data, using appropriate keyboarding techniques or other input devices.	Students will learn keyboarding and vocabulary through instruction and use of developmentally appropriate keyboarding software.
Word Processing	8.1.A.1 – Use basic technology vocabulary. 8.1.A.4 – Produce a simple finished document using word processing software.	Students will use word processing software to produce pieces of writing. Students will be introduced to inserting graphics, scrolling, cutting and pasting, minimizing, manipulating fonts, using tool bars and spell check, and highlighting.
Additional Software Applications	8.1.A.5 – Produce and interpret a simple graph or chart by entering and editing data on a prepared spreadsheet template. 8.1.A.6 – Create and present a multimedia presentation using appropriate software. 8.1.A.8 – Use a graphic organizer.	Students will be introduced to Power Point , graphic organizers, prepared spreadsheets.

<p>Application of Productivity Tools</p>	<p>8.1.B.1 – Discuss the common uses of computer applications and identify their advantages and disadvantages. 8.1.B.2 – Recognize and practice responsible social and ethical behaviors when using technology, and understand the consequences of inappropriate use including:</p> <ul style="list-style-type: none"> • Internet access • Copyrighted materials • On-line library resources • Personal security and safety issues <p>8.1.B.3 – Practice appropriate Internet etiquette. 8.1.B.4 – Recognize the ethical and legal implications of plagiarism of copyrighted materials. 8.1.B.5 – Recognize the need for accessing and using information. 8.1.B.6 – Identify and use web browsers, search engines, and directories to obtain information to solve real world problems. 8.1.B.7 – Locate specific information by searching a database. 8.1.B.8 – Recognize accuracy and/or bias of information. 8.1.B.9 – Solve problems individually and/or collaboratively using computer applications. 8.1.B.10 – Identify basic hardware problems and solve simple problems.</p>	<p>On-going discussion of technology in everyday life. Research project. Keypals</p>
--	--	--

*Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.

TECHNOLOGY CURRICULUM

Grades Kindergarten – 4

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
<p>STANDARD 8.2.4.A (NATURE AND IMPACT OF TECHNOLOGY)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	<p>Integrated through grade-level science curriculum.</p>
<p>STANDARD 8.2.4.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p>	

<p>questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	
<p>STANDARD 8.2.4.C (SYSTEMS IN THE DESIGNED WORLD)</p> <p>Standard 5.2: All students will develop problem-solving, decision-making, and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.</p> <p>Standard 5.4: All students will develop an understanding of technology as an application of scientific principle.</p>	<p>5.2.1 – State a problem about the natural world in the form of a question.</p> <p>5.2.2 – Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.</p> <p>5.2.3 – Use technology to present the design and results of investigation.</p> <p>5.2.4 – Keep a journal record of observations, recognizing patterns of observations and summarizing findings.</p> <p>5.2.5 – Learn what constitutes evidence and evaluate the data and information used to make explanations.</p> <p>5.4.1 – Develop skill in the use of tools for everyday purposes.</p> <p>5.4.2 – Demonstrate how tools are used to do things better and more easily or to do tasks that could not otherwise be done.</p> <p>5.4.3 – Examine and compare toys and other familiar objects and explain how they work.</p> <p>5.4.4 – Find and report on examples of how technology helps people.</p>	

Science Standards 5.2 and 5.4 are process standards and are developed and demonstrated through the instruction of the content standards.

TECHNOLOGY CURRICULUM

Grade 5

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Basic Operating System	<p>8.1.A.1 – Use appropriate technology vocabulary.</p> <p>8.1.A.2 – Use common features of an operating system (e.g., creating and organizing files and folders).</p>	Students will be able to create and maintain files and folders, identify different disk drives, right-click, reboot, use <i>control-alt-delete</i>, escape.
Keyboarding	8.1.A.3 – Demonstrate effective input of text and data, using touch keyboarding with proper technique.	Students will use proper technique with touch keyboarding.
Word Processing	<p>8.1.A.4 – Input and access data and text efficiently and accurately through proficient use of other input devices, such as the mouse.</p> <p>8.1.A.10 – Use network resources for storing and retrieving data.</p>	Students will use word processing software to produce pieces of writing. Students will insert graphics, scroll, cut and paste, minimize, manipulate fonts, use tool bars and spell check, and highlight.
Additional Software Applications	8.1.A.8 – Design and produce a basic multimedia project.	Students will create a multiple-slide presentation with text and graphics.

<p>Application of Productivity Tools</p>	<p>8.1.B.3 – Explain the purpose of an Acceptable Use Policy and the consequences of inappropriate use of technology.</p> <p>8.1.B.6 – Choose appropriate tools and information resources to support research and solve real world problems, including but not limited to:</p> <ul style="list-style-type: none"> • On-line resources and databases • Search engines and subject directories <p>8.1.B.7 – Evaluate the accuracy, relevance, and appropriateness of print and non-print electronic information sources.</p> <p>8.1.B.8 – Use computer applications to modify information independently and/or collaboratively to solve problems.</p>	<p>Research project</p> <p>Keypals</p> <p>Ongoing discussion of technology in everyday life</p>
--	---	--

***Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.**

TECHNOLOGY CURRICULUM

Grades 5 – 8

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
STANDARD 8.2.8.A (NATURE AND IMPACT OF TECHNOLOGY)	<p>8.2.8.A.1. Describe the nature of technology and the consequences of technological activity.</p> <p>8.2.8.A.2. Describe how components of a technological product, system, or environment interact.</p> <p>8.2.8.A.3. Describe how one technological innovation can be applied to solve another human problem that enhances human life or extends human capability.</p> <p>8.2.8.A.4. Describe how technological activity has an affect on economic development, political actions, and cultural change.</p> <p>8.2.8.A.5. Explain the cultural and societal effects resulting from the dramatic increases of knowledge and information available today.</p>	<p>Simple machines</p> <p>Build pyramids</p> <p>Electrical circuitry</p> <p>GPS Geo-caching</p> <p>Use mechanical drawing equipment</p> <p>Design a 3-D project using two or more techniques (3-D sculpture, paper mache)</p> <p>Satellites (7th grade), cloning (8th grade), earthquake and tsunami detection</p> <p>Isometric drawing and orthographic projection</p> <p>The Galileo trial</p> <p>Colonize a planet project</p> <p>Build a brick</p> <p>Who Polluted the Lake? (process)</p> <p>History of the Internet timeline</p>

<p>STANDARD 8.2.8.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p>	<p>8.2.8.B.1. Demonstrate and explain how the design process is not linear.</p> <p>8.2.8.B.2. Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.</p> <p>8.2.8.B.3. Identify a technological problem and use the design process to create an appropriate solution.</p> <p>8.2.8.B.4. Describe how variations in resources can affect solutions to a technological problem.</p> <p>8.2.8.B.5. Select and safely use appropriate tools and materials in analyzing, designing, modeling or making a technological product, system or environment.</p>	<p>Simple machines</p> <p>Musical instruments</p> <p>Create isometric drawings from scratch</p> <p>Construct 2:1 scale models</p> <p>Steps of scientific method</p> <p>Möbius strip (6th grade), parachute trials (7th grade)</p> <p>Egg drop</p> <p>Lego project</p> <p>Draw a home using 2-point perspective</p> <p>Building cells</p> <p>Ocean clean up</p> <p>Earthquake structure</p> <p>Designer animal</p> <p>Build a brick</p> <p>Electrical circuitry</p> <p>Solar collectors</p>
---	--	--

<p>STANDARD 8.2.8.C (SYSTEMS IN THE DESIGNED WORLD)</p>	<p>8.2.8.C.1. Explain technological advances in medical, agricultural, energy and power, information and communication, transportation, manufacturing, and construction technologies.</p> <p>8.2.8.C.2. Explain reasons why human-designed systems, products, and environments need to be monitored, maintained, and improved to ensure safety, quality, cost efficiency, and sustainability.</p> <p>8.2.8.C.3. Explain the functions and interdependence of subsystems such as waste disposal, water purification, electrical, structural, safety, climatic control, and communication.</p>	<p>Phoenician name plates</p> <p>GPS Geo-caching</p> <p>Simple machines</p> <p>Musical instruments</p> <p>TransOptions presentation</p> <p>Explore different and alternate forms of energy</p> <p>Ability to use worm gears</p> <p>Ability to use belt ratio systems</p> <p>Who Polluted the Lake?</p> <p>Ocean clean up model</p> <p>Solar collectors</p> <p>Energy conservation methods</p>
--	--	---

TECHNOLOGY CURRICULUM

Grade 6

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Basic Operating System	8.1.A.1 – Use appropriate technology vocabulary. 8.1.A.2 – Use common features of an operating system (e.g., creating and organizing files and folders).	Students will be able to right-click, reboot, use <i>control-alt-delete</i> , escape, create and maintain files and folders, identify different disk drives.
Keyboarding	8.1.A.3 – Demonstrate effective input of text and data, using touch keyboarding with proper technique.	Students will use proper technique with touch keyboarding.
Word Processing	8.1.A.4 – Input and access data and text efficiently and accurately through proficient use of other input devices, such as the mouse. 8.1.A.10 – Use network resources for storing and retrieving data.	Students will use word processing software to produce pieces of writing. Students will insert graphics, scroll, cut and paste, minimize, manipulate fonts, use tool bars and spell check, and highlight.
Additional Software Applications	8.1.A.8 – Design and produce a basic multimedia project. 8.1.A.11 – Choose appropriate electronic graphic organizers to create, construct, or design a document.	Students will create a multiple-slide presentation with text, imported graphics, and sound.

<p>Application of Productivity Tools</p>	<p>8.1.B.2 – Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse. 8.1.B.3 – Explain the purpose of an Acceptable Use Policy and the consequences of inappropriate use of technology. 8.1.B.4 – Describe and practice safe Internet usage. 8.1.B.5 – Describe and practice “etiquette” when using the Internet and electronic mail. 8.1.B.6 – Choose appropriate tools and information resources to support research and solve real world problems, including but not limited to:</p> <ul style="list-style-type: none"> • On-line resources and databases • Search engines and subject directories <p>8.1.B.7 – Evaluate the accuracy, relevance, and appropriateness of print and non-print electronic information sources. 8.1.B.8 – Use computer applications to modify information independently and/or collaboratively to solve problems.</p>	<p>Research project</p> <p>Keypals</p> <p>On-line monitored technology discussion forums</p> <p>Ongoing discussion of technology in everyday life</p>
--	--	--

***Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.**

TECHNOLOGY CURRICULUM

Grades 5 – 8

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
STANDARD 8.2.8.A (NATURE AND IMPACT OF TECHNOLOGY)	8.2.8.A.1. Describe the nature of technology and the consequences of technological activity. 8.2.8.A.2. Describe how components of a technological product, system, or environment interact. 8.2.8.A.3. Describe how one technological innovation can be applied to solve another human problem that enhances human life or extends human capability. 8.2.8.A.4. Describe how technological activity has an affect on economic development, political actions, and cultural change. 8.2.8.A.5. Explain the cultural and societal effects resulting from the dramatic increases of knowledge and information available today.	Simple machines Build pyramids Electrical circuitry GPS Geo-caching Use mechanical drawing equipment Design a 3-D project using two or more techniques (3-D sculpture, paper mache) Satellites (7 th grade), cloning (8 th grade), earthquake and tsunami detection Isometric drawing and orthographic projection The Galileo trial Colonize a planet project Build a brick Who Polluted the Lake? (process) History of the Internet timeline

<p>STANDARD 8.2.8.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p>	<p>8.2.8.B.1. Demonstrate and explain how the design process is not linear.</p> <p>8.2.8.B.2. Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.</p> <p>8.2.8.B.3. Identify a technological problem and use the design process to create an appropriate solution.</p> <p>8.2.8.B.4. Describe how variations in resources can affect solutions to a technological problem.</p> <p>8.2.8.B.5. Select and safely use appropriate tools and materials in analyzing, designing, modeling or making a technological product, system or environment.</p>	<p>Simple machines</p> <p>Musical instruments</p> <p>Create isometric drawings from scratch</p> <p>Construct 2:1 scale models</p> <p>Steps of scientific method</p> <p>Möbius strip (6th grade), parachute trials (7th grade)</p> <p>Egg drop</p> <p>Lego project</p> <p>Draw a home using 2-point perspective</p> <p>Building cells</p> <p>Ocean clean up</p> <p>Earthquake structure</p> <p>Designer animal</p> <p>Build a brick</p> <p>Electrical circuitry</p> <p>Solar collectors</p>
---	--	--

<p>STANDARD 8.2.8.C (SYSTEMS IN THE DESIGNED WORLD)</p>	<p>8.2.8.C.1. Explain technological advances in medical, agricultural, energy and power, information and communication, transportation, manufacturing, and construction technologies.</p> <p>8.2.8.C.2. Explain reasons why human-designed systems, products, and environments need to be monitored, maintained, and improved to ensure safety, quality, cost efficiency, and sustainability.</p> <p>8.2.8.C.3. Explain the functions and interdependence of subsystems such as waste disposal, water purification, electrical, structural, safety, climatic control, and communication.</p>	<p>Phoenician name plates</p> <p>GPS Geo-caching</p> <p>Simple machines</p> <p>Musical instruments</p> <p>TransOptions presentation</p> <p>Explore different and alternate forms of energy</p> <p>Ability to use worm gears</p> <p>Ability to use belt ratio systems</p> <p>Who Polluted the Lake?</p> <p>Ocean clean up model</p> <p>Solar collectors</p> <p>Energy conservation methods</p>
--	--	---

TECHNOLOGY CURRICULUM

Grade 7

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Basic Operating System	8.1.A.1 – Use appropriate technology vocabulary. 8.1.A.2 – Use common features of an operating system (e.g., creating and organizing files and folders).	Students will be able to right-click, reboot, use <i>control-alt-delete</i> , escape, create and maintain files and folders, identify different disk drives.
Keyboarding	8.1.A.3 – Demonstrate effective input of text and data, using touch keyboarding with proper technique.	Students will use proper technique with touch keyboarding.
Word Processing	8.1.A.4 – Input and access data and text efficiently and accurately through proficient use of other input devices, such as the mouse. 8.1.A.5 – Create documents with advanced text-formatting and graphics using word processing. 8.1.A.10 – Use network resources for storing and retrieving data.	Students will use word processing software to produce pieces of writing. Students will insert graphics, scroll, cut and paste, minimize, manipulate fonts, use tool bars and spell check, and highlight.
Additional Software Applications	8.1.A.7 – Construct a simple spreadsheet, enter data, and interpret the information. 8.1.A.8 – Design and produce a basic multimedia project. 8.1.A.11 – Choose appropriate electronic graphic organizers to create, construct, or design a document.	Students will create a multiple-slide presentation with text, imported graphics, sound, transitions, and animation.

<p>Application of Productivity Tools</p>	<p>8.1.B.2 – Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.</p> <p>8.1.B.3 – Explain the purpose of an Acceptable Use Policy and the consequences of inappropriate use of technology.</p> <p>8.1.B.4 – Describe and practice safe Internet usage.</p> <p>8.1.B.5 – Describe and practice “etiquette” when using the Internet and electronic mail.</p> <p>8.1.B.6 – Choose appropriate tools and information resources to support research and solve real world problems, including but not limited to:</p> <ul style="list-style-type: none"> • On-line resources and databases • Search engines and subject directories <p>8.1.B.7 – Evaluate the accuracy, relevance, and appropriateness of print and non-print electronic information sources.</p> <p>8.1.B.8 – Use computer applications to modify information independently and/or collaboratively to solve problems.</p>	<p>Research project</p> <p>Keypals</p> <p>On-line monitored technology discussion forums</p> <p>Ongoing discussion of technology in everyday life</p>
--	---	---

***Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.**

TECHNOLOGY CURRICULUM

Grades 5 – 8

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
STANDARD 8.2.8.A (NATURE AND IMPACT OF TECHNOLOGY)	<p>8.2.8.A.1. Describe the nature of technology and the consequences of technological activity.</p> <p>8.2.8.A.2. Describe how components of a technological product, system, or environment interact.</p> <p>8.2.8.A.3. Describe how one technological innovation can be applied to solve another human problem that enhances human life or extends human capability.</p> <p>8.2.8.A.4. Describe how technological activity has an affect on economic development, political actions, and cultural change.</p> <p>8.2.8.A.5. Explain the cultural and societal effects resulting from the dramatic increases of knowledge and information available today.</p>	<p>Simple machines</p> <p>Build pyramids</p> <p>Electrical circuitry</p> <p>GPS Geo-caching</p> <p>Use mechanical drawing equipment</p> <p>Design a 3-D project using two or more techniques (3-D sculpture, paper mache)</p> <p>Satellites (7th grade), cloning (8th grade), earthquake and tsunami detection</p> <p>Isometric drawing and orthographic projection</p> <p>The Galileo trial</p> <p>Colonize a planet project</p> <p>Build a brick</p> <p>Who Polluted the Lake? (process)</p> <p>History of the Internet timeline</p>

<p>STANDARD 8.2.8.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p>	<p>8.2.8.B.1. Demonstrate and explain how the design process is not linear.</p> <p>8.2.8.B.2. Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.</p> <p>8.2.8.B.3. Identify a technological problem and use the design process to create an appropriate solution.</p> <p>8.2.8.B.4. Describe how variations in resources can affect solutions to a technological problem.</p> <p>8.2.8.B.5. Select and safely use appropriate tools and materials in analyzing, designing, modeling or making a technological product, system or environment.</p>	<p>Simple machines</p> <p>Musical instruments</p> <p>Create isometric drawings from scratch</p> <p>Construct 2:1 scale models</p> <p>Steps of scientific method</p> <p>Möbius strip (6th grade), parachute trials (7th grade)</p> <p>Egg drop</p> <p>Lego project</p> <p>Draw a home using 2-point perspective</p> <p>Building cells</p> <p>Ocean clean up</p> <p>Earthquake structure</p> <p>Designer animal</p> <p>Build a brick</p> <p>Electrical circuitry</p> <p>Solar collectors</p>
---	--	--

<p>STANDARD 8.2.8.C (SYSTEMS IN THE DESIGNED WORLD)</p>	<p>8.2.8.C.1. Explain technological advances in medical, agricultural, energy and power, information and communication, transportation, manufacturing, and construction technologies.</p> <p>8.2.8.C.2. Explain reasons why human-designed systems, products, and environments need to be monitored, maintained, and improved to ensure safety, quality, cost efficiency, and sustainability.</p> <p>8.2.8.C.3. Explain the functions and interdependence of subsystems such as waste disposal, water purification, electrical, structural, safety, climatic control, and communication.</p>	<p>Phoenician name plates</p> <p>GPS Geo-caching</p> <p>Simple machines</p> <p>Musical instruments</p> <p>TransOptions presentation</p> <p>Explore different and alternate forms of energy</p> <p>Ability to use worm gears</p> <p>Ability to use belt ratio systems</p> <p>Who Polluted the Lake?</p> <p>Ocean clean up model</p> <p>Solar collectors</p> <p>Energy conservation methods</p>
--	--	---

TECHNOLOGY CURRICULUM

Grade 8

STANDARD 8.1: (COMPUTER AND INFORMATION LITERACY) ALL STUDENTS WILL USE COMPUTER APPLICATIONS TO GATHER AND ORGANIZE INFORMATION AND TO SOLVE PROBLEMS.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
Basic Operating System	8.1.A.1 – Use appropriate technology vocabulary. 8.1.A.2 – Use common features of an operating system (e.g., creating and organizing files and folders). 8.1.A.12 – Create, organize and manipulate shortcuts.	Students will be able to right-click, reboot, use <i>control-alt-delete</i> , escape, create and maintain files and folders, identify different disk drives.
Keyboarding	8.1.A.3 – Demonstrate effective input of text and data, using touch keyboarding with proper technique.	Students will use proper technique with touch keyboarding.
Word Processing	8.1.A.4 – Input and access data and text efficiently and accurately through proficient use of other input devices, such as the mouse. 8.1.A.5 – Create documents with advanced text-formatting and graphics using word processing. 8.1.A.6 – Create a file containing customized information by merging documents. 8.1.A.10 – Use network resources for storing and retrieving data.	Students will use word processing software to produce pieces of writing. Students will insert graphics, scroll, cut and paste, minimize, manipulate fonts, use tool bars and spell check, selecting text, and using the highlighter function. Students will merge a graphic organizer into a word processing document. Students will merge a spreadsheet into another program. Students will produce a mail merge.
Additional Software Applications	8.1.A.7 – Construct a simple spreadsheet, enter data, and interpret the information. 8.1.A.8 – Design and produce a basic multimedia project. 8.1.A.9 – Plan and create a simple database, define fields, input data, and produce a report using sort and query. 8.1.A.11 – Choose appropriate electronic graphic organizers to create, construct, or design a document.	Students will create a multiple-slide presentation with text, imported graphics, sound, transitions, and animation.

<p>Application of Productivity Tools</p>	<p>8.1.B.1 – Demonstrate an understanding of how changes in technology impact the workplace and society.</p> <p>8.1.B.2 – Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.</p> <p>8.1.B.3 – Explain the purpose of an Acceptable Use Policy and the consequences of inappropriate use of technology.</p> <p>8.1.B.4 – Describe and practice safe Internet usage.</p> <p>8.1.B.5 – Describe and practice “etiquette” when using the Internet and electronic mail.</p> <p>8.1.B.6 – Choose appropriate tools and information resources to support research and solve real world problems, including but not limited to:</p> <ul style="list-style-type: none"> • On-line resources and databases • Search engines and subject directories <p>8.1.B.7 – Evaluate the accuracy, relevance, and appropriateness of print and non-print electronic information sources.</p> <p>8.1.B.8 – Use computer applications to modify information independently and/or collaboratively to solve problems.</p> <p>8.1.B.9 – Identify basic hardware problems and demonstrate the ability to solve common problems.</p> <p>8.1.B.10 – Determine when technology tools are appropriate to solve a problem and make a decision.</p>	<p>Research project</p> <p>Keypals</p> <p>On-line monitored technology discussion forums</p> <p>Ongoing discussion of technology in everyday life</p> <p>Ongoing discussion of validity and reliability of Internet sources</p>
--	---	--

***Skills from previous year should be reinforced and expanded. New skills introduced in this grade level are in bold print.**

TECHNOLOGY CURRICULUM

Grades 5 – 8

STANDARD 8.2: (TECHNOLOGY EDUCATION) ALL STUDENTS WILL DEVELOP AN UNDERSTANDING OF THE NATURE AND IMPACT OF TECHNOLOGY, ENGINEERING, TECHNOLOGICAL DESIGN, AND THE DESIGNED WORLD AS THEY RELATE TO THE INDIVIDUAL, SOCIETY, AND THE ENVIRONMENT.

TOPIC	STUDENT OUTCOME	SUGGESTED ACTIVITIES
STANDARD 8.2.8.A (NATURE AND IMPACT OF TECHNOLOGY)	8.2.8.A.1. Describe the nature of technology and the consequences of technological activity. 8.2.8.A.2. Describe how components of a technological product, system, or environment interact. 8.2.8.A.3. Describe how one technological innovation can be applied to solve another human problem that enhances human life or extends human capability. 8.2.8.A.4. Describe how technological activity has an affect on economic development, political actions, and cultural change. 8.2.8.A.5. Explain the cultural and societal effects resulting from the dramatic increases of knowledge and information available today.	Simple machines Build pyramids Electrical circuitry GPS Geo-caching Use mechanical drawing equipment Design a 3-D project using two or more techniques (3-D sculpture, paper mache) Satellites (7 th grade), cloning (8 th grade), earthquake and tsunami detection Isometric drawing and orthographic projection The Galileo trial Colonize a planet project Build a brick Who Polluted the Lake? (process) History of the Internet timeline

<p>STANDARD 8.2.8.B (DESIGN PROCESS AND IMPACT ASSESSMENT)</p>	<p>8.2.8.B.1. Demonstrate and explain how the design process is not linear.</p> <p>8.2.8.B.2. Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.</p> <p>8.2.8.B.3. Identify a technological problem and use the design process to create an appropriate solution.</p> <p>8.2.8.B.4. Describe how variations in resources can affect solutions to a technological problem.</p> <p>8.2.8.B.5. Select and safely use appropriate tools and materials in analyzing, designing, modeling or making a technological product, system or environment.</p>	<p>Simple machines</p> <p>Musical instruments</p> <p>Create isometric drawings from scratch</p> <p>Construct 2:1 scale models</p> <p>Steps of scientific method</p> <p>Möbius strip (6th grade), parachute trials (7th grade)</p> <p>Egg drop</p> <p>Lego project</p> <p>Draw a home using 2-point perspective</p> <p>Building cells</p> <p>Ocean clean up</p> <p>Earthquake structure</p> <p>Designer animal</p> <p>Build a brick</p> <p>Electrical circuitry</p> <p>Solar collectors</p>
---	--	--

<p>STANDARD 8.2.8.C (SYSTEMS IN THE DESIGNED WORLD)</p>	<p>8.2.8.C.1. Explain technological advances in medical, agricultural, energy and power, information and communication, transportation, manufacturing, and construction technologies.</p> <p>8.2.8.C.2. Explain reasons why human-designed systems, products, and environments need to be monitored, maintained, and improved to ensure safety, quality, cost efficiency, and sustainability.</p> <p>8.2.8.C.3. Explain the functions and interdependence of subsystems such as waste disposal, water purification, electrical, structural, safety, climatic control, and communication.</p>	<p>Phoenician name plates</p> <p>GPS Geo-caching</p> <p>Simple machines</p> <p>Musical instruments</p> <p>TransOptions presentation</p> <p>Explore different and alternate forms of energy</p> <p>Ability to use worm gears</p> <p>Ability to use belt ratio systems</p> <p>Who Polluted the Lake?</p> <p>Ocean clean up model</p> <p>Solar collectors</p> <p>Energy conservation methods</p>
--	--	---

High Point Regional High School

Technology Courses – Grade 9

Computer Applications 1

This course includes the skills of keyboarding and basic word processing, spreadsheets, database management, PowerPoint Presentations, and desktop publishing. This program will give students computer skills that will help them in high school and in all future careers. Students may waive Computer Applications if they achieve success on a comprehensive test covering keyboarding skills, word processing, Excel, Access, and desktop publishing. The test is given in the spring of the previous year, before scheduling. The test may be given after school or during a given time as determined by the administration. Incoming freshmen may request to be given the test during the final exam schedule at the high school.

Engineering and Design Technology 1

This semester course emphasizes the application of the design method to invent solutions to real world technological problems. Students will identify problems, use internet research, and design and fabricate models or prototype solutions. Problem solving and design skills are taught through a variety of activities. Hands-on themes for this level include, but are not limited to, structural, fluid powered and robotic systems. This course provides all students with valuable skills such as: problem solving, design, creative thinking, systems thinking, team work, documentation, and computer applications.

Power, Energy, and Transportation Technology 1

This course is designed to introduce students to various power, energy and transportation systems. Renewable energy, power systems, land and marine transportation technology will be addressed. Students will work with simulated, hands-on activities including land roving vehicles, small engines, and marine transport systems with the objective of applying acquired knowledge in order to solve real-life situations. This is the first level of a planned three level program.

Women In Engineering

This course will provide students with knowledge of various fields of engineering and experiences with the engineering process through participation in problem

solving and design activities. Studying areas of engineering and then applying the engineering process in order to solve real life problems will provide students with a better understanding of how real world situations are addressed. Many speakers will help motivate the students to consider engineering as a career goal.

Computer Aided Drawing and Design 1

This first year course is designed to introduce the students to CAD software as well as hand drafting technique. Units include lettering, dimensioning, the care and use of drafting instruments, sketching, orthographic projection, sectional views, and geometric construction. An introduction to 3 dimensional modeling will also be covered. This series of courses is valuable to many industrial and engineering careers.

TECHNOLOGY TERMS

This list was compiled from:

<http://web.mit.edu/teachtech/glossary.html>

<http://www-rohan.sdsu.edu/glossary.html>

Accessibility

A characteristic of technology that enables people with disabilities to use it. For example, accessible websites can be navigated by people with visual, hearing, motor, or cognitive impairments. Accessible design also benefits people with older or slower software and hardware.

A/D Converter

A device used to convert analog data to digital data. Analog data is continuously variable, while digital data contains discrete steps.

Analog

Continuously variable signals or data.

Application

Software that lets users do relatively complex tasks, as well as create and modify documents. Common application types include word processors, spreadsheets, database managers, and presentation graphics programs.

Audio

The term "audio" is synonymous with sound and is used more in TV production than in motion picture production; as in "audio/video" ("sound-and-picture").

AV

Audio-Visual. AV Macintosh models have video-capture hardware and have sophisticated sound (and video) recording capabilities.

AU sounds

A type of audio format used in the World Wide Web.

Avatar

A graphical icon that represents a real person in a cyberspace system. In e-learning, avatars usually represent the learners. The term comes from a Sanskrit word meaning an incarnation in human form.

Backbone

Network used to interconnect several networks together.

Backup file

In Windows 95, a compressed version of the original file and its locations created by Backup.

Bandwidth

The capacity of the transmission medium stated in bits per second or as a frequency. The bandwidth of optical fiber is in the gigabit or billion bits per second range, while ethernet coaxial cable is in the megabit or million bits per second range.

Baud

A unit of measurement that denotes the number of bits that can be transmitted per second. For example, if a modem is rated at 9600 baud, it is capable of transmitting data at a rate of 9600 bits per second. The term was derived from the name of J.M.E. Baudot, a French pioneer in the field of printing telegraphy.

Binary

A numbering system with only two values: 0 (zero) and 1 (one).

BIOS

Basic Input-Output System. Part of the computer's operating system that is built into the machine, rather than read from a disk drive at startup.

BITNET

An academic computer network that provides interactive electronic mail and file transfer services, using a store-and-forward protocol, based on IBM Network Job Entry protocols. BITNET-II encapsulates the BITNET protocol within IP packets and depends on the Internet to route them. There are three main constituents of the network: BITNET in the United States and Mexico, NETNORTH in Canada, and EARN in Europe. There are also AsiaNet, in Japan, and connections in South America. See CREN.

Blog (web log)

A web page that serves as a publicly accessible personal journal for an individual. Typically updated daily, blogs often reflect the personality of the author.

Bluetooth

A short-range radio technology aimed at simplifying communications among internet devices and between devices and the Internet.

Bookmark

A web page link stored in a browser for quick and easy retrieval.

Booting

Starting up a computer via the power switch, which loads the system software into memory. Restarting the computer via a keystroke combination is called rebooting or a warm boot.

Broadband System

A broadband system is capable of transmitting many different signals at the same time without interfering with one another. For local area networks, a broadband system is one that handles multiple channels of local area network signals distributed over Cable Television (CATV) hardware.

Browser

A program that enables you to access information on the Internet through the World Wide Web.

Bug

A mistake, or unexpected occurrence, in a piece of software or in a piece of hardware.

Cache

An area of RAM reserved for data recently read from disk, which allows the processor to quickly retrieve it if it's needed again.

Caching

A process in which frequently accessed data is kept on hand, rather than constantly being fetched from the place where it is stored.

CD-ROM

Compact Disk, Read-Only Memory. A type of storage device that looks just like an audio CD and stores as much data as a large hard disk (600MB), making it a popular means of distributing fonts, photos, electronic encyclopedias, games, and multimedia offerings. As the name indicates, however, you can't save or change files on a CD-ROM, only read them. Pronounced **see-dee rom**.

Clickable Image

Any image that has instructions embedded in it so that clicking on it initiates some kind of action or result. On a web page, a clickable image is any image that has a URL embedded in it.

Client/server relationship

A client application is one that resides on a user's computer, but sends requests to a remote system to execute a designated procedure using arguments supplied by the user. The computer that initiates the request is the client and the computer responding to the request is the server. Many network services follow a client and server protocol.

Clipboard

An area used to temporarily store cut or copied information. The Clipboard can store text, graphics, objects, and other data. The Clipboard contents are erased when new information is placed on the Clipboard or when the computer is shut down.

COM1, COM2, etc. -

Most serial ports and internal modems on DOS/WIN PCs can be configured to either COM1 or COM2 in order to accommodate the situation where both may exist. The DOS MODE command is used to change the output direction to such serial devices as modems.

Compression

The reduction in size of an image file. See also lossy and non-lossy.

Configuration

1. The components that make up a computer system (which model and what peripherals). 2. The physical arrangement of those components (what's placed and where). 3. The software settings that enable two computer components to talk to each other (as in configuring communications software to work with a modem).

Compressed video

Video signals compressed in order to reduce the bandwidth needed for transmission. Some information is sacrificed in the process, which may result in lower quality.

Compression

Reducing the amount of data units required to represent information, necessary especially when transmitting video. Decompression reverses the result of compression.

Content

Information captured digitally and imparted to learners. Formats for e-learning content include text, audio, video, animation, simulation, and more.

Cookie

A message given by a web server to a web browser, which stores the message in a text file. The message is then sent back to the server each time the browser requests a page from the server. The main purpose of cookies is to identify users and possibly prepare customized Web pages for them. Cookies can be disabled in the browser.

CPU

Central Processing Unit; the brains of the computer. The CPU interprets and executes the actual computing tasks.

Crash

A problem (often caused by a bug) that causes a program, or the entire operating system, to unexpectedly stop working.

Cursor

The representation of the mouse on the screen. It may take many different shapes. Example: I-beam, arrow pointer, and hand.

Cyberspace

A term used to refer to the electronic universe of information available through the Internet.

DAT

Digital Audio Tape. The most common type of tape backup.

Database

A file created by a database manager that contains a collection of information organized into records, each of which contains labeled categories (called fields).

Decompression

The expansion of compressed image files. See also lossy and non-lossy.

Default

A setting that the computer system uses automatically, unless it is changed by the user.

Dialog box

A window that displays additional options or questions when a command is chosen.

Digital

Data or voltages consisting of discrete steps or levels, as opposed to continuously variable analog data.

Digital audio

Refers to the reproduction and transmission of sound stored in a digital format. This includes CDs as well as any sound files stored on a computer. In contrast, the telephone system (but not ISDN) is based on an analog representation of sound.

Digital editing

Editing a portion of a movie by digitizing one or more frames and altering them electronically or combining them with other digitized images, and then printing the modified frame.

Discussion boards

Forums on the Internet or an intranet where users can post messages for others to read.

Distance education

A type of education, typically college-level, where students work on their own at home or at the office and communicate with faculty and other students via e-mail, electronic forums, videoconferencing, chat rooms, bulletin boards, instant messaging and other forms of computer-based communication. Most distance learning programs include a computer-based training (CBT) system and communications tools to produce a virtual classroom. Because the Internet and World Wide Web are accessible from virtually all computer platforms, they serve as the foundation for many distance learning systems.

Download

To copy data to your computer from another computer over a computer network; the opposite of upload.

DVD (Digital Video Disc)

Optical disks that are the same size as CDs but are double-sided and have larger storage capacities. DVDs can hold several gigabytes on a single disc. Most CDs by contrast can only hold 600 megabytes each.

DIP switches

Dual Interface Poll switches allow for either an ON or OFF setting with any number of circuits. DIP switches commonly allow you to change the configuration of a circuit board to suit your particular computer.

Directory

A system that your computer uses to organize files on the basis of specific information.

Disk Defragmenter

Arranges the blocks of information for a file into adjacent blocks on your hard drive, which may significantly improve the file access times.

DNS

Domain Name System. A general purpose distributed, replicated, data query service. Its principal use is the lookup of host IP addresses based on host names. The host names are also known as domain names. Some important domains are: .COM (commercial), .EDU (educational), .NET (network operations), .GOV (U.S. government), and .MIL (U.S. military). Most countries also have a domain. For example, .US (United States), .UK (United Kingdom), .AU (Australia).

DPI

Dots Per Inch. A measure of the resolution of a printer, scanner, or monitor. It refers to the number of dots in a one-inch line. The more dots per inch, the higher the resolution.

Driver

A piece of software that tells the computer how to operate an external device, such as a printer, hard disk, CD-ROM drive, or scanner. For instance, you can't print unless you have a printer driver. Hard disk drivers are invisible files that are loaded into memory when you start the computer, while scanner drivers are usually plug-ins accessed from within a particular application.

Editing

See Digital editing.

E-learning (electronic learning)

Term covering a wide set of applications and processes, such as web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio- and videotape, satellite broadcast, interactive TV, CD-ROM, and more.

E-mail

Electronic Mail. Private messages sent between users on different computers, either over a network or via a modem connection to an on-line service or BBS.

Encoding

File transfer formatting that enables encrypted, compressed or binary files to be transferred without corruption or loss of data.

Encryption

A way of coding information in a file or e-mail message so that if it is intercepted by a third party as it travels over a network it cannot be read.

End user

The person for whom a particular technology is designed; the individual who uses the technology for its designated purpose. In e-learning, the end user is usually the student.

ERIC

An index to educational journal articles and documents collected by national clearing houses for educational information. It provides summaries of the articles and documents, and contains citations back to 1966.

Ethernet

An IEEE 802.3 standard data link layer which can operate over several different media including fiber optic, coaxial cable and twisted-pair cable. This 10 million-bit-per-second networking scheme is widely used on campus because it can network a wide variety of computers; it is not proprietary; and components are widely available from many commercial sources.

Executable File

Refers to a file that is a program. Executables in DOS and Windows usually have an .exe or a .com extension. In UNIX and Macintosh environments, executable files can have any name.

File Transfer Protocol (FTP)

The protocol used on the Internet for exchanging files. FTP is most commonly used to download a file from a server using the Internet or to upload a file to a server (e.g., uploading a web page file to a server).

File Server

A computer that shares its resources, such as printers and files, with other computers on the network. An example of this is a Novell NetWare Server which shares its disk space with a workstation that does not have a disk drive of its own.

Filter

A piece of software that an application uses for file-format conversion or special effects. PageMaker, for example, has a filter that lets it import Microsoft Word files, while Photoshop has dozens of filters for special effects (such as image blurring). Filters can be part of the main application or external programs called plug-ins.

Firewall

A mechanism that isolates a network from the rest of the Internet, permitting only specific traffic to pass in and out.

FireWire

Apple Computer's trademarked name for its high-speed serial bus supporting the IEEE 1394 data transfer standard. FireWire enables the connection of up to 63 devices and transfers data at a speed of up to 400 mbps.

Flatbed Scanner

Any scanning device that incorporates a flat transparent plate, on which original images are placed for scanning. The scanning process is linear rather than rotational.

Folder

An object that can hold other objects, such as other folders and files.

Font

The software that creates a typeface on a computer screen.

Format

To initialize a disk to prepare it for use. The disk is checked for errors and organized so that data can be recorded and retrieved. Formatting a used disk erases any previously stored information.

Gigabyte

1,024 megabytes, or 1,048,576 kilobytes of digital data.

Gopher

A consistent user interface and gateway into many on-line white pages and other address databases.

GIF (Graphics Interchange Format)

Pronounced jiff or giff (hard g), a file format commonly used for images on the Web. GIFs are especially suitable for images composed of relatively few colors, such as logos or vector graphics.

Graphical User Interface (GUI)

The graphical visual representation of the working environment that presents the elements of your computer as objects on a desktop.

Grayscale

A continuous tone image comprising black, white, and grey data only.

Handshaking

The process computers and modems go through in order to establish a connection and agree on the speed and protocols for data transmission.

Header

The portion of a packet, preceding the actual data, containing source and destination addresses, error checking and other fields. A header is also the part of an electronic mail message that precedes the body of a message and contains, among other things, the message originator, date and time.

HDTV (high-definition TV)

A television signal that has over five times the resolution of standard television and requires extraordinary bandwidth.

Highlight

The lightest tones in an image. A spectral highlight is a bright, reflected light source.

Home Page

The document that is displayed when you first open a web client program. Also, commonly used to refer to the first document you come to in a collection of documents on a Web site.

Host

The main computer system to which users are connected.

Hotlist

A file containing lists of Internet Web pages, enabling you to easily access your favorite Web pages.

HTML

HyperText Markup Language. A system for tagging various parts of a Web document that tells the Web client programs how to display the document's text, links, graphics and attached media.

HTTP (HyperText Transfer Protocol)

The set of rules and standards that govern how information is transmitted on the World Wide Web.

HTTP streaming

A form of streaming (popularized by QuickTime) in which media files begin to play before they are downloaded entirely. This means that they can be sent via HTTP and don't require specialized server software such as RealMedia files do. Also called Progressive Download.

Hypermedia

Describes hypertext in which various types of data can be stored - sound, images, video and so on - as regular text.

Hypertext

A text-linking strategy that lets you jump between related information in a document by clicking on a button or highlighted word. On-line help systems often use hypertext links, as do some programs designed for the electronic distribution of documents.

I/O

Input/Output.

Icon

A graphic symbol, usually representing a file, folder, disk or tool.

Image Map

A graphic divided into regions or "hotspots". When a particular region is clicked, it calls up a web page that has been associated with that particular region.

Import

To bring data into a document from another document, often generated by a different application.

IEEE (The Institute of Electrical and Electronics Engineers)

An organization whose Learning Technology Standards Committee is working to develop technical standards, recommended practices, and guides for computer implementations of education and training systems.*

IMAP (Internet Message Access Protocol)

A standard protocol that allows you to both store and work with your e-mail on a central server. One of the main advantages of IMAP is that you can access your e-mail from multiple locations and computers. See the [IMAP at MIT](#) web site for more details about IMAP concepts and using IMAP at MIT.

Information architecture

A description or design specification for how information should be treated and organized. In web design, the term describes the organization of online content into categories and the creation of an interface for displaying those categories.

Infrastructure

The underlying mechanism or framework of a system. In e-learning, the infrastructure includes the means by which voice, video, and data can be transferred from one site to another and be processed.

Instant Messenger

AOL's instant messaging system.

Instant messaging (IM)

A type of communications service that enables you to create a kind of private chat room with another individual in order to communicate in real time over the Internet, analogous to a telephone conversation but using text-based, not voice-based, communication. Typically, the instant messaging system alerts you whenever somebody on your private list is online. You can then initiate a chat session with that particular individual.

Integration

Combining hardware, software (and, in e-learning, content) components together to work as an interoperable system. The process of integration may also include front-end planning and strategy.

Intellectual property

An idea, invention, formula, literary work, presentation, or other knowledge asset owned by an organization or individual. Intellectual property can be protected by patents, trademarks, service marks, and/or copyrights.

Interactive media

Allows for a two-way interaction or exchange of information.

Internet

An international network first used to connect education and research networks, begun by the US government. The Internet now provides communication and application services to an international base of businesses, consumers, educational institutions, governments, and research organizations.

Internet-based training

Training delivered primarily by TCP/IP network technologies such as e-mail, newsgroups, proprietary applications, and so forth. Although the term is often used synonymously with web-based training, internet-based training is not necessarily delivered over the World Wide Web, and may not use the HTTP and HTML technologies that make web-based training possible.

Internet Explorer

Microsoft's browser software that enables users to view web pages.

IP (Internet Protocol)

IP is the basic language of the Internet. It was developed by the government for use in connecting multiple computer networks.

IP address

Abbreviation for Internet Protocol Address, the addressing system used in the Internet, assigning all connected devices a unique identification number.

ISO (International Organization for Standardization)

Short for International Organization for Standardization. Note that ISO is not an acronym; instead, the name derives from the Greek word iso, which means equal. Founded in 1946, ISO is an international organization composed of national standards bodies from over 75 countries. See the ISO Website at <http://www.iso.ch/iso/en/ISOOnline.frontpage>

ISP (Internet Service Provider)

A hosting company that provides end user access to such internet services as e-mail, the World Wide Web, FTP, newsgroups, and so forth.

IT (Information Technology)

The industry or discipline involving the collection, dissemination, and management of data, typically through the use of computers.

IT training

A combination of desktop training and information systems and technical training. Includes training in areas such as system infrastructure software, application software, and application development tools.

Initializing (formatting)

Setting up a disk (any kind) to receive information. When a disk is initialized (formatted), its magnetic media is divided into tracks and sectors, and structure files that your computer uses to keep track of data are created.

Internet

The Internet (note the capital **I**) is the largest internet in the world. It is a three level hierarchy composed of backbone networks (e.g., NSFNET, MILNET), mid-level networks, and stub networks. The Internet is a multiprotocol internet.

IP

Internet Protocol is the standard that allows dissimilar hosts to connect to each other through the Internet. This protocol defines the IP datagram as the basic unit of information sent over the Internet. The IP datagram consists of an IP header followed by a message.

IP Address

Network addresses are usually of two types: (1) the physical or hardware address of a network interface card; for Ethernet this 48-bit address might be 0260.8C00.7666. The hardware address is used to forward packets within a physical network. (2) The logical or IP Address is used to facilitate moving data between physical networks and is made up of a network number, a subnetwork number, and a host number. All Internet addresses at SDSU have a network number of 130.191, a subnet number in the range of 1-254, and a host number in the range of 1-254.

ISP

Internet Service Provider. A company that provides access to the Internet. A service provider can offer simple dial-up access, SLIP/PPP access, or a dedicated line.

Java

An object-oriented programming language, developed by Sun Microsystems, that is platform independent (i.e., works on Windows, Mac OS, Linux). Java is often used to write "java applets," which are small applications that can be embedded into web pages, giving the pages sophisticated functionality.

JavaScript

A fairly simple programming language compared to languages like Java and C++ developed by Netscape that allows web authors to give functionality to web pages. Common functions created with JavaScript are image rollovers (an image that changes when you scroll your mouse over it), browser detection, and pop-up windows.

JPEG (Joint Photographic Experts Group)

Refers to an image file format popular for delivery over the Web because of its relatively high quality and low file size. Before uploading JPEGs to the Web, users can determine the amount of compression assigned to them-usually on a scale from 1 to 10. Recommended file type for photographic images.

Just-in-time (JIT)

Characteristic of e-learning in which learners are able to access the information they need exactly when they need it.

Keyword

Specified words used in text search engines.

Kilobyte (Kb)

1,024 bytes of digital data.

Knowledge base

A specialized database that stores knowledge assets.

LAN

Local Area Network. A network of directly-connected machines (located in close proximity), providing high speed communication over physical media such as fiber optics, coaxial cable, or twisted pair wiring.

Laser Printer

Although a number of devices employ laser technology to print images, this normally refers to black-and-white desktop printers, which use the dry toner, xerographic printing process.

Links

Synonymous with anchors, hotlinks and hyperlinks.

Learning portal

Any web site that offers learners or organizations consolidated access to learning and training resources from multiple sources. Operators of learning portals are also called content aggregators, distributors, or hosts.

Learning solution

- 1) Any combination of technology and methodology that delivers learning.
- 2) Software and/or hardware products that suppliers tout as answers to business training needs.

Link (aka hyperlink)

The result of HTML markup signifying to a browser that data within a document will automatically connect with either nested data or an outside source. Used in the design of hypertext.

LISTSERV

E-mail list management software developed by L-Soft International. See also e-mail list and mailman.

Login

The account name used to access a computer system.

Lossy

Image compression that functions by removing minor tonal and/or color variations, causing visible loss of detail at high compression ratios.

Mail Merge

The merging of database information (such as names and addresses) with a letter template in a word processor, in order to create personalized letters.

Math Coprocessor

Another name for a floating-point processor.

Medium

The material used to support the transmission of data. Examples include twisted-pair wire, coaxial cable, optical fiber, or electromagnetic wave (microwave).

Megabit (Mb)

Megabit. 10^6 bits of information (usually used to express a data transfer rate; as in, 1 Megabit/second = 1Mbps).

Megabyte (MB)

MegaByte. A unit of data storage size which represents 10^6 (one million) characters of information.

Megahertz (MHz)

A million cycles (occurrences, alterations, pulses) per second. Used to describe the speed at which a computer's processor (or CPU) operates.

Memory

In general, another word for dynamic RAM, the chips where the computers store system software, programs, and data you are currently using. Other kinds of computer memory you may encounter are parameter RAM (PRAM), video RAM (VRAM), and static RAM (SRAM). Most computer memory is volatile, that is, its contents are lost when the computer shuts down.

Menu

A list of commands.

Menu Bar

The horizontal bar that contains the names of available menus. The menu bar is located below the title bar.

Message

A collection of data that is ordered according to the rules of a given protocol suite, such that it is intelligible to the sending and receiving software.

MB (megabyte)

1,048,576 bytes, often generically applied to 1,000,000 bytes as well.

Mbps (megabits per second)

A measurement of data transmission speed in a communication system; the number of megabits transmitted or received each second.

Metadata

Information about content that enables it to be stored in and retrieved from a database.

Metatag

An HTML tag identifying the contents of a web site. Information commonly found in the metatag includes copyright info, key words for search engines, and formatting descriptions of the page.

MHz

Megahertz. A million cycles (occurrences, alterations, pulses) per second. Used to describe the speed at which a computer's processor (or CPU) operates. A 25-MHz processor can handle 25 million operations per second.

MIDI

Musical Instrument Digital Interface. A technology that enables a computer to record and play musical performance.

Modem

A device which converts digital signals into analog signals (*and back*) for transmission over telephone lines (*modulator and demodulator*).

Modular

E-learning that's made up of standardized units that can be separated from each other and rearranged or reused.

Motherboard

The heart, soul, and brains of a computer. This plastic board resembles a miniature city, but its buildings are actually chips for things like the processing, RAM, and ROM, and the tiny roads connecting them are circuit traces. Also called the logic board. There are no fatherboards or sonboards, but see daughterboard.

MP3

A format for music file compression that enables users to download music over the Internet.

MPEG

Moving Pictures Expert Group. MPEG is an international standard for video compression and desktop movie presentation. You need a special viewing application to run the MPEG movies on your computer. MPEG II is a newer standard for broadcast-quality video.

MUD (Multi-User Dimension or Multi-User Domain)

A simulated virtual world in which users interact with each other, often by taking on character identities called avatars. Originally created for game-playing, MUDs are growing in popularity for online learning and virtual community-building.

Multicasting

The transmission of information to more than one recipient. For example, sending an e-mail message to a list of people. Teleconferencing and videoconferencing can also use multicasting.

Multimedia

Any presentation or software program that combines several media, such as graphics, sound, video, animation, and/or text.

Multitasking

The capability of an operating system to handle multiple processing tasks, apparently, at the same time.

Navigation Tools

Allows users to find their way around a website or multimedia presentation. They can be hypertext links, clickable buttons, icons, or image maps.

Netiquette

A form of online etiquette. This term refers to an informal code of conduct that governs what is generally considered to be the acceptable way for users to interact with one another online.

Netware

The chief priest of network operating systems.

Network

In general, a group of computers set up to communicate with one another. Your network can be a small system that's physically connected by cables (a LAN), or you can connect separate networks together to form larger networks (called WANs). The Internet, for example, is made up of thousands of individual networks.

NFS

Network File System. A protocol developed by Sun Microsystems which allows a computer system to access files over a network as if they were on its local disks. This protocol has been incorporated in products by more than two hundred companies, and is now a de facto Internet standard.

NIC

Network Information Center. A organization that provides information, assistance and services to network users.

Node

A computer that is attached to a network; sometimes called a host.

Noise

In the scanning context, this refers to random, incorrectly read pixel values, normally due to electrical interference or device instability.

Non-lossy

Image compression without loss of quality.

Narrowband

- 1) In data transmission, a limited range of frequencies.
- 2) More specifically, a network in which data transmission speeds range from 50 Bps to 64 Kbps. See also Broadband.

Navigation

Finding your way from page to page on the World Wide Web.

Net

Common nickname for the Internet.

Netiquette

Online manners; the rules of conduct for online or internet users.

Netscape Navigator

Browser software that enables users to view web pages.

Network

Two or more computers that are connected so users can share files and devices (for example, printers, servers, and storage devices).

Newsgroup

An online discussion hosted on the Usenet network. Sometimes also called a forum.

NTSC (National Television System Committee)

The video input signal formats used in North America and Japan. Full-sized NTSC has a display rate of 60 fields per second (30 interlaced fps), and 525 total lines (480 visible) per frame.

OCR

Optical Character Recognition. A technology that lets you scan a printed page (with a scanner) and convert it into text document that you can edit in a word processor.

On-line

Actively connected to other computers or devices. You're on-line when you've logged on to a network, BBS, or on-line service. A device such as a printer is on-line when it's turned on and accessible to a computer. If you're not on-line then you're off-line.

On-line Service

A commercial service that (for a price) provides goodies such as e-mail, discussion forums, tech support, software libraries, news, weather reports, stock prices, plane reservations, even electronic shopping malls. To access one, you need a modem. Popular on-line services include America Online, CompuServe, and Prodigy.

Operating System

Software that supervises and controls tasks on a computer.

Online community

A meeting place on the Internet for people who share common interests and needs. Online communities can be open to all or be limited to membership only and may or may not be moderated.

Online learning

Learning delivered by web-based or internet-based technologies. See web-based training and internet-based training.

Operating system

A set of routines and programs that control a system's resources and provide access to its services, e.g. Windows XP, Athena (UNIX), Linux, Macintosh OS X.

Open source software

- 1) Software in which the source code is available to the general public for use and/or modification from its original design free of charge. The Linux operating system is an example of open source software.
- 2) Software that meets each of nine requirements listed by the non-profit Open Source Initiative in its Open Source Definition.

Optical Resolution

In the scanning context, this refers to the number of truly separate readings taken from an original within a given distance, as opposed to the subsequent increase in resolution (but not detail) created by software interpolation.

Packet

The unit of data sent across a packet switching network. While some Internet literature use the term to refer specifically to data sent across a physical network, other literature views the Internet as a packet switching network and describes IP.

Parallel Cable/Parallel Port

A cable used to connect peripheral devices through a computer's parallel port. A type of port that transmits data in parallel (several bits side by side).

Paste

To insert information from the Clipboard. Information can be pasted multiple times.

Path

A route used in finding, retrieving, and storing files on a disk. The course leading from the root directory of a drive to a particular file.

PCMCIA

A standard format for credit-card-size expansion cards, used to add features to laptop computers, hand-held computers, and desktop computers. The acronym stands for Personal Computer Memory Card International Association.

PDA (Personal Digital Assistant)

Handheld computer device used to organize personal information such as contacts, schedules, and so forth. Data can usually be transferred to a desktop computer by cable or wireless transmission.

PDF

Portable Document Format. A PDF file is an electronic facsimile of a printed document.

Peer-to-peer

A network setup that allows every computer to both offer and access network resources, such as shared files, without requiring a centralized file server. Macintosh computers utilize this type of network setup.

Peripheral

A piece of hardware that's outside the main computer. It usually refers to external hardware such as disk drives, printers, and scanners sold by a third party.

Personalization

Tailoring web content to an individual user. Can be accomplished by a user entering preferences or by a computer guessing about the user's preferences.

Pixel

Picture element. Digital images are composed of touching pixels, each having a specific color or tone. The eye merges differently colored pixels into continuous tones.

Plug-In

Extends the capabilities of a web browser, allowing the browser to run multimedia files.

Production (video)

The process of filming all of the essential material for a production

Port

One of several rendezvous points where TCP/IP connections can be made on a computer. Ports are numbered, with several locations reserved for specific types of network activity, such as telnet on port 23, HTTP traffic on port 80 and USENET news (NNTP) on port 119.

PNG (Portable Network Graphics)

The patent-free graphics compression format developed by Macromedia expected to replace GIF. PNG offers advanced graphics features such as 48-bit color.

POP (Post Office Protocol)

The set of rules and standards that govern the retrieval of e-mail messages from a mail server.

Portal

A web site that acts as a doorway to the Internet or a portion of the Internet, targeted towards one particular subject. See also Learning portal.

Post

To publish a message in an online forum or newsgroup; to place an HTML page on the World Wide Web.

Properties

Information about an object, including settings or options for that object. For example, you look at properties of a file for information such as the file size, file type, and file attributes.

Protocols

When data is being transmitted between two or more devices something needs to govern the controls that keep this data intact. A formal description of message formats and the rules two computers must follow to exchange those messages. Protocols can describe low-level details of machine-to-machine interfaces (*e.g., the order in which bits and bytes are sent across wire*) or high-level exchanges between application programs (*e.g., the way in which two programs transfer a file across the Internet*).

Public-domain

Software that has no copyright or fee, which means you can copy, use, and even alter and sell it.

Pull technology

In reference to the Internet or other online services, the technology whereby people use software such as a web browser to locate and "pull down" information for themselves.

Push technology

In reference to the Internet or other online services, the technology whereby information is sent directly to a user's computer.

Query

The process by which a web client requests specific information from a web server, based on a character string that is passed along.

QuickTime

A file extension for videos or "movies" (like animations) compressed using their QuickTime format.

QuickTime VR (QTVR)

A part of the QuickTime architecture that allows 360-degree interactive panoramas to be developed and viewed. (VR = virtual reality)

RAM

Random Access Memory. RAM is the most common type of computer memory, and it's where the computer stores system software, programs, and data you are currently using. It's formally called dynamic RAM (DRAM) because it's volatile, that is, the contents are lost when you turn off the computer (or crash). It's pronounced **ram** and measured in megabytes.

Raster graphic

A computer image made up of a collection of dots. Can become ragged or otherwise distorted when the image is enlarged or shrunk. See also Vector graphic.

RealMedia

One of the first CODECs for delivering streaming video over the Internet. Like other CODECs, RealMedia (comprised of RealVideo, RealAudio, and other file formats created by Real) use compression algorithms for eliminating data that can be considered as extraneous or not as important as other information. RealMedia and Windows Media are the two most widely used technologies for streaming video today.

Real-time communication

Communication in which information is received at (or nearly at) the instant it's sent. Real-time communication is a characteristic of synchronous learning.

Res

A term used to define image resolution instead of ppi. Res 12 indicates 12 pixels per millimeter.

Resampling

An increase or reduction in the number of pixels in an image, required to change its resolution without altering its size. See also down-sampling and interpolation.

Resolution

In general, this refers to how sharp and clear an image looks on screen or on paper, and how much detail you can see. It's usually determined by the number of dots (or pixels) per square inch (the more there are, the higher the resolution) and is used to describe printers, monitors, and scanners.

RGB

Red, green, and blue are the primary colors of light perceived by the eye.

ROM

Read-Only Memory. It's like software that's hard-wired into your computer - basic, permanent information that tells it things like how to load up the operating system when you turn it on.

Router

A special purpose computer that attaches to two or more networks and routes packets from one network to the other. A router uses network layer addresses (*such as IP Addresses*) to determine if packets should be sent from one network to another. Routers send packets to other routers until they arrive at their final destination.

RFP (Request For Proposal)

A document produced by a company seeking goods or services and distributed to prospective suppliers. Suppliers then provide proposals based on the criteria specified in the RFP.

RSS (Real Simple Syndication)

RSS, also known as Rich Site Summary, is an XML format for distributing news headlines on the Web, also known as syndication. First started by Netscape as part of the My Netscape site.

Sampling

The process of converting analog data into digital data by taking a series of samples or readings at equal time intervals.

Scalability

The degree to which a computer application or component can be expanded in size, volume, or number of users served and continue to function properly.

Scanner

A device that converts images (such as photographs) into digital form so that they can be stored and manipulated on computers.

Screen Saver

A moving picture or pattern that is displayed on the screen when no activity takes place for a specified period of time.

Screen reader

Computer software that reads aloud text on the screen. Often used by individuals who are visually impaired.

Screenshot

A picture of a computer display that shows the display at a given point in time. Also called a screen capture. Annotated screenshots are often used in training programs and to illustrate software manuals.

Scroll Bar

The bar that appears at the right side or the bottom of a window that contains more information that can be displayed. The scroll bar is used to scroll an object or parts of a document into view when the entire object or document does not fit in the window.

Search Engines

A type of software that creates indexes of databases or Internet sites based on the titles of files, key words, or the full text of files.

Section 508

The section of the 1998 Rehabilitation Act that states that all electronic and information technology procured, used, or developed by the federal government after June 25, 2001, must be accessible to people with disabilities. Affected technology includes hardware such as copiers, fax machines, telephones, and other electronic devices as well as application software and web sites. See <http://www.section508.gov/>.

Self-assessment

The process by which the learner determines his or her personal level of knowledge and skills.

Self-paced learning

An offering in which the learner determines the pace and timing of content delivery.

Semantic Web, The

The Semantic Web provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries. It is a collaborative effort led by W3C with participation from a large number of researchers and industrial partners. It is based on the Resource Description Framework (RDF), which integrates a variety of applications using XML for syntax and URIs for naming. A concept proposed by World Wide Web inventor Tim Berners-Lee.

Serial Cable/Serial Port

A cable used to connect peripheral devices through a computer's serial port. Normally a 25-pin connector on each end, yet can be a 9-pin on one. A **Serial Port** can either be plugged into an expansion slot on the motherboard of your computer or built into the motherboard itself. Serial ports are used for such devices as printers, mice, and modems.

Server

A computer that shares its resources, such as printers and files, with other computers on the network. An example of this is a Novell NetWare Server which shares its disk space with a workstation that does not have a disk drive of its own.

Simulations

Highly interactive applications that allow the learner to model or role-play in a scenario. Simulations enable the learner to practice skills or behaviors in a risk-free environment.

Skills inventory

An individual's list of skills or competencies, usually created by self-evaluation.

Source code

Program instructions written by a software developer and later translated (usually by a compiler) into machine language that a computer can understand.

Shareware

Software that you can try before you buy. It's distributed through on-line services, BBSs, and user groups. You're allowed to try it out and give copies to others, but if you want to keep using it, you must pay the registration fee.

Shockwave

A set of programs that allow Macromedia Director animation files to be played over the internet with a web browser.

Site-license

Through negotiations with a vendor, a renewable fee has been paid to allow a fixed number of copies of copyrighted software at one site.

SPAM

Refers to the practice of blindly posting commercial messages or advertisements to a large number of unrelated and uninterested newsgroups.

Specification

A plan, instruction, or protocol for e-learning that's established or agreed upon. Specification is often used interchangeably with standard, but the two terms are not truly synonymous. Specifications become standards only after they've been approved by an accrediting agency.

Spreadsheet

A number-related document whereby calculations and formulas are applied to the data organized in rows and columns of cells.

Standard

An e-learning specification established as a model by a governing authority such as IEEE or ISO to ensure quality, consistency, and interoperability.

Streaming media (streaming audio or video)

Audio or video files played as they are being downloaded over the Internet instead of users having to wait for the entire file to download first. Requires a media player program.

Style sheets

In traditional print publishing and on the Web, style sheets specify how a document should appear, standardizing such elements as fonts, page layout and line spacing, repeated content, and so forth. Web style sheets help ensure consistency across web pages, but HTML coding can also override the sheets in designated sections of the pages. Also see CSS.

Synchronous learning

A real-time, instructor-led online learning event in which all participants are logged on at the same time and communicate directly with each other. In this virtual classroom setting, the instructor maintains control of the class, with the ability to "call on" participants. In most platforms, students and teachers can use a whiteboard to see work in progress and share knowledge. Interaction may also occur via audio- or videoconferencing, internet telephony, or two-way live broadcasts.

24/7

Twenty-four hours a day, seven days a week. In e-learning, used to describe the hours of operation of a virtual classroom or how often technical support should be available for online students and instructors.

T1

An AT&T term for a digital carrier facility used to transmit a DS-1 formatted digital signal at 1.544 megabits per second.

Taskbar

An area that runs across the bottom (usually) of the Windows 95 desktop. Running applications are represented as buttons on the taskbar, the current window is shown as a depressed button, all other applications are displayed as raised buttons.

TCP

Transmission Control Protocol. This is a transport layer protocol that establishes a reliable, full duplex, data delivery service used by many TCP/IP application programs. The TCP software uses the IP protocol to transmit information across the Internet.

TCP/IP

Transmission Control Protocol/Internet Protocol. A set of protocols, resulting from ARPA efforts, used by the Internet to support services such as remote login (*TELNET*), file transfer (*FTP*) and mail (*SMTP*).

Teleconferencing

Two or more people who are geographically distant having a meeting across a telecommunications link. Includes audio conferencing, video conferencing, and/or data conferencing.

Terminal

Communication device that lets a user send information to a computer by typing on a keyboard, and prints responses from the computer on paper or a screen.

TIFF

Tag Image File Format. A graphic file format, TIFF files are also bit maps, but they can be any size, resolution, or color depth. It is the most versatile, reliable, and widely supported bit-mapped format and is the standard format for saving scanned images. However, the format does have several variations which means that occasionally an application may have trouble opening a TIFF file created by another program.

Title bar

The horizontal bar at the top of a window. The title bar shows the name of the window.

Toolbar

A collection of buttons that typically make the more common tools for an application easily accessible.

Transcoding, transcoder

Converting a data stream from one format to another, such as MPEG 1 to H.263, or an H.320 videoconferencing session to H.323.

Trojan horse

A malicious computer program that appears legitimate but masks a destructive file or application. Unlike viruses, Trojan horses usually do not replicate themselves but can still cause a great deal of damage, such as creating an entryway into your computer for malevolent users.

Tutorial

Step-by-step instructions presented through computer or Web-based technology, designed to teach a user how to complete a particular action.

UNIX

A popular multi-user, multitasking operating system developed at Bell Labs in the early 1970s. Created by just a handful of programmers, UNIX was designed to be a small, flexible system used exclusively by programmers. UNIX was one of the first operating systems to be written in a high-level programming language, namely C. This meant that it could be installed on virtually any computer for which a C compiler existed. This natural portability combined with its low price made it a popular choice among universities.

Upload

Send a file to another computer using a modem.

UPS

Uninterruptible Power Supply. A unit that switches to battery power whenever the power cuts out.

URI (uniform resource identifier)

Name and address of information — text, graphics, audio, video, and so forth — on the Internet. A URI usually identifies the application used to access the resource, the machine the resource is located on, and the file name of the resource. A web page address or URL is the most commonly used type of URI.

URL

Uniform Resource Locator, a string of characters that represents the location or address of a resource on the Internet and how that resource should be accessed. World Wide Web pages are assigned a unique URL. Each hyperlink on a web page contains the URL of the page to be linked to. <http://rohan.sdsu.edu/glossary.html> is the URL for this page.

Usability

The measure of how effectively, efficiently, and easily a person can navigate an interface, find information on it, and achieve his or her goals.

User Id

The string of characters that identifies you. The name by which you are known to the network. Also known as username.

Value-added services

In the context of the e-learning industry, value-added services include custom training needs assessment and skill-gap analysis, curriculum design and development, pre- and post-training mentoring and support, training effectiveness analysis, reporting and tracking tools, advisor services and implementation consulting, hosting and management of internet- or intranet-based learning systems, integration of enterprise training delivery systems, and other services.

Vector graphic

An image created based on mathematical formulas rather than by an array of dots. Vector images look cleaner when they're enlarged or shrunk because the mathematical formulas on which they're based redraw the images to scale. See also Raster graphic.

Videoconferencing

Conducting a conference between two or more participants at different sites by using to transmit audio and . For example, a point-to-point (two-person) video conferencing works much like a video telephone. Using video and audio signals to link participants at different and remote locations.

Virtual

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

Virtual classroom

The online learning space where students and instructors interact.

Virtual community

See Online community

Virtual reality (VR)

An artificial computer-generated environment that is experienced through sensory stimuli and in which special equipment allows the user to interact with the simulation.

Virus

A program that replicates itself from one file or disk to another without your consent. They are spread through floppy disks, networks, and on-line services and can go undetected (unless you have an antiviral utility) until something goes wrong. Some viruses deliberately destroy data, and even those designed to be **benign** can cause crashes, slowdowns, and file corruption.

Virus detection program

A software program to detect, diagnose, and destroy computer viruses.

VPN (Virtual Private Network)

A private network configured inside a public network. Offers the security of private networks with the economies of scale and built-in management capabilities of public networks.

Wallpaper

A graphical pattern displayed on the desktop.

WAP (Wireless Application Protocol)

Specification that allows internet content to be read by wireless devices.

WCS Web Communications Services)

MIT Information Services and Technology's Web Communications Services group.

Web browser

Also known as a Web client program, this software allows you to access and view HTML documents. Netscape, Mosaic, Lynx, WinWeb, and MacWeb are some examples of Web browsers.

Web page

A document created with HTML that is part of a group of hypertext documents or resources available on the World Wide Web.

Webmaster

A person or group of people responsible for the design, implementation, management, and maintenance of a Web site. Note: Webmastery often includes the fields of network configuration, interface, and graphics design, software development, business strategy, writing, marketing, and project management.

Windows

Microsoft software that adds a Mac-like graphical user interface to IBM PCs and compatibles.

Word Processing

Entering, editing and formatting text with the use of spelling checkers, outlining, tables, footnotes, and tables of contents.

Workstation

A networked personal computing device with more power than a standard IBM PC or Macintosh. Typically, a workstation has an operating system such as UNIX that is capable of running several tasks at the same time. It has several megabytes of memory and a large high-resolution display.

WWW

World Wide Web or W3 is the hypermedia document presentation system that can be accessed over the Internet using software called a Web browser.

XHTML (eXtensible Hypertext Markup Language)

Is a reformulation of HTML as an application of XML. It provides the bridge for web designers to enter the web of the future, while still being able to maintain compatibility with today's HTML 4 browsers.

XML (eXtensible Markup Language)

A specification developed by the W3C. XML is a pared-down version of SGML, designed especially for web documents. It allows designers to create their own customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.

XSL (eXtensible Stylesheet Language or eXtensible Style Language)

A specification for separating style from content when creating HTML or XML pages. The specifications work much like templates, allowing designers to apply single style documents to multiple pages. XSL is the second style specification to be offered by the World Wide Web Consortium. The first, called Cascading Style Sheets (CSS), is similar to XSL but does not include two major XSL's innovations -- allowing developers to dictate the way web pages are printed, and specifications allowing one to transfer XML documents across different applications.

XSLT

A language for transforming XML documents.

Zip disk

Portable storage disk that can hold 100 or 250 MB of information, manufactured by the Iomega corporation. Used in a Zip drive, Zip disks can archive or back up large amounts of data.

Zip drive

A high-capacity floppy disk drive developed by Iomega Corporation. Zip disks are slightly larger than conventional floppy disks, and about twice as thick. They can hold 100 or 250 MB of data. Because they're relatively inexpensive and durable, they have become a popular medium for backing up hard disks and for transporting large files.

Zipped

Compressed version of a program or document.