



**Department of  
Educational Services**

**Technology Curriculum Plan  
Grades K - 12**

**2016-2017**

Plainfield Public Schools  
Educational Services  
Curriculum Guide

**The Board of Education for Plainfield Public Schools**



# ***THE MISSION STATEMENT***

***The Plainfield Public Schools, in partnership with its community, shall do whatever it takes for every student to achieve high academic standards***

***No alibis!***

***No excuses!***

***No exceptions!***

Plainfield Public Schools  
Educational Services  
Curriculum Guide

**ACKNOWLEDGEMENTS**

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## **Vision for Technology in Plainfield**

The Plainfield community will be a technologically-enriched, life-long learning environment, which fosters student achievement, mastery of challenging material and the cultivation of skills needed to succeed in an increasingly complex, information oriented society. The school district, in positioning technology as a catalyst to transform learning, will drive the development of an information-rich culture. The Plainfield Technology Plan outlines the next steps needed to reach the vision of a technologically enriched environment within our schools and community.

The district's vision is described more fully below:

- Instruction is technology-rich to:
  - accelerate the development of all students towards the high academic targets represented by the New Jersey Core Curriculum Content Standards,
  - provide opportunities for anytime-anywhere, self-paced learning for students,
  - expand the resources available to students,
  - engage students in challenging, authentic learning opportunities such as problem-based and interdisciplinary instruction, and
  - ensure success of graduates in the 21st century workplace, as citizens and in the pursuit of individual growth
- Collaborative partnerships with community organizations, agencies, higher education and businesses support district and community technology.
- Technology is accessible to the entire community to eliminate the digital divide.
- The school district functions efficiently and effectively by providing technological support for administrative and instructional functions.
- Current and emerging technologies are subjects of study, as well as tools for continuous development of staff, parents and students.

# District Strategic Plan

## GOALS AND OBJECTIVES

### **GOAL 1: LEARNING OUTCOMES**

OBJECTIVE: To improve the learning and academic performance of all students in all PPS.

### **GOAL 2: HUMAN RESOURCES**

OBJECTIVE: To improve the recruitment, retention, and development of district staff.

### **Goal 3: BUSINESS PRACTICES**

OBJECTIVE: To improve the overall efficiency and effectiveness of district and school operations.

### **Goal 4: SAFE LEARNING ENVIRONMENT**

OBJECTIVE: To provide a safe, secure, professional, and clean environment for students, staff, and members of the community.

### **Goal 5: COMMUNITY & FAMILY ENGAGEMENT**

OBJECTIVE: To actively engage families and communities in a meaningful, structured, and productive manner that promotes learning and cooperation.

# IMPLEMENTATION STRATEGIES/ACTIVITY TABLES

*Strategic plan goals are used in the technology plan to structure the objectives and strategies.*

## **GOAL 1: LEARNING OUTCOMES**

OBJECTIVE: To improve the learning and academic performance of all students in all PPS.

<b>Strategies/Activities</b>	<b>Person(s) Responsible</b>	<b>Metrics</b>
Increase the use of the Internet, multimedia software, and peripherals (e.g., scientific probes, Smart Boards, and PDAs) in each classroom to teach the NJCCCS with emphasis on expanding resources to support interdisciplinary focus.	Teachers, Principals; Content Vice-Principals	Percent of students increasing academic performance; Number of schools making AYP; Percent of ELL Students making proficiency or above; Percent of Special Education Students making proficiency or above
Develop grade-appropriate instruction on cross-content workplace readiness skills so that every student in every grade meets the district's expectations that support technology literacy based on the New Jersey Core Curriculum Content Standards (NJCCCS 8.1).	Teachers, Library media specialists, Principals, Vice-Principal of Arts, Talent, and Life Skills Education	Percent of students increasing academic performance; Number of schools making AYP; Percent of ELL Students making proficiency or above; Percent of Special Education Students making proficiency or above
Increase instructional opportunities for student use of the Internet for distance learning, video conferencing, streaming video, research, communication and Internet-based courses.	Principals, Director of Educational Services, Vice-Principal of Arts, Talent, and Life Skills Education	Percent of students increasing academic performance; Number of schools making AYP; Percent of ELL Students making proficiency or above; Percent of Special Education Students making proficiency or above
Increase the use of assistive technology to meet needs of individual students with learning difficulties.	Principals, Director of Special Education	Percent of students increasing academic performance; Number of schools making AYP; Percent of ELL Students making proficiency or above; Percent of Special Education Students making proficiency or above

Continue to expand the instructional technology hardware and software in all schools.	Principals, Director of Educational Services, Vice-Principal of Arts, Talent, and Life Skills Education	Percent of students increasing academic performance; Number of schools making AYP; Percent of ELL Students making proficiency or above; Percent of Special Education Students making proficiency or above
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## **Goal 2: HUMAN RESOURCES**

OBJECTIVE: To improve the recruitment, retention, and development of district staff.

<b>Strategies</b>	<b>Person(s) Responsible</b>	<b>Metrics</b>
Conduct needs assessment annually to gauge technology proficiency of instructional staff.	Principals, Coordinator of Staff Development, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development
Design district and school-based technology workshops that address identified needs for staff development.	Principals, Coordinator of Staff Development, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development
Increase the use of on-line collaboration, streaming video, and other distance learning strategies in providing staff development activities and facilitating communication and articulation across schools, grades, and classrooms.	Principals, Coordinator of Staff Development, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development
Continue and expand partnerships with institutions of higher education to offer graduate courses and other electronic staff development.	Coordinator of Staff Development, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development
Ensure that at every school a minimum of ten workshops for staff and two workshops for parents delivered annually to improve the use of technology in classroom instruction and to improve the home-school connection through technology.	Principals, Coordinator of Staff Development, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development
Provide a minimum of four workshops a year targeted to the needs of administrators. These sessions will focus on the effective use of technology in the classroom and media center, as well as, how to supervise the increased infusion of technology.	Coordinator of Staff Development, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development

Provide on-site graduate courses in instructional technology through Higher Education partners.	Coordinator of Staff Development, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development
Provide in-class support to encourage the use of webquests, scientific probes, PDA's, assistive technology, real-time data, and other emerging technologies.	Principals, Vice-Principal of Arts, Talent, and Life Skills Education	Number of staff participating in site based professional development

### **Goal 3: BUSINESS PRACTICES**

OBJECTIVE: To improve the overall efficiency and effectiveness of district and school operations.

<b>Strategies</b>	<b>Person(s) Responsible</b>	<b>Metrics</b>
Annually complete a school inventory and school survey of technology equipment and budget for hardware replacement as needed.	Principals, Director of Information Technology and Support Services	
Purchase hardware and software to replace obsolete equipment.	Principals, Director of Information Technology and Support Services	
Maintain a Help Desk to provide timely response to requests for assistance with technology related concerns.	Director of Information Technology and Support Services, Help Desk Staff	

## *Using the Integrated Curriculum and Scope and Sequence*

In order to assure the ongoing commitment to and integration of technology in the Plainfield Public Schools, the curriculum subcommittee of the Technology Coordinator developed the Integrated Technology Curriculum. Its design and content are aligned with national, state, and the existing technology standards of the district of Plainfield.

The primary purpose of this document is to serve as a reference and guide to the integration of technology outcomes within core curriculum areas. By pairing technology outcomes with sample indicators and sample projects and lessons, teachers can, with the assistance and support of district instructional technology specialists, begin to design lessons and assessments that seek an authentic use of technology resources – hardware, software and personnel.

The sample indicators are precisely that – samples. They are provided to indicate what teachers may observe as students begin to develop and assimilate the technology competencies. Likewise, the suggested units for integration are examples, based on current practice in classrooms within the district. The sample lessons/units of integration are suggestions only; they are not intended to be inclusive of all possible points of integration within a unit of study nor are they meant to be exclusive of new ideas created by classroom teachers and/or instructional technology personnel.

As part of defining a natural point of integration for the technology standards, a scope and sequence has been added to create a linear view of The stages of students' technology learning development. In creating this scope and sequence, the committee sought to set the development based on existing hardware and support personnel. As the technology resources of the district change, so too will the range of the scope and sequence and the possibilities within each grade level. The key to the scope and sequence is as follows:

<b>X - Not Applicable</b>	Students have not been exposed to the standard/skills.
<b>I - Introduced</b>	Students will be exposed to the standard/skills primarily through teacher modeling or lesson design.
<b>D – Developing</b>	Students begin to acquire initial skills and strategies through direct or integrated instruction as part of a content lesson.
<b>M - Mastered</b>	Students implement the skills and independently apply the knowledge.
<b>R - Reinforced</b>	Students continue to use and refine the skill independently.

*Department of Curriculum and Instruction  
Technology Curriculum Guide  
Grades Kindergarten – Fourth*

**Content Standard: 8.1 Computer and Information Literacy**

All students will use computer applications to gather and organize information and to solve problems.

Educational Experiences in Grades K-4 will assure that students:	Sample Indicators	Grade and Subject Area	Suggested Activities for Integration	K	1	2	3	4
<b><u>8.1.4 A</u></b> <b>Basic Computer Skills and Tools</b>	<ul style="list-style-type: none"> <li>Use basic technology vocabulary</li> </ul>	Grades K-4 All Core Subjects	Technology vocabulary words (e.g. monitor, keyboard, mouse, printer etc.)	I	D	D	D	M
	<ul style="list-style-type: none"> <li>Use basic features of an operating system</li> </ul>	Grades K- 4 All Core Subjects	Navigation of desktop icons and all programs	I	D	D	D	M
	<ul style="list-style-type: none"> <li>Input and access text and data using appropriate keyboarding techniques or other input devices</li> </ul>	Grades K-4 All Core Subjects	Type to Learn, Kid Keys, Read Write and Type	I	D	D	D	M

	<ul style="list-style-type: none"> <li>Produce a simple finished document using word processing software</li> </ul>	<p>Grades 2-4 All Core Subjects</p>	Word	X	X	I	D	M
	<ul style="list-style-type: none"> <li>Produce and interpret a simple graph or chart by entering and editing data on a prepared spreadsheet template</li> </ul>	<p>Grades 3-4 All Core Subjects</p>	Word, Excel, EM Games, Microsoft Paint, PowerPoint	X	X	X	I	D
	<ul style="list-style-type: none"> <li>Create and present a multimedia presentation using appropriate software</li> </ul>	<p>Grades 3-4 All Core Subjects</p>	PowerPoint, Kidpix, Movie Maker	X	X	X	I	D
	<ul style="list-style-type: none"> <li>Create and maintain files and folders</li> </ul>	<p>Grades 2-4 All Core Subjects</p>	Windows OS, Mac OS	X	X	I	D	D
	<ul style="list-style-type: none"> <li>Use graphic organizers</li> </ul>	<p>Grades 2-4 All Core Subjects</p>	Kidspiration, Word, PowerPoint	X	X	I	D	D

	<ul style="list-style-type: none"><li>• Use basic computer icons</li></ul>	Grades K-4	Windows OS Mac OS	I	D	D	M	R
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**Department of Curriculum and Instruction**  
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**Grades Kindergarten – Fourth**

**Content Standard: 8.1 Computer and Information Literacy**

All students will use computer applications to gather and organize information and to solve problems.

Educational Experiences in Grades K-4 will assure that students:	Sample Indicators	Grade and Subject Area	Suggested Resources for Integration	K	1	2	3	4
<b>8.1.4 B</b> <b>Application of Productivity Tools</b>	<p><b><u>Social Aspects:</u></b></p> <ul style="list-style-type: none"> <li>Discuss the common uses of computer applications and identify their advantages and disadvantages</li> </ul>	Grades 2-4 All Core Subjects	District approved software	X	X	I	D	D
	<ul style="list-style-type: none"> <li>Recognize and practice responsible social and ethical behaviors when using technology, and understand the consequences of inappropriate use including:               <ul style="list-style-type: none"> <li>~ Internet access</li> <li>~ Copyrighted materials</li> <li>~ Online library resources</li> <li>~ Personal security and safety issues</li> </ul> </li> </ul>	Grades 2-4 All Core Subjects	Plainfield Acceptable Use Policy, OPAC, kid friendly search engines, copyright laws	X	X	I	D	D
	<ul style="list-style-type: none"> <li>Practice appropriate Internet etiquette</li> </ul>	Grade 2- 4 All Core Subjects	Plainfield Acceptable Use Policy	X	X	I	D	D

	<ul style="list-style-type: none"> <li>Recognize the ethical and legal implications of plagiarism materials</li> </ul>	Grades 3-4	Proper use of Internet citations	X	X	X	I	D
	<p><b><u>Information Access and Research</u></b></p> <ul style="list-style-type: none"> <li>Recognize the need for assessing and using information</li> </ul>	Grades 2-4 All Core Subjects	Appropriate Internet sites	X	X	I	D	D
	<ul style="list-style-type: none"> <li>Identify and use web browser, search engines, and directories to obtain information to solve real world problems</li> </ul>	Grades 3-4 All Core Subjects	IDE Portal, search engines, United Streaming	X	X	I	D	D
	<ul style="list-style-type: none"> <li>Locate specific information by searching a database</li> </ul>	Grades 3-4 Library Media	OPAC, Excel	X	X	X	I	D
	<ul style="list-style-type: none"> <li>Recognize accuracy and/or bias of information</li> </ul>	Grade 4 Library Media	Internet Sites, articles	X	X	X	X	I
	<p><b><u>Problem Solving and Decision Making</u></b></p> <ul style="list-style-type: none"> <li>Solve problems individually and/or collaboratively using computer applications</li> </ul>	Grade 3-4 All Core Subjects	My Math Forums, Webquests, Problem Based Learning	X	X	X	I	D
	<ul style="list-style-type: none"> <li>Identify basic hardware problems and solve simple problems</li> </ul>	Grades 2-4 All Core Subjects	Teaching Model	X	X	I	D	D

**By the end of Kindergarten the students will be able to:**

**8.1.4.A**

Identify the computer as a machine that helps people work and play

Identify and use input devices such as disk drive, mouse, keyboard, CD /DVD drive, scanner, microphone

Identify and use output devices such as disk drive, monitor, printer, CD/ DVD drive, headphones and speakers

List the rules for proper care of computer equipment

Demonstrate proper care for computer and other peripherals

Identify the different functions of a keyboard (Enter, Spacebar, Esc, arrows, shift, Control, Alt, Delete, Backspace)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Operate a mouse (click, double click, click and drag, scroll wheel)

Open a program from an icon

Exit a program properly

Minimize and maximize windows

Operate scroll bars

Print, save and open documents/files with teacher guidance

Use appropriate hand pressure on mouse and keyboard

Identify basic computer vocabulary (ex. mouse, keyboard)

**Sample Performance Tasks:**

- Using pictures of the various parts of a computer (e.g. disk drive, CPU, monitor, keyboard, mouse, etc.) and word cards, students match the words with the pictures and tell what each part does. Using a checklist to evaluate this task, proficiency would include student application of this knowledge to components of a real computer.
- Using a checklist, students will demonstrate how to turn on the computer, open a designated program, exit that program, and shut down the computer with teacher supervision. Proficiency of this task is met when all items on the list are completed.
- Using a word-processing and drawing program, students write statements, use computer drawing tools to illustrate their statements, and print them out for presentation to the class. Using a rubric to evaluate this task, proficiency will show accurate use of word-processing, drawing and printing.

**By the end of Kindergarten the students will be able to:**

**8.1.4.B**

Explain acceptable use policy

**By the end of Kindergarten the students will be able to:**

**8.2**

Use simple tools to complete tasks

**Sample Performance Tasks:**

- Use thermometer to measure temperature inside and outside.
- Use calculators to perform simple calculations.

<b>By the end of First Grade the students will be able to:</b>
<b>8.1.4A</b>
Identify the computer as a machine that helps people work and play
Identify and use input devices such as disk drive, mouse, keyboard, CD/DVD drive, scanner, microphone
Identify and use output devices such as disk drive, monitor, printer, CD/DVD drive, headphones and speakers
List the rules for proper care of computer equipment
Demonstrate proper care for computer and other peripherals
Identify the different functions of a keyboard (Enter, spacebar, Esc, arrows, Shift, Control, Alt, Delete, Backspace)
Demonstrate proper sequence for turning on and turning off computers and other peripherals
Operate a mouse (click, double click, click and drag, click and hold, highlight)
Open a program from an icon
Exit a program properly
Minimize and maximize windows
Operate scroll bars
Print, save and open documents/files with teacher guidance
Use appropriate hand pressure on mouse and keyboard
Color a drawing of the keyboard indicating which finger should operate which keys
Identify basic computer vocabulary (e.g. mouse, keyboard)
Explore basic navigation of the operating system
Use the correct hand and body position while applying the proper touch method of keying for home row keys
Type words consisting of the home row key letters using the proper touch keying technique
<b>Sample Performance Tasks:</b>
<ul style="list-style-type: none"> <li>Using pictures of the various parts of a computer (e.g. disk drive, CPU, monitor, keyboard, mouse, etc.) and word cards, students match the words with the pictures and tell what each part does. Using a checklist to evaluate this task, proficiency would include student application of this knowledge to components of a real computer.</li> <li>Using a checklist, students will demonstrate how to turn on the computer, open a designated program, exit that program, and shut down the computer with teacher supervision. Proficiency of this task is met when all items on the list are completed.</li> <li>Using a word-processing and drawing program, students write statements, use computer drawing tools to illustrate their statements, and print them out for presentation to the class. Using a rubric to evaluate this task, proficiency will show accurate use of word-processing, drawing and printing.</li> </ul>

**By the end of First Grade the students will be able to:**

**8.1.4.B**

Explain acceptable use policy

Use the internet to access information

**By the end of First Grade the students will be able to:**

**8.2**

Use simple tools to complete tasks

Discuss how scientists and inventors have contributed to science and technology

**Sample Performance Tasks:**

- Use thermometer to measure temperature inside and outside.
- Use calculators to perform simple calculations.
- Use a balance to compare weights of objects.

**By the end of Second Grade the students will be able to:**

**8.1.4A**

Identify the computer as a machine that helps people work and play

Identify and use input devices such as disk drive, mouse, keyboard, CD/DVD drive, scanner, microphone

Identify and use output devices such as disk drive, monitor, printer, CD/DVD drive, headphones and speakers

List the rules for proper care of computer equipment

Demonstrate proper care for computer and other peripherals properly

Identify the different functions of a keyboard (Enter, spacebar, Esc, arrows, Shift, Control, Alt, Delete, Backspace)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Operate a mouse (click, double click, click and drag, click and hold, highlight, scroll wheel)

Open and exit a program properly using different methods

Minimize and maximize windows

Operate scroll bars

Print, save and open documents/files with teacher guidance

Use appropriate hand pressure on mouse and keyboard

Color a drawing of the keyboard indicating which finger should operate which keys

Identify basic computer vocabulary (ex. mouse, keyboard)

Explore basic navigation of the operating system to application used on the computer

Use the correct hand and body position while applying the proper touch method of keying for home row keys

Type words consisting of the home row key letters using the proper touch keying technique

Proofread and correct errors using backspace, delete, undo, erase

Key words consisting of letters utilizing the home row keys, the row below and the row above using the proper touch keying technique for the development of speed

**Sample Performance Tasks:**

- Students will use the Internet with teacher's assistance to examine selected websites to acquire information and illustrate thoughts, ideas, or stories using multimedia software.
- Given a question or a topic related to any content area, the student will use developmentally appropriate technology to respond to the question or collect information on the topic. Proficiency will be determined using a rubric developed by the teacher.

**By the end of Second Grade students will be able to:**

**8.1.4.B**

Identify, discuss and visually represent uses of technology in the community

Identify the influence and effects of technology on everyday life and learning

Understand and follow classroom rules for technology use

Discuss the Acceptable Use Policy

Identify and discuss appropriate and safe behaviors

Use the internet to access information

Know how “pop-up” windows happen and not to respond to them

**Sample Performance Tasks:**

- Using pictures from magazines, newspapers, and/or drawings, students will make posters of the different ways computers are used in their lives. The students will then display and explain their choices of pictures.
- Using a checklist, students will demonstrate how to turn on the computer, open a designated program, exit that program, and shut down the computer with teacher supervision. Proficiency of this task is met when all items on the list are completed.

**By the end of Second Grade students will be able to:**

**8.2**

Use simple tools to complete tasks

Discuss how scientists and inventors have contributed to science and technology

Describe and write a plan to solve a problem

Describe the parts of a computer system and how they work together (monitor, cpu, keyboard, mouse, speakers, and printer)

**Sample Performance Tasks:**

- Use thermometer to measure temperature inside and outside.
- Use calculators to perform simple calculations.
- Use a balance to compare weights of objects.

**By the end of Third Grade the students will be able to:**

**8.1.4A**

Identify the computer as a machine that helps people work and play

Identify and use input devices such as disk drive, mouse, keyboard, CD/ DVD drive, scanner, microphone

Identify and use output devices such as disk drive, monitor, printer, CD/DVD drive, headphones and speakers, multimedia projector/display screen, etc.

List the rules for proper care of computer equipment

Demonstrate proper care for computer and other peripherals

Identify the different functions of a keyboard (Enter, spacebar, Esc, arrows, Shift, Control, Alt, Delete, Backspace)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Operate a mouse (click, double click, click and drag, click and hold, highlight, scroll wheel)

Open a program from an icon

Exit a program properly

Minimize and maximize windows

Operate scroll bars

Print, save and open documents/files with teacher guidance

Use appropriate hand pressure on mouse and keyboard

Color a drawing of the keyboard indicating which finger should operate which keys

Identify basic computer vocabulary (e.g. mouse, keyboard)

Explore basic navigation of the operating system as it relates to applications used on the computer

Use the correct hand and body position while applying the proper touch method of keying for home row keys (A, S,D,F, J, K, L , ; ) ,row above (Q,W,E,R,T,U,I,O,P,[,]), and row below (Z,X,C,V,B,N,M;,”)

Type words consisting of the home row key letters using the proper touch keying technique

Proofread and correct errors using backspace, delete, undo, erase

Save, retrieve, and delete files

Expand the use of various operating system features such as opening more than one application/program, the menus, the taskbar, etc

Key words consisting of letters utilizing the home row keys, the row below and the row above using the proper touch keying technique for the development of speed

Import graphic from clip art galleries

**Sample Performance Tasks:**

- Student will create independent and collaborative multimedia products using a variety of presentation tools to be scored based on a created rubric.
- Given a topic the student will choose the appropriate software and hardware to effectively communicate to a given audience.

**By the end of Third Grade students will be able to:**

**8.1.4.B**

Identify, discuss and visually represent uses of technology in the community

Identify the influence and effects of technology on everyday life and learning

Understand and follow classroom rules for technology use

Discuss the Acceptable Use Policy

Recognize the importance of supervised use of technology

Identify and discuss appropriate and safe behaviors

Notify the teacher immediately if an inappropriate website appears when using the Internet

Know how “pop-up” windows happen and when to respond to them

Discuss the purpose of virus protection software

List ways technology makes life easier for us today

Compare and contrast the advantages and disadvantages of the use of technology

Practice safe use of electronic equipment

**Sample Performance Tasks:**

- Classroom discussion of Acceptable Use Policy.
- Using a word processor briefly describe the advantages and disadvantages technology has brought to our lives.

**By the end of Third Grade students will be able to:**

**8.2**

Discuss how scientists and inventors have contributed to science and technology

Explain and write about scientists and inventors throughout history

Choose materials most suitable to make mechanical constructions

Use the design process to identify a problem, look for ideas, and develop and share solutions with others

**Sample Performance Tasks:**

- Research inventors and explain how they contributed to science and technology.
- Students construct small flying rockets out of paper and propel them by blowing air through a straw.

**By the end of Fourth Grade the students will be able to:**

**8.1.4A**

Identify the computer as a machine that helps people work and play

Identify and use input devices such as disk drive, mouse, keyboard, CD/DVD drive, scanner, microphone

Identify and use output devices such as disk drive, monitor, printer, CD/DVD drive, headphones and speakers

List the rules for proper care of computer equipment

Demonstrate proper care for computer and other peripherals properly

Identify the different functions of a keyboard (Enter, spacebar, Esc, arrows, Shift, Control, Alt, Delete, Backspace)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Operate a mouse (click, double click, click and drag, click and hold, highlight, scroll wheel)

Open and exit a program properly using different methods

Minimize and maximize windows

Operate scroll bars

Print, save and open documents/files with teacher guidance

Exhibit proper posture and fingering techniques for the alphanumeric keyboard

Review and expand proper touch-keying techniques for all rows of the keyboard

Identify basic computer vocabulary (ex. mouse, keyboard)

Explore basic navigation of the operating system

Exhibit proper posture and use both hands on the keyboard

Type words consisting of the home row key letters using the proper touch keying technique

Proofread and correct errors using backspace, delete, and undo

Save, retrieve, and delete files

Expand the use of various operating system features such as opening more than one application/program, the menus, the taskbar, etc.

Type words consisting of letters utilizing the home row keys, the row below and the row above using the proper touch keying technique for the development of speed

Import graphics from clip art galleries

Identify and discuss the benefits of networked and non-networked computers

Recognize, discuss, and use network terms/concepts such as stand alone, network, network resources, etc.

Expand the use of various operating system features such as, opening more that one application/program, the menus, the taskbar, etc.

**Sample Performance Tasks:**

- Student will create independent and collaborative multimedia products using a variety of presentation tools to be scored based on a created rubric.
- Given a topic, the student will choose the appropriate software and hardware to effectively communicate to a given audience.
- Use technology resources to research, and create a product on a given topic.

**By the end of Fourth Grade the students will be able to:****8.1.4.B**

Identify, discuss and visually represent uses of technology in the community

Identify the influence and effects of technology on everyday life and learning

Understand and follow classroom rules for technology use

Discuss the Acceptable Use Policy

Recognize the importance of supervised use of technology

Identify and discuss appropriate and safe behaviors

Notify the teacher immediately if an inappropriate website appears when using the internet

Know how “pop-up” windows happen and when to respond to them

Discuss the purpose of virus protection software

List ways technology makes life easier for us today

Compare and contrast the advantages and disadvantages of the use of technology

Practice safe use of electronic equipment

Identify the various people involved in technological developments

Discuss copyright laws

Explore technology related careers

**Sample Performance Tasks:**

- Classroom discussion of Acceptable Use Policy.
- Using a word processor, briefly describe the advantages and disadvantages technology has brought to our lives.
- Create a multimedia project researching the development of technology.

**By the end of Fourth Grade students will be able to:**

**8.2**

Discuss how scientists and inventors have contributed to science and technology

Explain and write about scientists and inventors throughout history

Choose materials most suitable to make mechanical constructions

Use the design process to identify a problem, look for ideas, and develop and share solutions with others

**Sample Performance Tasks:**

- Investigate how inventions have changed our society.
- Build a Better Backpack: <http://www.state.nj.us/njded/aps/cccs/tech/frameworks/es/backpack.doc>
- Students will design paper airplanes with balloon power.

*Department of Curriculum and Instruction  
Technology Curriculum Guide  
Grades Fifth - Eighth*

**Content Standard: 8.1 Computer and Information Literacy**

All students will use computer application to gather and organize information and to solve problems

Educational Experiences in Grades 5 – 8 will assure that students:	Sample Indicators	Grade and Subject Area	Suggested Activities for Integration	5	6	7	8
<b><u>8.1.8 A</u></b> <b>Basic Computer Skills and Tools</b>	<ul style="list-style-type: none"> <li>Use appropriate technology vocabulary</li> </ul>	Grades 5-8 5 <sup>th</sup> all Core Subjects 6-8 Tech Lab/Media	Technology vocabulary words from applications (Word, Excel, PowerPoint, Access, Internet)	D	D	M	R
	<ul style="list-style-type: none"> <li>Use common features of an operating system</li> </ul>	Grades 5-8 5 <sup>th</sup> all Core Subjects 6-8 Tech Lab/Media	Comparisons of Windows vs. Mac's	D	D	M	R
	<ul style="list-style-type: none"> <li>Demonstrate effective input of text and data using touch keyboarding with proper technique</li> </ul>	Grades 5-8 5 <sup>th</sup> all Core Subjects 6-8 Tech Lab/Media	Mavis Beacon, Type to Learn, All the Right Type	D	D	M	R

	<ul style="list-style-type: none"> <li>Input and access text and data efficiently and accurately through proficient use of other input devices, such as a mouse</li> </ul>	<p>Grades 5-8 5<sup>th</sup> all Core Subjects 6-8 Tech Lab/Media</p>	flash drives, scanners, CD/DVD	D	M	R	R
	<ul style="list-style-type: none"> <li>Create documents with advanced text formatting and graphics using word processing</li> </ul>	<p>Grades 5-8 5<sup>th</sup> all Core Subjects 6-8 Tech Lab/Media/Literacy /SS</p>	Word	D	D	D	M
	<ul style="list-style-type: none"> <li>Create a file containing customized information by merging documents</li> </ul>	<p>Grades 5-8 5<sup>th</sup> all Core Subjects 6-8 Tech Lab/Media/Literacy /SS</p>	Word, Excel	D	D	D	M
	<ul style="list-style-type: none"> <li>Construct a simple spreadsheet, enter data, and interpret the information</li> </ul>	<p>Grades 5-8 5<sup>th</sup> all Core Subjects 6-8 Tech Lab/Media/Literacy /SS/ Math/Science</p>	Excel	D	D	D	M
	<ul style="list-style-type: none"> <li>Design and produce a basic multimedia project</li> </ul>	<p>Grades 5-8 5<sup>th</sup> all Core Subjects 6-8 Tech Lab/Media/Literacy /SS/ Math/Science</p>	PowerPoint, Internet	M	R	R	R

	<ul style="list-style-type: none"> <li>Plan and create a simple database, define field, input data, and produce a report using sort and query</li> </ul>	Grades 5-8 5 <sup>th</sup> All Core Subjects 6-8 Tech Lab/Media	Access	X	I	D	D
	<ul style="list-style-type: none"> <li>Use network resources for storing and retrieving data</li> </ul>	Grades 5-8 5 <sup>th</sup> All Core Subjects 6-8 Tech Lab/Media		X	I	D	D
	<ul style="list-style-type: none"> <li>Choose appropriate electronic graphic organizers to create, construct, or design a document</li> </ul>	Grades 5-8 5 <sup>th</sup> All Core Subjects 6-8 Tech Lab/Media/Literacy	Word, PowerPoint	D	D	D	M
	<ul style="list-style-type: none"> <li>Create, organize and manipulate shortcuts</li> </ul>	Grades 5-8 5 <sup>th</sup> All Core Subjects 6-8 Tech Lab/Media/Literacy	Windows	D	D	D	M

*Department of Curriculum and Instruction  
Technology Curriculum Guide  
Grades Fifth - Eighth*

**Content Standard: 8.1 Computer and Information Literacy**

All students will use computer applications to gather and organize information and to solve problems.

Educational Experiences in Grades K-4 will assure that students:	Sample Indicators	Grade and Subject Area	Suggested Resources for Integration	5	6	7	8
<b>8.1.8 B Application of Productivity Tools</b>	<p><b><u>Social Aspects:</u></b></p> <ul style="list-style-type: none"> <li>Demonstrate an understanding of how changes in technology impact the workplace and society</li> </ul>	<p>Grades 5-8 All Core Subjects</p>	<p>Internet, Technology Books, magazines</p>	D	D	M	R
	<ul style="list-style-type: none"> <li>Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse</li> </ul>	<p>Grades 5-8 All Core Subjects</p>	<p>Plainfield Acceptable Use Policy, OPAC, Kid friendly search engines, Copyright Laws</p>	D	D	M	R
	<ul style="list-style-type: none"> <li>Explain the purpose of an Acceptable Use Policy and the consequences of inappropriate use of technology</li> </ul>	<p>Grade 5-8 All Core Subjects</p>	<p>Acceptable Use Policy</p>	D	D	M	R
	<ul style="list-style-type: none"> <li>Describe and practice safe internet usage</li> </ul>	<p>Grades 5-8 All Core Subjects</p>	<p>Kid friendly search engines</p>	D	D	M	R
	<ul style="list-style-type: none"> <li>Describe and practice “etiquette” when using the internet and electronic mail</li> </ul>	<p>Grade 5-8 All Core Subjects</p>		D	D	M	R

	<p><b><u>Information Access and Research</u></b></p> <ul style="list-style-type: none"> <li>Choose appropriate tools and information resources to support research and solve real world problems including but not limited to:</li> </ul> <p>~ Online resources and databases ~ Search engines and Subject directories</p>	Graded 5-8 All Core Subjects	Word, Excel, PowerPoint, Access, Internet	D	D	M	R
	<ul style="list-style-type: none"> <li>Evaluate the accuracy, relevance, and appropriateness of print and non-print electronic sources</li> </ul>	Graded 5-8 All Core Subjects	Internet	D	D	M	R
	<p><b><u>Problem Solving and Decision Making</u></b></p> <ul style="list-style-type: none"> <li>Use computer applications to modify information independently and/or collaboratively to solve problems</li> </ul>	Graded 5-8 All Core Subjects	IDE Portal, search engines, United Streaming, Webquests	D	D	M	R
	<ul style="list-style-type: none"> <li>Identify basic hardware problems and demonstrate the ability to solve common problems</li> </ul>	Graded 5-8 All Core Subjects	Teacher Modeling	D	D	D	D
	<ul style="list-style-type: none"> <li>Determine when technology tools are appropriate to solve a problem and make a decision</li> </ul>	Graded 5-8 All Core Subjects		D	D	D	D

**By the end of Fifth Grade the students will be able to:**

**8.1.8.A**

Use and apply appropriate computer terminology

Use keyboard and other common input and output devices (including adaptive devices when necessary) efficiently and effectively

List the rules for proper care of computer equipment

Demonstrate proper care for computer and other peripherals

Identify the different functions of a keyboard (Enter, spacebar, Esc, arrows, Shift, Control, Alt, Delete, Backspace)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Operate a mouse (click, double click, click and drag, click and hold, highlight)

Open a program from an icon

Exit a program properly

Minimize and maximize windows

Operate scroll bars

Print, save and open documents/files with teacher guidance

Exhibit proper posture and fingering techniques for the alphanumeric keyboard

Review and expand proper touch-keying techniques for all rows of the keyboard

Identify basic computer vocabulary (e.g. mouse, keyboard)

Explore basic navigation of the operating system as it relates to the applications used on the computer

Exhibit proper posture and use both hands on the keyboard

Type words consisting of the home row key letters using the proper touch keying technique

Proofread and correct errors using backspace, delete, undo, erase

Save, retrieve, and delete files

Expand the use of various operating system features such as opening more than one application/program, the menus, the taskbar, etc.

Type words consisting of letters utilizing the home row keys, the row below and the row above using the proper touch keying technique for the development of speed

Use the characteristics of multimedia (text, audio, images, video, etc.) in presentations.

Identify and discuss the benefits of networked and non-networked computers

Recognize, discuss, and use network terms/ concepts such as stand alone, network, network resources, etc.

Expand the use of various operating system features such as, opening more than one application/program, the menus, the taskbar, etc.

Understand the differences in file formats and compatibility

Recognize telecommunication as a way to share information electronically

Develop skills in using function keys and keyboard short cuts

Use and apply appropriate keyboard terminology

Identify and discuss multimedia terms/concepts (slide/card, link/button, text box, navigate, transition) as a class/group

**Sample Performance Tasks:**

- Choose a given topic and the appropriate software and hardware to effectively communicate to a given audience.
- Using technology resources students will research then create a product on a given topic.
- Students will use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, and scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.

**By the end of Fifth Grade students will be able to:**

**8.1.8.B**

Identify, discuss and visually represent uses of technology in the community

Identify the influence and effects of technology on everyday life and learning

Understand and follow classroom rules for technology use

Discuss the Acceptable Use Policy

Recognize the importance of supervised use of technology

Identify and discuss appropriate and safe behaviors

Notify the teacher immediately if an inappropriate website appears when using the Internet

Know how “pop-up” windows happen and not to respond to them

**Sample Performance Tasks:**

- Given sites selected by teacher, the student will evaluate the validity and bias of the information on a given topic.
- Students will create a multimedia project researching the development of technology.

**By the end of Fifth Grade students will be able to:**

**8.2**

Describe how technological activity has an affect on economic development, political actions, and cultural change.

Describe how one technological innovation can be applied to solve another human problem that enhances human life or extends human capability.

Explain the cultural and societal effects resulting from the dramatic increases of knowledge and information available today.

**Sample Performance Tasks:**

- Use technological resources to investigate economic, political, and cultural changes.
- Read, discuss, and explain historical events in technology that have enhanced the way we live.

**By the end of Sixth Grade the students will be able to:**

**8.1.8.A**

Use and apply appropriate computer terminology

Use keyboard and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.

Maintain a current vocabulary of networking terms

Demonstrate proper care for computer and other peripherals

Use different software programs (word processor, spreadsheets, etc)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Manipulate icons on the desktop, create folders, and store files within the folder

Use technology terminology appropriate to task

Exhibit proper posture and fingering techniques for the alphanumeric keyboard

Organize files on computer disk, hard drive, or other storage devices

Explore basic navigation of the operating system to application used on the computer

Perform basic software applications functions

Type, edit and print a document

Create a chart that visually represents data

Import graphics with appropriate placement

Key words consisting of letters utilizing the home row keys, the row below and the row above using the proper touch keying technique for the development of speed

Use the characteristics of multimedia (text, audio, images, video, etc.) in presentations

Identify and discuss the benefits of networked and non-networked computers

Recognize, discuss, and use network terms/ concepts such as stand alone, network, network resources, etc.

Expand the use of various operating system features such as, opening more than one application/program, the menus, the taskbar, etc.

Understand the differences in file formats and compatibility

Recognize telecommunication as a way to share information electronically

Develop skills in using function keys and keyboard short cuts

Use and apply appropriate keyboard terminology

Identify and discuss multimedia terms/concepts (slide/card, link/button, text box, navigate, transition) as a class/group

**Sample Performance Tasks:**

- Given a topic the student will choose the appropriate software and hardware to effectively communicate to a given audience.
- Use technology resources to research then create a product on a given topic.
- Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, and scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.
- Students will design a slide show presentation on a topic of their choice. The students will be assessed using a teacher designed rubric.

**By the end of Sixth Grade students will be able to:**

**8.1.8.B**

Identify, discuss and visually represent uses of technology in the community

Identify the influence and effects of technology on everyday life and learning

Understand and follow classroom rules for technology use

Follow Acceptable Use Policy as set by the local school district

Recognize the importance of supervised use of technology

Identify and discuss appropriate and safe behaviors

Notify the teacher immediately if an inappropriate website appears when using the internet

Know how “pop-up” windows happen and when to respond to them

Discuss the impact of viruses as to the advantages and disadvantages of the use of technology

Discuss the impact of global communication

Compare and contrast the advantages and disadvantages of the use of technology

Describe the consequences regarding copyright violations including but not limited to computer hacking, computer piracy, intentional virus setting and invasion of privacy

Identify the various people involved in technological developments

Obey the copyright law and accurately record information source

Explore technology related careers

**Sample Performance Tasks:**

- During appropriate curricular activities students will verbally describe when and how technology is used in everyday life and occupations. Using observation, teachers will develop a rubric evaluating the behavior of the students as they use technology in content area lessons.
- Create a multimedia project researching the development of technology.

**By the end of Sixth Grade students will be able to:**

**8.2**

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

Describe how components of a technological product, system, or environment interact.

Use hands on activities to analyze products and systems to determine how the design process was applied to create the solution.

**Sample Performance Tasks:**

- Create a list of technology items from the past and describe their uses.
- Explain how the Internet, the World Wide Web, email, and networks affect the use of computers.
- Analyze a computer system using visual and hands-on activities.

**By the end of Seventh Grade the students will be able to:**

**8.1.8.A**

Use and apply appropriate computer terminology

Use keyboard and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.

Maintain a current vocabulary of networking terms

Demonstrate proper care for computer and other peripherals properly

Use different software programs (word processor, spreadsheets, etc)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Manipulate icons on the desktop, create folders, and store files within the folder

Use technology terminology appropriate to task

Exhibit proper posture and fingering techniques for the alphanumeric keyboard.

Organize files on computer disk, hard drive, or other storage devices

Explore basic navigation of the operating system to application used on the computer.

Perform basic software applications functions

Type, edit and print a document

Create a chart that visually represents data

Import graphics with appropriate placement

Key words consisting of letters utilizing the home row keys, the row below and the row above using the proper touch keying technique for the development of speed.

Use the characteristics of multimedia (text, audio, images, video, etc.) in presentations.

Identify and discuss the benefits of networked and non-networked computers

Recognize, discuss, and use network terms/ concepts such as stand alone, network, network resources, etc.

Expand the use of various operating system features such as, opening more than one application/program, the menus, the taskbar, etc.

Understand the differences in file formats and compatibility.

Recognize telecommunication as a way to share information electronically.

Develop skills in using function keys and keyboard short cuts.

Use and apply appropriate keyboard terminology.

Identify and discuss multimedia terms/concepts (slide/card, link/button, text box, navigate, transition) as a class/group.

### **Sample Performance Tasks:**

- Given a topic the student will choose the appropriate software and hardware to effectively communicate to a given audience.
- Use technology resources to research then create a product on a given topic.
- Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, and scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.
- Students will design a slide show presentation on a topic of their choice. The students will be assessed using a teacher designed rubric.
- Using internet resources students will construct a timeline listing historical aspects of computing. The students should select the appropriate software to complete the task. The timeline describes early and modern methods of computing and identifies people involved in computing and identifies people involved in computing. Students compare and contrast generations of computers and project future technology trends. Students will print their projects and share results with the class.

**By the end of Seventh Grade students will be able to:**

**8.1.8.B**

Identify, discuss and visually represent uses of technology in the community

Identify the influence and effects of technology on everyday life and learning

Understand and follow classroom rules for technology use.

Follow Acceptable Use Policy as set by the local school district.

Recognize the importance of supervised use of technology

Identify and discuss appropriate and safe behaviors

Notify the teacher immediately if an inappropriate website appears when using the internet.

Know how “pop-up” windows happen and when to respond to them.

Discuss the impact of viruses as to the advantages and disadvantages of the use of technology.

Discuss the impact of global communication

Compare and contrast the advantages and disadvantages of the use of technology.

Describe the consequences regarding copyright violations including but not limited to computer hacking, computer piracy, intentional virus setting and invasion of privacy

Identify the various people involved in technological developments

Obey the copyright law and accurately record information source

Explore technology related careers.

**Sample Performance Tasks:**

- During appropriate curricular activities students will verbally describe when and how technology is used in everyday life and occupations. Using observation, teachers will develop a rubric evaluating the behavior of the students as they use technology in content area lessons.
- Create a multimedia project researching the development of technology.

**By the end of Seventh Grade students will be able to:**

**8.2**

Identify a technological problem and use the design process to create an appropriate solution.

Describe how variations in resources can affect solutions to a technological problem.

Select and safely use appropriate tools and materials in analyzing, designing, modeling or making a technological product, system or environment.

Demonstrate and explain how the design process is not linear.

Identify a technological problem and use the design process to create an appropriate solution.

**Sample Performance Tasks:**

- Solve a complex simulated situation using research methods to manipulate data.
- Identify the appropriate hardware, software, and extended technology to provide solutions to real world problems.
- Students will be able to solve a complex simulated situation using research methods to manipulate data.
- Distinguish the difference between linear and non-linear designs.

**By the end of Eighth Grade the students will be able to:**

**8.1.8.A**

Use and apply appropriate computer terminology

Use keyboard and other common input and output devices (including adaptive devices when necessary) efficiently and effectively.

Maintain a current vocabulary of networking terms

Demonstrate proper care for computer and other peripherals properly

Use different software programs (word processor, spreadsheets, etc)

Demonstrate proper sequence for turning on and turning off computers and other peripherals

Manipulate icons on the desktop, create folders, and store files within the folder

Use technology terminology appropriate to task

Exhibit proper posture and fingering techniques for the alphanumeric keyboard.

Organize files on computer disk, hard drive, or other storage devices

Explore basic navigation of the operating system to application used on the computer.

Perform basic software applications functions

Type, edit and print a document

Create a chart that visually represents data

Import graphics with appropriate placement

Key words consisting of letters utilizing the home row keys, the row below and the row above using the proper touch keying technique for the development of speed.

Use the characteristics of multimedia (text, audio, images, video, etc.) in presentations.

Identify and discuss the benefits of networked and non-networked computers

Recognize, discuss, and use network terms/ concepts such as stand alone, network, network resources, etc.

Expand the use of various operating system features such as, opening more than one application/program, the menus, the taskbar, etc.

Understand the differences in file formats and compatibility.

Recognize telecommunication as a way to share information electronically.

Develop skills in using function keys and keyboard short cuts.

Use and apply appropriate keyboard terminology.

Identify and discuss multimedia terms/concepts (slide/card, link/button, text box, navigate, transition) as a class/group.

**Sample Performance Tasks:**

- Given a topic, the student will choose the appropriate software and hardware to effectively communicate to a given audience.
- Use technology resources to research then create a product on a given topic.
- Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, and scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.
- Students will design a slide show presentation on a topic of their choice. The students will be assessed using a teacher designed rubric.
- Using a related curriculum topic, students will create collaboratively a multimedia (sound, pictures, and text) project utilizing library and classroom resources to access, analyze, interpret and synthesize information. During the time frame of project development students will take responsibility for copyrights of software and internet resources. The teacher will use rubrics to evaluate this task including evidence of a variety of resources used to create original presentations concerning real world problems.

**By the end of Eighth Grade students will be able to:**

**8.1.8.B**

Identify, discuss and visually represent uses of technology in the community

Identify the influence and effects of technology on everyday life and learning

Understand and follow classroom rules for technology use.

Follow Acceptable Use Policy as set by the local school district.

Recognize the importance of supervised use of technology

Identify and discuss appropriate and safe behaviors

Notify the teacher immediately if an inappropriate website appears when using the internet.

Know how “pop-up” windows happen and when to respond to them.

Discuss the impact of viruses as to the advantages and disadvantages of the use of technology.

Discuss the impact of global communication

Compare and contrast the advantages and disadvantages of the use of technology.

Describe the consequences regarding copyright violations including but not limited to computer hacking, computer piracy, intentional virus setting and invasion of privacy

Identify the various people involved in technological developments

Obey the copyright law and accurately record information source

Explore technology related careers.

**Sample Performance Tasks:**

- During appropriate curricular activities students will verbally describe when and how technology is used in everyday life and occupations. Using observation, teachers will develop a rubric evaluating the behavior of the students as they use technology in content area lessons.
- Create a multimedia project researching the development of technology.

**By the end of Eighth Grade students will be able to:**

**8.2**

Identify a technological problem and use the design process to create an appropriate solution.

Explain technological advances in medical, agricultural, energy and power, information and communication, transportation, manufacturing, and construction technologies.

Explain reasons why human-designed systems, products, and environments need to be monitored, maintained, and improved to ensure safety, quality, cost efficiency, and sustainability.

Explain the functions and interdependence of subsystems such as waste disposal, water purification, electrical, safety, climatic control, and communication.

**Sample Performance Tasks:**

- Solve a complex simulated situation using research methods to manipulate data and explain technological advances in real world situations.
- Explain how technology has impacted the global information exchange.
- Students will be able to solve a complex simulated situation using research methods to manipulate data.

Department of Educational Services  
 Student Achievement Rubric  
 Grade Fifth - Eighth

Content Standard: 8.1 Computer and Information Literacy

All students will use computer application to gather and organize information and to solve problems

Educational Experiences in Grades 5 – 8 will assure that students:	Sample Indicators	Novice	Basic	Proficient	Advanced
<b>8.1.8 A</b> <b>Basic Computer Skills and Tools</b>	<ul style="list-style-type: none"> <li>Use appropriate technology vocabulary</li> </ul>	Students use basic technology vocabulary to describe hardware, software, multimedia services and storage media.	Students use technology vocabulary to describe hardware, software, multimedia services and storage media.	Students recognize and use technology vocabulary to describe hardware, software, multimedia services and storage media.	Students recognize and use accurate technology vocabulary to describe hardware, software, multimedia services and storage media.
	<ul style="list-style-type: none"> <li>Use common features of an operating system</li> </ul>	Students use input and output devices.	Students independently use input and output devices.	Students use input and output devices, access limited network resources and use peripherals with assistance.	Students use appropriate input and output devices, access limited network resources and use peripherals.
	<ul style="list-style-type: none"> <li>Demonstrate effective input of text and data using touch keyboarding with proper technique</li> </ul>	Students exhibit basic posture and fingering techniques for all rows of the keyboard with minimum accuracy.	Students exhibit correct posture and fingering techniques for all rows of the keyboard with minimum speed and accuracy.	Students exhibit correct posture and fingering techniques for all rows of the keyboard with adequate speed and accuracy.	Students exhibit correct posture and fingering techniques for all rows of the keyboard with advanced speed and accuracy.

	<ul style="list-style-type: none"> <li>Input and access text and data efficiently and accurately through proficient use of other input devices, such as a mouse.</li> </ul>	Students use limited techniques when using keyboard and mouse.	Students use basic techniques when using keyboard and mouse.	Students use correct techniques when using all functions keyboard and mouse.	Students use advanced techniques when using all functions keyboard and mouse.
	<ul style="list-style-type: none"> <li>Create documents with advanced text formatting and graphics using word processing</li> </ul>	Students know how to insert photos, graphics, graphs, spreadsheets, sound and video into word processing, presentation and web documents.	Students know how to use applications features (e.g., columns, tables, headers, and footers, borders, drawing menu bar) and a variety of other tool bars to format and publish content projects and products and web documents.	Students know how to identify appropriate file formats for a variety of applications and apply utility programs to convert formats, as necessary, for effective use in web, video, audio, graphic, presentation, word processing, database, publication, and spreadsheet applications.	Students demonstrate an understanding of concepts underlying hardware, software, and connectivity; the variety of ways that information and technology resources can be combined to develop and promote understanding; and the value of visual and auditory features to convey accurate and convincing information.
	<ul style="list-style-type: none"> <li>Create a file containing customized information by merging documents</li> </ul>	Students with assistance can apply limited software features such as merging data from spreadsheets and other documents.	Students with assistance can apply software features such as merging data from spreadsheets and other documents.	Students apply software features such as merging data from spreadsheets and other documents.	Students understand and apply software features such as merging data from spreadsheets and other documents.
	<ul style="list-style-type: none"> <li>Construct a simple spreadsheet, enter data, and interpret the information</li> </ul>	Students apply basic software features of a spreadsheet to create tables.	Students apply software features of a spreadsheet to create tables.	Students apply software features of a spreadsheet to create products that address appropriate learning objectives.	Students identify and apply advanced software features and components of a spreadsheet to plan, create and edit products that address appropriate learning objectives.

	<ul style="list-style-type: none"> <li>Design and produce a basic multimedia project</li> </ul>	Students use limited features to create a simple multimedia presentation.	Students use basic features to create a simple multimedia presentation.	Students use multiple features to create a simple multimedia presentation.	Students use advanced features to create a multimedia presentation.
	<ul style="list-style-type: none"> <li>Plan and create a simple database, define field, input data, and produce a report using sort and query</li> </ul>	Students enter data in a given database.	Students enter data and perform simple queries to process data.	Students enter data, perform simple queries to process data and report results that address given topics.	Students demonstrate method for entering data, performing simple queries to process data and report results that address given topics.
	<ul style="list-style-type: none"> <li>Use network resources for storing and retrieving data</li> </ul>	Students use basic procedures for storing computer files on a hard drive, external resources and network resources when available.	Students demonstrate procedures for management and maintenance of computer files on a hard drive, external resources and network resources when available.	Students demonstrate strategies and procedures for effective management and maintenance of computer files on a hard drive, external resources and network resources when available.	Students integrate strategies and procedures for effective management and maintenance of computer files on a hard drive, external resources and network resources when available.
	<ul style="list-style-type: none"> <li>Choose appropriate electronic graphic organizers to create, construct, or design a document</li> </ul>	Students with assistance can use electronic graphic organizers to create, construct, or design a document.	Students with assistance can use appropriate electronic graphic organizers to create, construct, or design a document.	Students use appropriate electronic graphic organizers to create, construct, or design a document.	Students use appropriate electronic graphic organizers to create, construct, or design a document to connect ideas and organize information.
	<ul style="list-style-type: none"> <li>Create, organize and manipulate shortcuts</li> </ul>	Students will create shortcuts relevant to applications used.	Students will create and organize shortcuts relevant to applications used.	Students will create, organize and manipulate shortcuts relevant to applications used.	Students will use advanced features to create, organize and manipulate shortcuts relevant to applications used. (e.g. renaming, deleting)

## *Using the Integrated Curriculum and Scope and Sequence*

In order to assure the ongoing commitment to and integration of technology in the Plainfield Public Schools, the curriculum subcommittee of the Technology Coordinator developed the Integrated Technology Curriculum. Its design and content are aligned with national, state, and the existing technology standards of the district of Plainfield.

The primary purpose of this document is to serve as a reference and guide to the integration of technology outcomes within core curriculum areas. By pairing technology outcomes with sample indicators and sample projects and lessons, teachers can, with the assistance and support of district instructional technology specialists, begin to design lessons and assessments that seek an authentic use of technology resources – hardware, software and personnel.

The sample indicators are precisely that – samples. They are provided to indicate what teachers may observe as students begin to develop and assimilate the technology competencies. Likewise, the suggested units for integration are examples, based on current practice in classrooms within the district. The sample lessons/units of integration are suggestions only; they are not intended to be inclusive of all possible points of integration within a unit of study nor are they meant to be exclusive of new ideas created by classroom teachers and/or instructional technology personnel.

As part of defining a natural point of integration for the technology standards, a scope and sequence has been added to create a linear view of the stages of students' technology learning development. In creating this scope and sequence, the committee sought to set the development based on existing hardware and support personnel. As the technology resources of the district change, so too will the range of the scope and sequence and the possibilities within each grade level. The key to the scope and sequence is as follows:

**D – Developing**

Students begin to acquire initial skills and strategies through direct or integrated instruction as part of a content lesson.

**M - Mastered**

Students implement the skills and independently apply the knowledge.

*Department of Curriculum and Instruction  
Technology Curriculum Guide  
Grades Nine - Twelve*

**Content Standard: 8.1 Computer and Information Literacy**

All students will use computer applications to gather and organize information and to solve problems.

<b>Educational Experiences in Grades 9-12 will assure that students:</b>	<b>Sample Indicators</b>	<b>Grade and Subject Area</b>	<b>Suggested Activities for Integration</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b><u>8.1.12 A</u> Basic Computer Skills and Tools</b>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>	Grades 9-12 All Core Subjects	Utilizing Internet search engine, online libraries and resources	D	D	D	M
	<ul style="list-style-type: none"> <li>• Create documents including a resume and a business letter using professional format.</li> </ul>	Grades 9-12 All Core Subjects	Utilizing General Templates	D	D	D	M
	<ul style="list-style-type: none"> <li>• Construct a spreadsheet, enter data, use mathematical or logical functions to manipulate and process data, generate charts and graphs, and interpret the results.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Marketing I & II MOUS I & II	Order of Operation, Mathematical and Logical Operators	D	D	D	M

	<ul style="list-style-type: none"> <li>Given a database, define fields, input data from multiple records, produce a report using sort and query, and interpret the data.</li> </ul>	<p>Grades 9-12 All Core Subjects Accounting I &amp; II Marketing I &amp; II MOUS I &amp; II</p>	<p>Examining database nomenclature, data mining and data warehouse concepts</p>	D	D	D	M
	<ul style="list-style-type: none"> <li>Produce a multimedia project using text, graphics, moving images, and sound.</li> </ul>	<p>Grades 9-12 All Core Subjects Graphics I &amp; II Marketing I &amp; II MOUS I &amp; II</p>	<p>Utilizing, digital images, audio, video files and the Internet</p>	D	D	D	M
	<ul style="list-style-type: none"> <li>Produce and edit page layouts in different formats using desktop publishing and graphics software.</li> </ul>	<p>Grades 9-12 All Core Subjects Graphics I &amp; II Marketing I &amp; II MOUS I &amp; II</p>	<p>Utilizing HTML, JavaScript, and various programming languages</p>	D	D	D	M
	<ul style="list-style-type: none"> <li>Develop a document or file for inclusion into a website or web page.</li> </ul>	<p>Grades 9-12 All Core Subjects Graphics I &amp; II MOUS I &amp; II Web Design Robotics / CAD I</p>	<p>Inserting digital images, video, and audio files</p>	D	D	D	M
	<ul style="list-style-type: none"> <li>Discuss and/or demonstrate the capability of emerging technologies and software in the creation of documents or files.</li> </ul>	<p>Grades 9-12 All Core Subjects Accounting I &amp; II Graphics I &amp; II Marketing I &amp; II MOUS I &amp; II Web Design Bus &amp; Bus Law Entrepreneurship Robotics / CAD</p>	<p>Utilizing HTML, JavaScript, and various programming languages</p>	D	D	D	M

Educational Experiences in Grades 9-12 will assure that students:	Sample Indicators	Grade and Subject Area		9	10	11	12
<b>8.1.12 B</b> <b>Application of Productivity Tools</b>	<u><b>Social Aspects:</b></u> <ul style="list-style-type: none"> <li>Describe the potential and implications of contemporary and emerging computer applications for personal, social, lifelong learning, and workplace needs.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD Woodworking I & II Foods I & II, Parenting	History of Computers, Development of the Internet, Development of the Apple & Microsoft	D	D	D	M
	<ul style="list-style-type: none"> <li>Exhibit legal and ethical behaviors when using information and technology, and discuss consequences of misuse.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD Woodworking I & II Foods I & II, Parenting	Cyberbullying, impact of social networking websites, email etiquette	D	D	D	M
	<ul style="list-style-type: none"> <li>Make informed choices among technology systems, resources, and services in a variety of contexts.</li> </ul>	Grades 9-12 Grades 9-12 All Core Subjects Accounting I & II	Cyber “surfing” at the workplace	D	D	D	M

		Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD Woodworking I & II Foods I & II, Parenting					
	<ul style="list-style-type: none"> <li>Use appropriate language when communicating with diverse audiences using computer and information literacy.</li> </ul>	Grades 9-12 All Core Subjects Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law	Cyberbullying, impact of social networking websites, email etiquette	D	D	D	M
	<p><b><u>Information Access and Research</u></b></p> <ul style="list-style-type: none"> <li>Select and use specialized databases for advanced research to solve real world problems.</li> </ul>	Grades 9-12 All Core Subjects Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD Woodworking I & II Foods I & II, Parenting	Examine and discuss the use of Structured Query Language (SQL	D	D	D	M

	<ul style="list-style-type: none"> <li>Identify new technologies and other organizational tools to use in personal, home, and/or work environments for information retrieval, entry, and presentation.</li> </ul>	Grade 9-12 All Core Subjects Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD Woodworking I & II Foods I & II, Parenting	Discuss the use of Satellite Internet, Broadband, and Fiber Optics (FiOs)	D	D	D	M
	<ul style="list-style-type: none"> <li>Evaluate information sources for accuracy, relevance, and appropriateness.</li> </ul>	Grade 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD Woodworking I & II Foods I & II, Parenting	Utilizing “Chrome”: Google’s new search engine	D	D	D	M
	<ul style="list-style-type: none"> <li>Compose, send, and organize e-mail messages with and without attachments.</li> </ul>	Grades 9-12 All Core Subjects Graphics I & II Marketing I & II MOUS I & II Web Design	Outlook, Yahoo, MSN,	D	D	D	M

	<p><b><u>Problem Solving and Decision Making</u></b></p> <ul style="list-style-type: none"> <li>• Create and manipulate information, independently and/or collaboratively, to solve problems and design and develop products.</li> </ul>	<p>Grades 9-12 All Core Subjects Graphics I &amp; II Marketing I &amp; II MOUS I &amp; II Web Design Bus &amp; Bus Law Entrepreneurship Robotics / CAD</p>	<p>Radio Frequency Identification (RFID)</p>	<p>D</p>	<p>D</p>	<p>D</p>	<p>M</p>
	<ul style="list-style-type: none"> <li>• Identify, diagnose, and suggest solutions for non-functioning technology systems.</li> </ul>	<p>Grades 9-12 All Core Subjects Graphics I &amp; II Marketing I &amp; II MOUS I &amp; II Web Design Bus &amp; Bus Law Entrepreneurship Robotics / CAD</p>	<p>Radio Frequency Identification (RFID)</p>	<p>D</p>	<p>D</p>	<p>D</p>	<p>M</p>
	<ul style="list-style-type: none"> <li>• Identify a problem in a content area and formulate a strategy to solve the problem using brainstorming, flowcharting, and appropriate resources.</li> </ul>	<p>Grades 9-12 All Core Subjects Accounting I &amp; II Graphics I &amp; II Marketing I &amp; II MOUS I &amp; II Web Design Bus &amp; Bus Law Entrepreneurship Robotics / CAD Woodworking I &amp; II Foods I &amp; II, Parenting</p>	<p>Designing a website; producing an employee payroll spreadsheet;</p>	<p>D</p>	<p>D</p>	<p>D</p>	<p>M</p>

	<ul style="list-style-type: none"> <li>Integrate new information into an existing knowledge base and communicate the results in a project or presentation.</li> </ul>	<p>Grades 9-12  All Core Subjects  Accounting I &amp; II  Graphics I &amp; II  Marketing I &amp; II  MOUS I &amp; II  Web Design  Bus &amp; Bus Law  Entrepreneurship  Robotics / CAD  Woodworking I &amp; II  Foods I &amp; II,  Parenting</p>	<p>Inserting a Cascading Style Sheet into a web page.</p>	<p>D</p>	<p>D</p>	<p>D</p>	<p>M</p>
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*Department of Curriculum and Instruction  
Technology Curriculum Guide  
Grades Nine - Twelve*

**Content 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.

<b>Educational Experiences in Grades 9-12 will assure that students:</b>	<b>Sample Use Indicators</b>	<b>Grade and Subject Area</b>	<b>Suggested Activities for Integration</b>	<b>K</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>8.2.12 A Nature and Impact of Technology</b>	<ul style="list-style-type: none"> <li>Use appropriate data to discuss the full costs, benefits and trade-offs, and risks related to the use of technologies.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD	Examine and discuss the manner in which contracts are made and enforced	I	D	D	D	M
	<ul style="list-style-type: none"> <li>Explain how technological development is affected by competition through a variety of management activities associated with planning, organizing, and controlling the enterprise.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD	Examine and discuss introduction to partnerships and corporations;	I	D	D	D	M

	<ul style="list-style-type: none"> <li>Provide various examples of how technological developments have shaped human history.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD	World market concepts (i.e. supply and demand, GDP, GNP) The Internet The Mobile Phone The Personal Computer	I	D	D	D	M
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<b>Educational Experiences in Grades 9-12 will assure that students:</b>	<b>Sample Indicators</b>	<b>Grade and Subject Area</b>		1	2	3	4
<b><u>8.2.12 B</u> Design Process and Impact Assessment</b>	<ul style="list-style-type: none"> <li>Analyze a given technological product, system, or environment to understand how the engineering design process and design specification limitations influenced the final solution.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD	Examine and discuss the development of the Personal Computer, the Internet, Mobile Phone, Social Networking websites, i.e. Facebook	X	I	D	D
	<ul style="list-style-type: none"> <li>Evaluate the function, value, and appearance of technological products, systems, and environments from the perspective of the user and the producer.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship	Examine and discuss the development and use of Hughsnet.com a Satellite Internet Service Provider (ISP) vs. conventional cable, (broadband) and fiber optics (FiOs) ISP such as i.e. Verizon, Yahoo, and MSN, for digital television/Web/LAN	X	I	D	D

		Robotics / CAD	transmission					
	<ul style="list-style-type: none"> <li>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.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD	Develop design ideas using freehand multi-view and pictorial sketches for design of advanced pre-engineering and pre-architectural design projects. (CES -3)		X	I	D	D

Educational Experiences in Grades 9-12 will assure that students:	Sample Indicators	Grade and Subject Area		1	2	3	4	
<b>8.2.12 C Systems in the Designed World</b>	<ul style="list-style-type: none"> <li>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.</li> </ul>	Grades 9-12 All Core Subjects Accounting I & II Graphics I & II Marketing I & II MOUS I & II Web Design Bus & Bus Law Entrepreneurship Robotics / CAD	The impact of diminishing resources in various markets that produce goods, products, & services impacting global markets, i.e. plastics, rubber, & organically derive substances.		X	I	D	D

	<ul style="list-style-type: none"> <li>Analyze the factors that influence design of products, systems, and environments.</li> </ul>	<p>Grades 9-12  All Core Subjects  Accounting I &amp; II  Graphics I &amp; II  Marketing I &amp; II  MOUS I &amp; II  Web Design  Bus &amp; Bus Law  Entrepreneurship  Robotics / CAD</p>	<p>Discuss how “Going Green” impacts the need for pharmaceutical companies to produce innovative medicinal products from natural/organic plants</p>		X	I	D	D
	<ul style="list-style-type: none"> <li>Compare and contrast the effectiveness of various products, systems, and environments associated with technological activities in energy, transportation, manufacturing, and information and communication.</li> </ul>	<p>Grades 9-12  All Core Subjects  Accounting I &amp; II  Graphics I &amp; II  Marketing I &amp; II  MOUS I &amp; II  Web Design  Bus &amp; Bus Law  Entrepreneurship  Robotics / CAD</p>	<p>Discuss how the oil crisis of 2008 impacted the need for the United States’ to produce more fuel efficient automobiles, i.e. “hybrid cars” and “smart cars” and develop alternative energy sources</p>		X	I	D	D

**By the end of Twelfth Grade students will be able to:**

**8.1.12.A**

Create a research paper utilizing the Modern Language Association (MLA) format

Create a research paper utilizing footnotes and citations

Utilizing the Paragraph Wizard to create line spacing and indentation

Utilizing Page Setup Wizard to produce documents in Landscape, Portrait, and various layouts.

Utilizing Print Preview to modify documents and print single and multi-page documents

Utilize Header and Footer toolbar to paginate documents

Identify, examine, and produce components of a letter

Create a business letter document utilizing block style format

Create a business letter document utilizing the Letter Wizard

Create a business letter document utilizing General Templates

Identify, examine, and produce components of a resume

Create a resume utilizing General Templates

Identify and examine components of a spreadsheet

Create an Excel spreadsheet with data

Identify, examine, and utilize various Excel formulas to calculate data

Export data from a spreadsheet to create an Access database

Identify and examine components of a database

Create a database utilizing Access

Input and modify data in various formats (Datasheet view and Design View)

Input and modify data utilizing the Form Wizard

Sort data utilizing queries

Create queries utilizing the Query Wizard and Simple Query Wizard

Interpret data in a database utilizing the Report Wizard

Editing digital images for various formats and platforms

Editing digital images for inclusion into a website

Produce ledgers, amortizations spreadsheets and balance sheets

Identify, examine and discuss the kinds of projects, responsibilities, and various job titles within the Graphic Design profession, e.g., art director, designer, production artist, illustrator, photographer, sales representative, graphic arts vendor/supplier, service providers.

Examine and discuss the designer's responsibility to ascertain and accurately communicate the client's message to a specific audience.

Develop techniques to make an informed decision as a consumer when purchasing a computer.

Demonstrate proper techniques of safe and standard handling of computer components.

Discuss and view the communication capabilities of Microsoft Outlook

Create a Calendar in Microsoft Outlook.

Create a mini database of personal contacts

Utilize email

Modify the layout of a report utilizing Design View
Identify and examine various components of a presentation
Create a slide show presentation utilizing PowerPoint (PPT)
Utilize various text formats in PPT
Create and apply various templates utilizing PPT
Create a presentation utilizing General Templates
Utilize various slide show animations in a presentation
Utilize various slide transitions in a presentation
Utilize various clip art and Active X animation in a presentation
Insert and save various audio files (formats) in a presentation
Save PPT presentations in various formats.
Deploy a fully automated presentation in PPT
Identify specifics of software workspace including tools, palettes and menu options.
Produce layered designs in Adobe Photoshop.
Manipulate digital images.
<b>Sample Performance Tasks:</b>
<p>Students will produce an “Employment Kit” that contains various documents such as:</p> <ul style="list-style-type: none"> <li><b>A cover letter</b></li> <li><b>A resume</b></li> <li><b>A Thank you “for the interview” letter</b></li> </ul> <p>Students will produce a 2-page research paper utilizing the MLA format based on technology topic of their choice, retrieved from the Internet. The student will produce the essay containing a cover page, abstract, citations, and footnotes.</p> <p>Students will produce an Excel spreadsheet/budget to re-decorate their bedroom. The project will require students to utilize the Internet to comparison shop for the best deal for decorating their “Dream Bedroom”, utilizing critical thinking skills to plan, organize, and produce the data.</p> <p>Students will produce a fully automated 10-screen slide show presentation in PowerPoint; utilizing various digital images, clip and word art, text, slide animation, slide transition, and audio files.</p> <p>Students will produce a balance sheet, business plan for a small business as a group project, presented to the class/teacher. Each team will be evaluated by their peers, as both a team and as individual contributors to the project.</p> <p>Student will prepare short research papers based on current events and business practices or a research paper and oral presentation of different types of business careers Students will produce Business Plan, which includes samples of various contracts, forms, and practices examined and discussed in the course. Students involved in this course are eligible to join the DECA organization, which allows them to attend the various conferences held during the school year.</p>

**By the end of Twelfth Grade students will be able to:**

**8.1.12.B**

Use materials, computer paraphernalia, hardware, and software appropriately.

Discuss the negative impact of “Internet surfing” while at the workplace

Discuss the negative impact of download pornographic images at the workplace

Discuss the negative impact of participating in “gaming” websites while at the workplace.

Discuss the unethical practice of plagiarism, hacking, and electronic hi-jinx

Demonstrate the use of MLA and APA formats for quoting and citing all resources appropriately and accurately

Discuss and demonstrate appropriate language with communicating via email on the Internet

Discuss and demonstrate appropriate use of resources and services for “social networking” websites; i.e. “facebook.com”

Discuss and examine the term “cyberbullying”.

Demonstrate the use of all classroom equipment with appropriate and reasonable care

Demonstrate and implement checking and maintaining all classroom equipment and materials for safety

Discuss and demonstrate the return of resources back to repositories and locations appropriately and in a timely manner

Demonstrate use of appropriate behavior, language, and communication skills when using classroom electronic equipment and materials on the Internet

Utilize “electronic etiquette” when utilizing email and instant messaging

Utilize Internet search engines appropriately

Avoid plagiarism

Quote and cite all resources appropriately and accurately

Demonstrate the use of electronic libraries and information resources

Use all Internet search engines appropriately

Obtain permission for digital images

Observe all social networking website rules and norms

Discuss the appropriate use of passwords and personal IDs

Identify, examine, and discuss the use of Satellite Internet; i.e. Hughsnet.com

Discuss and demonstrate how determine the difference between “SPAM” and a “HOAX”

Discuss the variety of Internet “viruses” and how they are implemented

Discuss the Internet Protocol – Transfer Control Protocol/Internet Protocol (TCP/IP) model and how it impacts email transmission

### **Sample Performance Tasks:**

Students will produce a "Graphic Design Portfolio" that contains various documents and illustrations such as:

*Multi-media*

*Photography*

*Digital Imaging*

Students will produce a balance sheet, business plan for a small business as a group project, presented to the class/teacher. Each team will be evaluated by their peers, as both a team and as individual contributors to the project.

Students will produce Business Plan, which includes samples of various contracts, forms, and practices examined and discussed in the course.

Students will design and implement an Artificial Intelligence robot, utilizing concepts and procedures of acquired skills in Robotics I and II.

Students will produce a weekly TV production, produced by students in the course

Students will practice acquired skills in cosmetology on mannequins, be available to staff and student, supervised manicures and haircuts to enhance acquired skills for State license.

**By the end of Twelfth Grade students will be able to:**

**8.2.12.A**

Examine and discuss fiduciary responsibility and feasibility

Examine and discuss basic concepts of finance

Examine and discuss world market concepts (i.e. supply and demand, GDP, GNP)

Examine and discuss global banking and finance systems

Examine and discuss global economics and trade”.

Examine and discuss the development of the Personal Computer

Examine and discuss the development of the Internet

Examine and discuss the development of the Mobile Phone

Examine and discuss the development of Social Networking websites, i.e. “Facebook”

**Sample Performance Tasks:**

- Students will produce a balance sheet, business plan for a small business as a group project, presented to the class/teacher. Each team will be evaluated by their peers, as both a team and as individual contributors to the project
- Student will prepare short research papers based on current events and business practices or a research paper and oral presentation of different types of business careers.
- Using a word-processing and drawing program, students write statements, use computer drawing tools to illustrate their statements, and print them out for presentation to the class. Using a rubric to evaluate this task, proficiency will show accurate use of word-processing, drawing and printing.

**By the end of Twelfth Grade students will be able to:**

**8.2.12 B**

Understanding how Radio Frequency Identification (RFID) is utilized to impact accuracy, inventory control, product placement especially in the pharmaceutical industry.

Discuss WiMax vs. WiFi utilized in mobile phone transmission with various mobile phone carriers

Examine and discuss the development and use of Hughesnet.com a Satellite Internet Service Provider (ISP) vs. conventional cable, (broadband) and fiber optics (FiOs) ISP such as i.e. Verizon, Yahoo, and MSN, for digital television/Internet/LAN transmission

Develop design ideas using freehand multi-view and pictorial sketches for design of advanced pre-engineering and pre-architectural design projects. (CES -3)

Develop a complete set of construction plans for a residential structure including a site plan, floor plan, construction details, foundation plan, elevations, and roof plans, electrical plans, heating plans and plumbing plans using CAD techniques

Forward kinematics of n DOF planar robots (Students should be able to write equations for position and orientation of a planar serial manipulator of any number of joints and to solve simple problems associated with the equations).

Develop a hands-on physical model of an engineering or architectural project.

**Sample Performance Tasks:**

Students will produce a "Graphic Design Portfolio" that contains various documents illustrations such as:

*Multi-media*  
*Photography*  
*Digital Imaging*

Students will design and implement an Artificial Intelligence robot, utilizing concepts and procedures of acquired skills in Robotics I and II.

Intermediate CAD engineering drawing using AutoCAD software; includes electrical, piping, fasteners, welding, power transmission, property plats, elevations, and structural steel designing. Design project required

The first semester introduces students to the networking field. The course focuses on network terminology and protocols, local-area networks (LANs), wide-area networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards

**By the end of Twelfth Grade the students will be able to:**

**8.2.12 C**

Discuss the impact of natural/organic plants utilized by pharmaceutical companies to produce innovative medicinal products

Discuss how natural disasters impact the need for production of modular housing, i.e. Katrina – provided a need for emergency modular housing

Discuss the global campaign to go “Green” recycling various household products to lessen the impact of global warming by creating new ones; i.e. “30 plastic containers creates 1 down jacket”

Discuss how the oil crisis of 2008 impacted the need to lessen the United States’ dependency on fossil fuels

Discuss how the oil crisis of 2008 impacted the need for the United States’ to produce more fuel efficient automobiles, i.e. “hybrid cars” and “smart cars”