

COURSE: Office Technology and Communications	GRADE(S): 9-12
UNIT: Business Simulation using Microsoft office	TIMEFRAME: 90 days

National Educational Standards for Students (NETS-S):

ISTE 1a, 1b, 2a, 2b, 2d, 3b, 3c, 3d, 4b, 4c, 4d, 5a, 5b, 5c, 5d, 6a, 6b, 6d

- 1a. Apply existing knowledge to generate new ideas, products or processes
- 1b. Create original works as a means of personal or group expression
- 2a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
- 2b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats
- 2d. Contribute to project teams to produce original works or solve problems
- 3b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
- 3c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
- 3d. Process data and report results
- 4b. Plan and manage activities to develop a solution or complete a project
- 4c. Collect and analyze data to identify solutions and/or make informed decisions
- 4d. Use multiple processes and diverse perspectives to explore alternative solutions
- 5a. Advocate and practice safe, legal, and responsible use of information and technology
- 5b. Exhibit a positive attitude toward using technology that supports collaboration, learning and productivity
- 5c. Demonstrate personal responsibility for lifelong learning
- 5d. Exhibit leadership for digital citizenship
- 6a. Understand and use technology systems
- 6b. Select and use applications effectively and productively
- 6d. Transfer current knowledge to learning of new technologies.

National Business Education Standards:

Section 4: Input Technologies: Use various input technologies to enter and manipulate information appropriately

Section 5: Productivity Software: Identify, evaluate, select, install, use, upgrade, and customize application software; diagnose and solve problems resulting from an application software's installation and use

Section 6: Interactive Multimedia: Use multimedia software to create media rich projects

Section 9: Database Management Systems: Use, plan, develop, and maintain database management systems

Section 17: Information Technology and Business Functions: Describe the information technology components of business functions and explain their interrelationships

Pennsylvania Academic Standards:

PA Career Education and Work

- 13.2.11 C Analyze workplace problems and cite technological solutions
- 13.3.11 E Evaluate strategies used to manage time and their application in different work situations
- 13.3.11 F Analyze the impact of change on the evolving world economy and the individual's work
- 13.2.11 B Analyze and evaluate complex technical tasks using sophisticated processes
- 13.3.11 C Evaluate team member roles to describe and illustrate active listening techniques
- 13.1.11 A Analyze career options based on student interests, abilities, aptitudes and accomplishments
- 13.1.11 C Evaluate opportunities for career exploration

PA Mathematics

- 2.1.11 A Use operations
- 2.2.11 A Develop and use computations concepts, operations and procedures with real numbers in problem-solving situations
- 2.2.11 F Demonstrate skills for using computer spreadsheets and scientific and graphing calculators
- 2.6.11 B Use appropriate technology to organize and analyze data taken from the local community
- 2.5.11 A Select and use appropriate mathematical concepts and techniques from different areas of

mathematics and apply them to solving non-routine and multi-step problems

2.4.11 E Demonstrate mathematical solutions to problems

PA Science and Technology

3.7.12 A Evaluate computer operations and concepts as to their effectiveness to solve specific problems

3.7.12 C Assess and apply multiple input and output devices to solve specific problems

3.7.12 D Evaluate the effectiveness of computer software to solve specific problems

3.8.12 B Apply the use of ingenuity and technological resources to solve specific problems

3.8.12 C Evaluate the consequences and impacts of scientific and technological solutions

PA Reading, Writing, Speaking, Listening

1.1.11 A Locate various texts, media and traditional resources for assigned and independent projects before reading

1.2.11 A Read and understand essential content of informational texts and documents in all academic areas

1.2.11 B Use and understand a variety of media and evaluate the quality of material produced

1.4.11 B Write complex informational pieces

1.5.11 A Write with a sharp, distinct focus

1.5.11 B Writing using well-developed content appropriate for the topic

1.5.11 C Write with a controlled and/or subtle organization

1.6.11 A Listen to others

1.6.11 C Speak using skills appropriate to formal speech situations

1.6.11 D Contribute to discussions

1.6.11 E Participate in small and large group discussions and presentations

1.6.11 F Use media for learning purposes

1.8.11 B Locate information using appropriate sources and strategies

1.1.11 F Understand the meaning and apply key vocabulary across the various subject areas

1.5.11 E Revise writing to improve style, word choice, sentence variety and subtlety of meaning after rethinking how questions of purpose, audience and genre have been addressed

1.5.11 F Edit writing using the conventions of language

UNIT OBJECTIVES:

<p>General</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify the main components of the user interface <input type="checkbox"/> Identify the purpose of the commands on the menu bar <input type="checkbox"/> Work with the buttons on the toolbar <input type="checkbox"/> Work with the pointer in a program <input type="checkbox"/> Work with text and characters in a program 	<p>Microsoft Publisher</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify the various benefits of using Desktop Publishing (DTP) <input type="checkbox"/> Work with tables and graphics <input type="checkbox"/> Design a layout for print publications <input type="checkbox"/> Identify and demonstrate use of common toolbar commands
<p>Microsoft Word</p> <ul style="list-style-type: none"> <input type="checkbox"/> Perform basic tasks by using a word processor <input type="checkbox"/> Identify and demonstrate use of common toolbar commands <input type="checkbox"/> Edit and format text <input type="checkbox"/> Work with tables and pictures <input type="checkbox"/> Work with language tools 	<p>Microsoft Excel</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify common components of the spreadsheet window <input type="checkbox"/> Identify and demonstrate use of common toolbar commands <input type="checkbox"/> Enter data into a spreadsheet <input type="checkbox"/> Demonstrate use of basic mathematical operations in a spreadsheet <input type="checkbox"/> Demonstrate steps to construct a chart and or graph <input type="checkbox"/> Explain the purpose of options available for printing a spreadsheet
<p>Microsoft PowerPoint</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identify the basic functionalities offered by presentation programs <input type="checkbox"/> Create a new presentation <input type="checkbox"/> Add graphics and multimedia to a presentation <input type="checkbox"/> Identify the options available to print presentations 	<p>Microsoft Access</p> <ul style="list-style-type: none"> <input type="checkbox"/> Explain basic database concepts <input type="checkbox"/> Create a database <input type="checkbox"/> Work with records in a database <input type="checkbox"/> Explain what database queries are and how they work

<ul style="list-style-type: none"> <input type="checkbox"/> In different formats <input type="checkbox"/> Identify common components of the presentation window <input type="checkbox"/> Identify and demonstrate use of common toolbar commands <input type="checkbox"/> Research, assess, and demonstrate effective presentation techniques <input type="checkbox"/> Incorporate slide transitions and custom animations in slideshow 	<ul style="list-style-type: none"> <input type="checkbox"/> Explain what reports are and their uses <input type="checkbox"/> Demonstrate use of database applications
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ACTIVITIES:	
<ul style="list-style-type: none"> <input type="checkbox"/> Create logos <input type="checkbox"/> Create letterhead <input type="checkbox"/> Design envelope <input type="checkbox"/> Compose letters, memos, and press releases <input type="checkbox"/> Inventory lists and databases <input type="checkbox"/> Create spreadsheets for salary schedules <input type="checkbox"/> Develop calendar/schedule 	<ul style="list-style-type: none"> <input type="checkbox"/> Design business cards <input type="checkbox"/> Design T-shirts <input type="checkbox"/> Design advertisements for media <input type="checkbox"/> Design brochure and newsletter <input type="checkbox"/> Develop presentation <input type="checkbox"/> Develop and design databases

ASSESSMENTS:
<ul style="list-style-type: none"> <input type="checkbox"/> Teacher observation <input type="checkbox"/> Project rubrics <input type="checkbox"/> Assessments <input type="checkbox"/> Activities <input type="checkbox"/> Presentations <input type="checkbox"/> Discussion and participation in classroom activities <input type="checkbox"/> Hard copies of projects

DIFFERENTIATED INSTRUCTION:	
<ul style="list-style-type: none"> <input type="checkbox"/> Provide multiple examples <input type="checkbox"/> Provide multiple media and formats <input type="checkbox"/> Provide opportunities to practice with support <input type="checkbox"/> Offer adjustable levels of challenge <input type="checkbox"/> Offer flexible opportunities for demonstrating skill <input type="checkbox"/> Varied graphic organizers to support learning 	<ul style="list-style-type: none"> <input type="checkbox"/> Highlight critical features <input type="checkbox"/> Support background context <input type="checkbox"/> Offer choices of content and tools <input type="checkbox"/> Offer choices of learning contexts <input type="checkbox"/> Tiered products <input type="checkbox"/> Varied rubrics

RESOURCES:
<ul style="list-style-type: none"> <input type="checkbox"/> Utah Desert Golf Classic <input type="checkbox"/> Beaver Mountain Bike Tours <input type="checkbox"/> Locally developed simulations

COURSE: Office Technology and Communication	GRADE(S): 9-12
UNIT: Interactive Media	TIMEFRAME: 90 days

National Educational Standards for Students (NETS-S):

ISTE 4b, 6b

4b. Plan and manage activities to develop a solution or complete a project

6b. Select and use applications effectively and productively

National Business Education Standards:

Section 4: Input Technologies: Use various input technologies to enter and manipulate information appropriately

Section 5: Productivity Software: Identify, evaluate, select, install, use, upgrade, and customize application software; diagnose and solve problems resulting from an application software's installation and use

Section 6: Interactive Multimedia: Use multimedia software to create media rich projects

Section 8: Information Retrieval and Synthesis: Gather, evaluate, use, cite, and disseminate information from technology sources

Section 15: Ethical and Legal Issues: Describe, analyze, develop, and follow policies for managing ethical and legal issues in organizations and in a technology-based society

Pennsylvania Academic Standards:

PA Career Education and Work

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13.3.11 E Evaluate strategies used to manage time and their application in different work situations

13.3.11 F Analyze the impact of change on the evolving world economy and the individual's work

13.2.11 B Analyze and evaluate complex technical tasks using sophisticated processes

13.3.11 C Evaluate team member roles to describe and illustrate active listening techniques

13.1.11 A Analyze career options based on student interests, abilities, aptitudes and accomplishments

13.1.11 C Evaluate opportunities for career exploration

PA Mathematics

2.1.11 A Use operations

2.2.11 A Develop and use computations concepts, operations and procedures with real numbers in problem solving situations

2.2.11 F Demonstrate skills for using computer spreadsheets and scientific and graphing calculators

2.6.11 B Use appropriate technology to organize and analyze data taken from the local community

2.5.11 A Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems

2.4.11 E Demonstrate mathematical solutions to problems

PA Science and Technology

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PA Reading, Writing, Speaking, Listening

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1.2.11 A Read and understand essential content of informational texts and documents in all academic areas

1.2.11 B Use and understand a variety of media and evaluate the quality of material produced

- 1.4.11 B Write complex informational pieces
- 1.5.11 A Write with a sharp, distinct focus
- 1.5.11 B Writing using well-developed content appropriate for the topic
- 1.5.11 C Write with a controlled and/or subtle organization
- 1.6.11 A Listen to others
- 1.6.11 C Speak using skills appropriate to formal speech situations
- 1.6.11 D Contribute to discussions
- 1.6.11 E Participate in small and large group discussions and presentations
- 1.6.11 F Use media for learning purposes
- 1.8.11 B Locate information using appropriate sources and strategies
- 1.1.11 F Understand the meaning and apply key vocabulary across the various subject areas
- 1.5.11 E Revise writing to improve style, word choice, sentence variety and subtlety of meaning after rethinking how questions of purpose, audience and genre have been addressed
- 1.5.11 F Edit writing using the conventions of language

UNIT OBJECTIVES:

2a. File Formats:

- Explain the purpose and necessity of file management, including folders and filenames
- Evaluate and select appropriate input/output devices and storage media for specific projects
- Organize and manage files and folders including backing up data
- Compare and contrast image formats, sound/song formats, and video formats
- Explain the purpose and necessity of file management, including folders and filenames
- Manage files, differentiate among file types, and import and export data between applications and data formats
- Select and use appropriate storage devices to hold data
- Demonstrate saving, opening, and finding files using a variety of different formats
- Create, locate, move, rename, and delete, folders on the network and on external storage devices

2b. Interactive Media Apps

- Identify major characteristics of interactive media presentations
- Describe an interactive media presentation (e.g., web-based, local)
- Identify the characteristics of gaming and simulations
- Define video conferences and their uses

ACTIVITIES:

- Organize desktop/hard-drive files
- Create and name files/folders
- Back-up files (CD-R, DVD-R, flash drive, external hard-drive)
- Design a storyboard
- Create a video presentation using storyboard template
- Develop Linear Presentation
- Develop Non-Linear Presentation
- Embed videos within Presentation

ASSESSMENTS:

- Pre-assessment (for grouping purposes)
- Teacher observation
- Project rubrics
- Assessments
- Activities
- Presentations
- Discussion and participation in classroom activities
- Hard copies of projects

DIFFERENTIATED INSTRUCTION:

Provide multiple examples
Provide multiple media and formats
Provide opportunities to practice with support
Offer adjustable levels of challenge
Offer flexible opportunities for demonstrating skill
tiered activities
Varied graphic organizers to support learning

Highlight critical features
Support background context
Offer choices of content and tools
Offer choices of learning contexts
Tiered products
Varied rubrics

RESOURCES:

File Formats:

Types of file formats: <http://www.wotsit.org/>

Interactive Media:

Lesson Plan resource: http://acmecoalition.org/free_acme_teaching_resources

COURSE: Office Technology and Communication	GRADE(S): 9-12
UNIT: Foundations of Technology Literacy	TIMEFRAME: 90 days

National Educational Standards for Students (NETS-S):

ISTE 5a, 5b, 5c, 5d, 4c, 6b, 6d

- 5a.** Advocate and practice safe, legal and responsible use of information and technology
- 5b.** Exhibit a positive attitude toward using technology that supports collaboration, learning and Productivity
- 5c.** Demonstrate personal responsibility for lifelong learning
- 5d.** Exhibit leadership for digital citizenship
- 4c.** Collect and analyze data to identify solutions and/or make informed decisions
- 6b.** Select and use applications effectively and productively
- 6d.** Transfer current knowledge to learning of new technologies

National Business Education Standards:

- Section 1: Impact on Society:** Assess the impact of information technology on society
- Section 2: Computer Architecture:** Describe current and emerging computer architecture, install: configure Install, and upgrade hardware; diagnose and repair hardware problems
- Section 7: Information Retrieval:** Gather, evaluate, use and cite information from information technology sources

Pennsylvania Academic Standards:

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- 13.3.11 F Analyze the impact of change on the evolving world economy and the individual's work
- 13.2.11 B Analyze and evaluate complex technical tasks using sophisticated processes
- 13.3.11 C Evaluate team member roles to describe and illustrate active listening techniques
- 13.1.11 A Analyze career options based on student interests, abilities, aptitudes and accomplishments
- 13.1.11 C Evaluate opportunities for career exploration

PA Mathematics

- 2.1.11 A Use operations
- 2.2.11 A Develop and use computations concepts, operations and procedures with real numbers in problem-solving situations
- 2.2.11 F Demonstrate skills for using computer spreadsheets and scientific and graphing calculators
- 2.6.11 B Use appropriate technology to organize and analyze data taken from the local community
- 2.5.11 A Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems
- 2.4.11 E Demonstrate mathematical solutions to problems

PA Science and Technology

- 3.7.12 A Evaluate computer operations and concepts as to their effectiveness to solve specific problems
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- 3.7.12 D Evaluate the effectiveness of computer software to solve specific problems
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PA Reading, Writing, Speaking, Listening

- 1.1.11 A Locate various texts, media and traditional resources for assigned and independent projects before reading
- 1.2.11 A Read and understand essential content of informational texts and documents in all academic areas
- 1.2.11 B Use and understand a variety of media and evaluate the quality of material produced
- 1.4.11 B Write complex informational pieces
- 1.5.11 A Write with a sharp, distinct focus
- 1.5.11 B Writing using well-developed content appropriate for the topic
- 1.5.11 C Write with a controlled and/or subtle organization
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- 1.6.11 D Contribute to discussions
- 1.6.11 E Participate in small and large group discussions and presentations
- 1.6.11 F Use media for learning purposes
- 1.8.11 B Locate information using appropriate sources and strategies
- 1.1.11 F Understand the meaning and apply key vocabulary across the various subject areas
- 1.5.11 E Revise writing to improve style, word choice, sentence variety and subtlety of meaning after rethinking how questions of purpose, audience and genre have been addressed
- 1.5.11 F Edit writing using the conventions of language

UNIT OBJECTIVES:

3a. Computers, Networks, Internets, and web 2.0:

- Identify and discuss the variety of technologies used in society, including future trends
- Outline the history of information technology
- Identify and describe emerging, current, and obsolete technologies
- Identify how computers are used in different areas of work, school, and home
- Investigate current and future trends in information technology
- Describe a basic computer system and identify computer classifications and associated purposes (e.g. desktop, laptop, handheld, server)
- Explain the relationship between an operating system (system software--Windows, Linux, UNIX, MAC, mobile) and application software (word processing, spreadsheets, etc.)
- Discuss the terminology and components of a successful network
- Explain basic networking concepts and different network structures
- List advantages of using a network
- Differentiate among different types of networks
- Identify criteria for conducting searches on the Internet
- Evaluate search results with respect to relevance, reliability, and credibility

3b. Purchasing Technology:

- Identify factors that go into an individual or organizational decision on how to purchase computer equipment
- Identify how to maintain computer equipment and solve common problems relating to computer hardware
- Investigate basic issues affecting system purchase and upgrade decisions
- Compare and contrast operating systems

3c. Research and Information Literacy:

- Access and explain various types of online resources
- Use Web browser functions to access information (e.g., favorites, tags, feeds, and social bookmarking)
- Use appropriate search procedures (e.g., boolean, key word, natural language, and directory)
- Evaluate Web content for accuracy, authority, objectivity, currency and coverage
- Validate the accuracy of information during a research topic by reviewing each author's credentials, perspective, or bias
- Recognize issues related to information accuracy, rights, and conduct
- Classify, order, and interpret retrieved information
- Cite sources of all data

ACTIVITIES:

- Vocabulary
- Review and practice
- Review
- Application
- Research and writing
- Team problem solving

- Prediction
- Process identification
- Discussion and debate
- Assessment

ASSESSMENTS:

- Pre-assessment (for grouping purposes)
- Teacher observation
- Project rubrics
- Assessments
- Activities
- Projects

DIFFERENTIATED INSTRUCTION:

Provide multiple examples
 Provide multiple media and formats
 Provide opportunities to practice with support
 Offer adjustable levels of challenge
 Offer flexible opportunities for demonstrating skill
 Tiered activities
 Varied graphic organizers to support learning

Highlight critical features
 Support background context
 Offer choices of content and tools
 Offer choices of learning contexts
 Tiered products
 Varied rubrics

RESOURCES:

Computer history: <http://www.computerhistory.org/>
 Website accessibility: <http://www.w3.org/WAI/ER/tools/Overview.html>
 Information Literacy skills: <http://www.informationliteracy.org/>
 Validating websites: <http://eduscapes.com/tap/topic32.htm>
 Web 2.0: <http://www.go2web20.net/#>
 Computer and Technology Trends: <http://www.techpark.net/>

COURSE: Office Technology and Communication	GRADE(S): 9-12
UNIT: Digital Literacy and Cyber Citizenship	TIMEFRAME: 90 days

National Educational Standards for Students (NETS-S):

ISTE 2a, 4c, 5a, 5b, 5c, 5d

- 2a.** Interact, collaborate, and publish with peers, experts or others employing a variety of digital media
- 4c.** Collect and analyze data to identify solutions and/or make informed decisions
- 5a.** Advocate and practice safe, legal and responsible use of information and technology
- 5b.** Exhibit a positive attitude toward using technology that supports collaboration, learning and productivity
- 5c.** Demonstrate personal responsibility for lifelong learning
- 5d.** Exhibit leadership for digital citizenship

National Business Education Standards:

Section 5: Application Software: Identify, evaluate, select, install, use, upgrade, and customize application software; diagnose and solve problems resulting from an application software's installation and use

Section 15: Risk Management: Design and implement risk management policies and procedures for information technology

Section 16: Privacy and Ethics: Describe, analyze, develop and follow policies for managing privacy and ethical issues in organizations and in a technology based society

Pennsylvania Academic Standards:

PA Career Education and Work

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PA Science and Technology

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PA Reading, Writing, Speaking, Listening

- 1.1.11 A Locate various texts, media and traditional resources for assigned and independent projects before reading
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- 1.2.11 B Use and understand a variety of media and evaluate the quality of material produced
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UNIT OBJECTIVES:

- Explain intellectual property (e.g., software, images, open source, documentation)
- Distinguish among the various forms of intellectual property rights (e.g., copyright, patent, trademark, trade secrets)
- Identify consequences of the violation of intellectual property and software licensing intellectual laws
- Demonstrate an understanding of plagiarism and fair use; respect copyright laws of information producers (e.g., piracy; illegal downloading; licensing infringement; inappropriate use of software, hardware and mobile devices)
- Explain copyright laws as they apply to software use including shareware, freeware, and purchased software
- Define the concept of "Fair Use"
- Define the concept of "public domain"
- List types of works that are in the public domain
- Research issues surrounding information privacy. Identify ways to safeguard against computer viruses, worms, trojan horses, and spoofing
- Define encryption and explain why it is necessary
- Demonstrate safe, legal, and responsible use of information and technology (e.g. passwords, firewalls, spam, security, AUP, social networking)
- Demonstrate appropriate etiquette in the use of technology
- Explain cyber bullying and its potential consequences
- Generate multiple solutions for dealing with a cyber-bullying situation
- Differentiate between legal and ethical behavior

ACTIVITIES:

- Vocabulary
- Review and practice
- Review
- Application
- Research and writing
- Team problem solving
- Prediction
- Discussion and debate
- Assessment

ASSESSMENTS:

- Pre-assessment (for grouping purposes)
- Teacher observation
- Project rubrics
- Assessments
- Activities
- Projects

DIFFERENTIATED INSTRUCTION:

- | | |
|------------------------------------|-----------------------------|
| Provide multiple examples | Highlight critical features |
| Provide multiple media and formats | Support background context |

Provide opportunities to practice with support
Offer adjustable levels of challenge
Offer flexible opportunities for demonstrating skill
tiered activities
varied graphic organizers to support learning

Offer choices of content and tools
Offer choices of learning contexts
tiered products
varied rubrics

RESOURCES:

Copyright law and resources: <http://library.case.edu/copyright/>
Copyright law and resources: <http://www.teachingcopyright.org/>
Cyber bullying: <http://www.ncsl.org/default.aspx?tabid=13495>

COURSE: Office Technology and Communication	GRADE(S): 9-12
UNIT: Social Media and Collaboration	TIMEFRAME: 90 days

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National Business Education Standards:

Section 12: Network Applications: Use, evaluate, and deploy communications and networking applications.

Pennsylvania Academic Standards:

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PA Science and Technology

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1.8.11 B Locate information using appropriate sources and strategies
 1.1.11 F Understand the meaning and apply key vocabulary across the various subject areas
 1.5.11 E Revise writing to improve style, word choice, sentence variety and subtlety of meaning after rethinking how questions of purpose, audience and genre have been addressed
 1.5.11 F Edit writing using the conventions of language

UNIT OBJECTIVES:

- Define the concept of "Social Networking"
- Define the concept of "Blogging"
- Define the concept of "Wikis"
- Apply the rules of digital communication etiquette
- Explain the advantages and disadvantages of open source software
- Demonstrate use of open source software to create products (e.g. blogs, wikis, podcasts, media sharing, bookmarking, document production, web site creation)
- Describe characteristics of social networking sites that cause them to be very public spaces

ACTIVITIES:

- Utilize class and Sharepoint team sites for collaboration
- Develop an informational wiki
- Use blogging for electronic journaling
- Investigate world of open source
- Apply knowledge and skills of open source software for communication purposes

ASSESSMENTS:

- Pre-assessment (for grouping purposes)
- Teacher observation
- Project rubrics
- Assessments
- Activities
- Projects

DIFFERENTIATED INSTRUCTION:

Provide multiple examples	Highlight critical features
Provide multiple media and formats	Support background context
Provide opportunities to practice with support	Offer choices of content and tools
Offer adjustable levels of challenge	Offer choices of learning contexts
Offer flexible opportunities for demonstrating skill	Tiered products
Tiered activities	Varied rubrics
Varied graphic organizers to support learning	

RESOURCES:

Open Source: <http://www.opensource.org/>
 PMSD Student Portal
 Microsoft Sharepoint
 Audacity

COURSE: Office Technology and Communication	GRADE(S): 9-12
UNIT: Geographical Positioning Technologies	TIMEFRAME: 90 days

National Educational Standards for Students (NETS-S):

ISTE 1a, 1b, 2b, 3d, 4b, 4c, 6b, 6d

- 1a.** Apply existing knowledge to generate new ideas, products or processes
- 1b.** Create original works as a means of personal or group expression
- 2b.** Communicate information and ideas effectively to multiple audiences using a variety of media

and formats

3d. Process data and report results

4b. Plan and manage activities to develop a solution or complete a project

4c. Collect and analyze data to identify solutions and/or make informed decisions

6b. Select and use applications effectively and productively

6d. Transfer current knowledge to learning of new technologies

National Business Education Standards:

Section 5: Application Software: Identify, evaluate, select, install, use, upgrade, and customize application software; diagnose and solve problems resulting from an application software's installation and use.

Pennsylvania Academic Standards:

PA Career Education and Work

13.2.11 C Analyze workplace problems and cite technological solutions.

13.3.11 E Evaluate strategies used to manage time and their application in different work situations

13.3.11 F Analyze the impact of change on the evolving world economy and the individual's work

13.2.11 B Analyze and evaluate complex technical tasks using sophisticated processes

13.3.11 C Evaluate team member roles to describe and illustrate active listening techniques

13.1.11 A Analyze career options based on student interests, abilities, aptitudes and accomplishments

13.1.11 C Evaluate opportunities for career exploration

PA Mathematics

2.1.11 A Use operations

2.2.11 A Develop and use computations concepts, operations and procedures with real numbers in problem-solving situations

2.2.11 F Demonstrate skills for using computer spreadsheets and scientific and graphing calculators

2.6.11 B Use appropriate technology to organize and analyze data taken from the local community

2.5.11 A Select and use appropriate mathematical concepts and techniques from different areas of mathematics and apply them to solving non-routine and multi-step problems

2.4.11 E Demonstrate mathematical solutions to problems

PA Science and Technology

3.7.12 A Evaluate computer operations and concepts as to their effectiveness to solve specific problems

3.7.12 C Assess and apply multiple input and output devices to solve specific problems

3.7.12 D Evaluate the effectiveness of computer software to solve specific problems

3.8.12 B Apply the use of ingenuity and technological resources to solve specific problems

3.8.12 C Evaluate the consequences and impacts of scientific and technological solutions

PA Reading, Writing, Speaking, Listening

1.1.11 A Locate various texts, media and traditional resources for assigned and independent projects before reading

1.2.11 A Read and understand essential content of informational texts and documents in all academic areas

1.2.11 B Use and understand a variety of media and evaluate the quality of material produced

1.4.11 B Write complex informational pieces

1.5.11 A Write with a sharp, distinct focus

1.5.11 B Writing using well-developed content appropriate for the topic

1.5.11 C Write with a controlled and/or subtle organization

1.6.11 A Listen to others

1.6.11 C Speak using skills appropriate to formal speech situations

1.6.11 D Contribute to discussions

1.6.11 E Participate in small and large group discussions and presentations

1.6.11 F Use media for learning purposes

1.8.11 B Locate information using appropriate sources and strategies

1.1.11 F Understand the meaning and apply key vocabulary across the various subject areas

1.5.11 E Revise writing to improve style, word choice, sentence variety and subtlety of meaning after rethinking how questions of purpose, audience and genre have been addressed

1.5.11 F Edit writing using the conventions of language

UNIT OBJECTIVES:

- Understand what geographical positioning technologies are and explain or demonstrate what they can be used for
- Understand the impact and advantages and disadvantages of geographical positioning technologies
- Gain hands-on experience working with Web-based geographical positioning technologies applications

ACTIVITIES:

- Use Google Maps to better understand interactive maps
- Use Google Earth to introduce basic geographical positioning technologies concepts
- Interact with publicly available maps to meet real world challenges

ASSESSMENTS:

- Teacher observation
- Project rubrics
- Assessments
- Activities

DIFFERENTIATED INSTRUCTION:

Provide multiple examples
Provide multiple media and formats
Provide opportunities to practice with support
Offer adjustable levels of challenge
Offer flexible opportunities for demonstrating skill
Tiered activities
Varied graphic organizers to support learning

Highlight critical features
Support background context
Offer choices of content and tools
Offer choices of learning contexts
Tiered products
Varied rubrics

RESOURCES:

- Google Maps
- Google Earth
- eMapPA
- National Weather Service