

Unit 3 - Computer Applications

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Belleville Public Schools

Curriculum Guide

LIBRARY/MEDIA, 4TH GRADE COMPUTER APPLICATIONS

Belleville Board of Education

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Unit Overview

Media Literacy is the ability to understand, interpret and express information in any form, gather and use information responsibly and safely. It provides a framework to access, analyze, evaluate and demonstrate learning in a variety of forms. The Elementary School Library/Media program is meant to scaffold students' Media literacy skills. They will explore such topics as digital citizenship, safety on the Internet, the evaluation of digital information, cyberbullying and online privacy. In addition to online skills and safety, the program provides enjoyable, hands on learning activities which serves as a support to the various areas of the curriculum content studies and projects while aligning to the language arts units of study.

Enduring Understanding

Enduring understandings:

- It is necessary to know the correct terminology in order to use technology properly.
- Technology may be used to enhance the acquisition of information.
- Selection of technology should be based on personal needs.
- It is important to be able to sift through massive amounts of information to locate what you need.
- Technology enables students to solve real world problems.

Essential Questions

Essential Questions are:

- How can the use of technology enhance understanding?
- In what ways can technology enhance expression and communication? In what ways might technology hinder it?
- What do you have to remember vs. what can you just look up?
- What makes information "true"?
- Is some information better than other information on the same topic? How do we judge?
- How can key words affect the number of results you get in a search?
- How do I use technology properly?
- How do I choose which technological tools to use and when it is appropriate to use them?
- What are my responsibilities as a user of information?
- In a world of constant technological changes, what skills should we learn?
- We must determine that not all information found in a book or online is accurate information
- How can the computer be used as a tool?
- How and when can technology enhance problem solving?

Exit Skills

By the end of 4th Grade, Library Media Unit 3 - Computer Applications, the students should be able to:

- Demonstrates appropriate online behavior
- Participates responsibly and respectfully in an online community
- Collaborate in creating a digital citizenship pledge outlining social norms and interacting with the digital world
- Understand the importance of strong secure passwords
- Recognize the information that is private
- Use a variety of tools to find, gather and evaluate information
- Recognize the differences between types of sources
- Use information to gain understanding of a topic
- Evaluate information for appropriate needs
- Gather information from a variety of sources

New Jersey Student Learning Standards (NJSL-S)

New Jersey Student Learning Standards applicable to Unit 3-Computer Applications include:

| | |
|-----------------|--|
| LA.W.4.6 | With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting. |
| LA.W.4.7 | Conduct short research projects that build knowledge through investigation of different aspects of a topic. |
| LA.SL.4.2 | Paraphrase portions of a text read aloud or information presented in diverse media and formats (e.g., visually, quantitatively, and orally). |
| MA.4.OA.A | Use the four operations with whole numbers to solve problems. |
| SOC.6.1.4.B.3 | Explain how and when it is important to use digital geographic tools, political maps, and globes to measure distances and to determine time zones and locations using latitude and longitude. |
| SOC.6.3.4.CS4 | Make informed and reasoned decisions by seeking and assessing information, asking questions, and evaluating alternate solutions. |
| AAAA.K-12.1.1.8 | Demonstrate mastery of technology tools for accessing information and pursuing inquiry. |
| AAAA.K-12.1.3.1 | Respect copyright/intellectual property rights of creators and producers. |
| AAAA.K-12.1.3.2 | Seek divergent perspectives during information gathering and assessment. |
| AAAA.K-12.1.3.3 | Follow ethical and legal guidelines in gathering and using information. |
| AAAA.K-12.1.4.1 | Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary. |
| AAAA.K-12.1.4.2 | Use interaction with and feedback from teachers and peers to guide own inquiry process. |
| AAAA.K-12.1.4.3 | Monitor gathered information, and assess for gaps or weaknesses. |
| AAAA.K-12.1.4.4 | Seek appropriate help when it is needed. |
| AAAA.K-12.2.1.3 | Use strategies to draw conclusions from information and apply knowledge to curricular areas, real-world situations, and further investigations. |
| AAAA.K-12.2.3.3 | Use valid information and reasoned conclusions to make ethical decisions. |
| AAAA.K-12.3.1.1 | Conclude an inquiry-based research process by sharing new understandings and reflecting on the learning. |
| AAAA.K-12.3.1.4 | Use technology and other information tools to organize and display knowledge and understanding in ways that others can view, use, and assess. |
| AAAA.K-12.3.1.6 | Use information and technology ethically and responsibly. |
| AAAA.K-12.4.1.8 | Use creative and artistic formats to express personal learning. |
| AAAA.K-12.4.3.4 | Practice safe and ethical behaviors in personal electronic communication and interaction. |
| TECH.8.1.5.A | Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations. |
| TECH.8.1.5.A.1 | Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. |
| TECH.8.1.5.A.4 | Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. |

| | |
|------------------|--|
| TECH.8.1.5.A.CS1 | Understand and use technology systems |
| TECH.8.1.5.A.CS2 | Select and use applications effectively and productively. |
| TECH.8.1.5.B.1 | Collaborative to produce a digital story about a significant local event or issue based on first-person interviews. |
| TECH.8.1.5.C.CS1 | Interact, collaborate, and publish with peers, experts, or others by employing a variety of digital environments and media |
| TECH.8.1.5.D.1 | Understand the need for and use of copyrights. |
| TECH.8.1.5.D.CS1 | Advocate and practice safe, legal, and responsible use of information and technology. |
| TECH.8.1.5.E.CS1 | Plan strategies to guide inquiry. |
| TECH.8.1.5.E.CS2 | Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. |
| TECH.8.1.5.E.CS3 | Evaluate and select information sources and digital tools based on the appropriateness for specific tasks. |
| TECH.8.2.5.E.2 | Demonstrate an understanding of how a computer takes input of data, processes and stores the data through a series of commands, and outputs information. |
| 4-PS3-1.6 | Constructing Explanations and Designing Solutions |
| 4-PS4-3.PS4.C | Information Technologies and Instrumentation |

Interdisciplinary Connections

Interdisciplinary Connections used in Unit 3 - Computer Applications include:

- Technology
- Language Arts
- Mathematics
- Social Studies
- Science and Scientific Inquiry

Learning Objectives

- **Distinguish** and **construct** safe, ethical, and responsible use of technological resources.
- **Formulate** an understanding of digital citizenship, safety on the Internet, the evaluation of digital information, cyberbullying, online privacy, etc.
- **Investigate** that Digital Citizens responsibly locate, evaluate, and ethically use information from a variety of digital sources.
- **Design and generate** carefully crafted activities using the computer as a tool.

Effective Learning Objectives Used in Lesson Planning:

| Remember | Understand | Apply | Analyze | Evaluate | Create |
|-----------------|-------------------|--------------|----------------|-----------------|---------------|
| Choose | Classify | Choose | Categorize | Appraise | Combine |
| Describe | Defend | Dramatize | Classify | Judge | Compose |
| Define | Demonstrate | Explain | Compare | Criticize | Construct |
| Label | Distinguish | Generalize | Differentiate | Defend | Design |
| List | Explain | Judge | Distinguish | Compare | Develop |
| Locate | Express | Organize | Identify | Assess | Formulate |
| Match | Extend | Paint | Infer | Conclude | Hypothesize |
| Memorize | Give Examples | Prepare | Point out | Contrast | Invent |
| Name | Illustrate | Produce | Select | Critique | Make |
| Omit | Indicate | Select | Subdivide | Determine | Originate |
| Recite | Interrelate | Show | Survey | Grade | Organize |
| Select | Interpret | Sketch | Arrange | Justify | Plan |
| State | Infer | Solve | Breakdown | Measure | Produce |
| Count | Match | Use | Combine | Rank | Role Play |
| Draw | Paraphrase | Add | Detect | Rate | Drive |
| Outline | Represent | Calculate | Diagram | Support | Devise |
| Point | Restate | Change | Discriminate | Test | Generate |
| Quote | Rewrite | Classify | Illustrate | | Integrate |
| Recall | Select | Complete | Outline | | Prescribe |
| Recognize | Show | Compute | Point out | | Propose |
| Repeat | Summarize | Discover | Separate | | Reconstruct |
| Reproduce | Tell | Divide | | | Revise |
| | Translate | Examine | | | Rewrite |
| | Associate | Graph | | | Transform |
| | Compute | Interpolate | | | |
| | Convert | Manipulate | | | |
| | Discuss | Modify | | | |
| | Estimate | Operate | | | |
| | Extrapolate | Subtract | | | |
| | Generalize | | | | |
| | Predict | | | | |



Suggested Activities & Best Practices

Guidelines for Suggested Activities:

- Enlighten students through discussion about the Computer Rules, Responsibilities, and Internet Safety through a variety of videos, e-books, etc. at <http://www.netsmartzkids.org>
- Cyber Five explains various Internet Safety Rules abcy.com http://www.abcy.com/cyber_five_internet_safety.htm
- Students will be able to identify and use components of the computer:
 - CPU
 - Monitor
 - Keyboard
 - Mouse
 - Speakers
 - Printer
 - USB Port
- *The Mysteries of Internet Research /The Mysteries of Research*, Upstart Books.
- *Computer Projects Grades 2-4* Teacher Created Resources, Inc.

- **Daily Comprehension**, Remedia Publications monthly from Sept-June "On This Date in History....." Practice keyboarding skills -5-6 Paragraphs
- How to open, type, copy, paste, save an image, and how to save a document on student's drive, Desktop, My Document, or USB drive.
- Use of calculator, Paint, Microsoft Word, PowerPoint, Excel, etc.
- To familiarize the learner with navigating through a website the learner will practice using abcya.com ; typing.com ; sumdog.com ;
- Introduce the student to the computer keyboard's letters and numbers by navigating several virtual environments
 - abcya.com Technology vocabulary puzzle http://www.abcya.com/kids_technology_vocabulary.htm
 - abcya.com Find the Technology http://www.abcya.com/computer_vocabulary.htm
 - Typing.com Keyboarding Curriculum <https://typing.com/>
 - abcya.com Alpha Munchies http://www.abcya.com/kids_typing_game.htm
 - abcya.com Cup Stacking http://www.abcya.com/cup_stack_typing_game.htm
 - abcya.com Typing Rocket http://www.abcya.com/typing_rocket.htm
 - abcya.com Keyboard Invasion http://www.abcya.com/keyboard_invasion.htm
 - abcya.com Keyboarding Challenge <http://www.abcya.com/keyboard.htm>
 - abcya.com Typing Race http://www.abcya.com/typing_race_cars.htm
 - Practice writing a story using Scholastic Story Starters website <http://www.scholastic.com/teachers/story-starters/>
- Participate in "The Hour of Code" during Computer Science Education Week(First week in December) <https://code.org/educate/curriculum/elementary-school>
- American Library Association - Great Technology and Mathematics Websites for Kids <http://gws.ala.org/category/mathematics-computers>
- Sumdog.com (Mathematics-free, ELA-Reading-Writing-Spelling-subscription) <https://www.sumdog.com/>

Evidence of Student Learning - Checking for Understanding (CFU)

Evidence of Student Learning with Checking for Understanding (CFU) techniques used during the lesson and/or for Closure (Madeline Hunter), will be chosen from the following list:

- Admit Tickets
- Anticipation Guide
- Common benchmarks
- Compare & Contrast
- Create a Multimedia Poster

- Define
- Describe
- Evaluate
- Evaluation rubrics
- Exit Tickets
- Explaining
- Fist- to-Five or Thumb-Ometer
- Illustration
- Journals
- KWL Chart
- Newspaper Headline
- Outline
- Question Stems
- Quickwrite
- Quizzes
- Red Light, Green Light
- Self- assessments
- Socratic Seminar
- Study Guide
- Teacher Observation Checklist
- Think, Pair, Share
- Think, Write, Pair, Share
- Top 10 List
- Unit tests

Primary Resources & Materials

District-provided Primary Resources & Materials and/or those outside it that that are accessed with district resources include:

The Complete Library Skills Grade 4-McGraw-Hill Children's Publishing.

Computer Projects Grades 2-4 Teacher Created Resources, Inc.

The Mysteries of Internet Research Upstart Books.

Useful websites to introduce Internet Safety, Computer Rules, and Responsibilities:

- <https://jr.brainpop.com/artsandtechnology/technology/internetsafety/>
- <https://vimeo.com/116587103> (14 minute Video on Internet Safety-from a police officer)
- <http://www.netsmartzkids.org>
- <https://kids.usa.gov/watch-videos/online-safety/index.shtml>
- <https://www.brainpop.com/technology/freemovies/digitaletiquette/>

Familiarize students to using the computer through the following websites:

- abcy.com **Technology vocabulary puzzle** http://www.abcy.com/kids_technology_vocabulary.htm
- abcy.com **Find the Technology** http://www.abcy.com/computer_vocabulary.htm

Keyboarding:

- **Typing.com** Keyboarding Curriculum <https://typing.com/>
- abcy.com **Alpha Munchies** http://www.abcy.com/kids_typing_game.htm
- abcy.com **Cup Stacking** http://www.abcy.com/cup_stack_typing_game.htm
- abcy.com **Typing Rocket** http://www.abcy.com/typing_rocket.htm
- abcy.com **Keyboard Invasion** http://www.abcy.com/keyboard_invasion.htm
- abcy.com **Keyboarding Challenge** <http://www.abcy.com/keyboard.htm>
- abcy.com **Typing Race** http://www.abcy.com/typing_race_cars.htm
- abcy.com **Ghost Typing** http://www.abcy.com/ghost_typing.htm
- Practice writing a story using Scholastic Story Starters website <http://www.scholastic.com/teachers/story-starters/>

Other Useful websites:

- World Atlas Downloadable maps <http://www.worldatlas.com/>
- Math-Language Arts-Science-Social Studies Sheppards Software <http://sheppardsoftware.com/>
- American Library Association Websites for Kids <http://gws.ala.org>

- Computer Coding Curriculum <https://code.org/educate/curriculum/elementary-school>

Ancillary Resources

Ancillary Resources used:

Technology Infusion

Technology Infusion and/or strategies that are integrated into this unit to enhance learning include:



Internet Safety websites:

- <https://jr.brainpop.com/artsandtechnology/technology/internetsafety/>
- <https://vimeo.com/116587103> (14 minute Video on Internet Safety-from a police officer)
- <http://www.netsmartzkids.org>
- <https://kids.usa.gov/watch-videos/online-safety/index.shtml>
- BrainPop digital etiquette <https://www.brainpop.com/technology/freemovies/digital etiquette/>

Technology Vocabulary:

- abcy.com Technology vocabulary puzzle http://www.abcy.com/kids_technology_vocabulary.htm
- abcy.com Find the Technology http://www.abcy.com/computer_vocabulary.htm

Keyboarding Practice:

- Typing.com Keyboarding Curriculum <https://typing.com/>
- abcy.com Alpha Munchies http://www.abcy.com/kids_typing_game.htm
- abcy.com Cup Stacking http://www.abcy.com/cup_stack_typing_game.htm
- abcy.com Typing Rocket http://www.abcy.com/typing_rocket.htm
- abcy.com Keyboard Invasion http://www.abcy.com/keyboard_invasion.htm
- abcy.com Keyboarding Challenge http://www.abcy.com/keyboard_challenge.htm
- abcy.com Typing Race http://www.abcy.com/typing_race_cars.htm
- Practice writing a story using Scholastic Story Starters website <http://www.scholastic.com/teachers/story-starters/>

Alignment to 21st Century Skills & Technology

Mastery and infusion of 21st Century Skills & Technology and their Alignment to the core content areas is essential to student learning. The core content areas include:

- English Language Arts;
- Mathematics;
- Science and Scientific Inquiry (Next Generation);
- Social Studies, including American History, World History, Geography, Government and Civics, and Economics;
- World languages;
- Technology;
- Visual and Performing Arts.

21st Century Skills

The 21st Century Skills that will be incorporated into this unit include:

- Communication and Collaboration
- Creativity and Innovation
- Critical thinking and Problem Solving
- ICT (Information, Communications and Technology) Literacy
- Information Literacy
- Life and Career Skills
- Media Literacy

21st Century Skills/Interdisciplinary Themes

The 21st Century/Interdisciplinary Themes that will be incorporated into this unit include:

- Civic Literacy
- Environmental Literacy
- Financial, Economic, Business and Entrepreneurial Literacy
- Global Awareness
- Health Literacy

Differentiation

Differentiations for this unit will be chosen from the following:

Differentiations:

- Small group instruction
- Small group assignments
- Extra time to complete assignments
- Pairing oral instruction with visuals
- Repeat directions
- Use manipulatives
- Center-based instruction
- Token economy
- Study guides
- Teacher reads assessments allowed
- Scheduled breaks
- Rephrase written directions
- Multisensory approaches
- Additional time
- Preview vocabulary
- Preview content & concepts
- Story guides
- Behavior management plan
- Highlight text
- Student(s) work with assigned partner
- Visual presentation
- Assistive technology
- Auditory presentations
- Large print edition
- Dictation to scribe
- Small group setting

Hi-Prep Differentiations:

- Alternative formative and summative assessments
- Choice boards
- Games and tournaments
- Group investigations
- Guided Reading
- Independent research and projects

- Interest groups
- Learning contracts
- Leveled rubrics
- Literature circles
- Multiple intelligence options
- Multiple texts
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products
- Varying organizers for instructions

Lo-Prep Differentiations

- Choice of books or activities
- Cubing activities
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills
- Open-ended activities
- Think-Pair-Share
- Reading buddies
- Varied journal prompts
- Varied supplemental materials

Intervention Strategies

Intervention Strategies employed in this unit will be chosen from the following:

- allowing students to correct errors (looking for understanding)
- teaching key aspects of a topic. Eliminate nonessential information
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning
- allowing students to select from given choices
- allowing the use of note cards or open-book during testing
- collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test.

- decreasing the amount of work presented or required
- having peers take notes or providing a copy of the teacher's notes
- marking students' correct and acceptable work, not the mistakes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using authentic assessments with real-life problem-solving
- using true/false, matching, or fill in the blank tests in lieu of essay tests
- using videos, illustrations, pictures, and drawings to explain or clarify

Special Education Learning

Special Education Learning adaptations that will be employed in Unit 3 - Computer Application will be chosen from the following list:

- printed copy of board work/notes provided
- additional time for skill mastery
- assistive technology
- behavior management plan
- Center-Based Instruction
- check work frequently for understanding
- computer or electronic device utilizes
- extended time on tests/ quizzes
- have student repeat directions to check for understanding
- highlighted text visual presentation
- modified assignment format
- modified test content
- modified test format
- modified test length
- multiple test sessions
- multi-sensory presentation
- preferential seating
- preview of content, concepts, and vocabulary
- reduced/shortened reading assignments
- Reduced/shortened written assignments
- secure attention before giving instruction/directions
- shortened assignments

- student working with an assigned partner
- teacher initiated weekly assignment sheet
- Use open book, study guides, test prototypes

English Language Learning (ELL)

English Language Learning adaptations that will be employed in Unit 3 - Computer Application will be chosen from the following list:

- teaching key aspects of a topic. Eliminate nonessential information
- using videos, illustrations, pictures, and drawings to explain or clarify
- allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slide shows, videos, etc.) to demonstrate student's learning;
- allowing students to correct errors (looking for understanding)
- allowing the use of note cards or open-book during testing
- decreasing the amount of work presented or required
- having peers take notes or providing a copy of the teacher's notes
- modifying tests to reflect selected objectives
- providing study guides
- reducing or omitting lengthy outside reading assignments
- reducing the number of answer choices on a multiple choice test
- tutoring by peers
- using computer word processing spell check and grammar check features
- using true/false, matching, or fill in the blank tests in lieu of essay tests

Sample Lesson

Using the template below, please develop a **Sample Lesson** for the first unit only.

Unit Name:

NJSLS:

Interdisciplinary Connection:

Statement of Objective:

Anticipatory Set/Do Now:

Learning Activity:

Student Assessment/CFU's:

Materials:

21st Century Themes and Skills:

Differentiation/Modifications:

Integration of Technology: