Belvidere Clusterwide Curriculum

Media and Technology

Kindergarten to Second Grade

Updated: Summer 2025

All Belvidere Cluster curriculum and instruction areas are aligned to the New Jersey Student Learning Standards (NJSLS) in accordance with the NJ Department of Education's curriculum implementation requirements.

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UNITS	Duration	Essential Questions:
Unit 1: Computer Literacy	(8 weeks)	1. Why do I need to know how things work? 2. How do I access technological resources to accomplish tasks? 3. How can I responsibly use input devices(keyboard, mouse, etc.)
Unit 2: Digital Citizenship	(6 Weeks)	1. How can I be a good digital citizen? 2. Why is computer and internet safety important? 3. How do we stay safe and be kind online?
Unit 3: Creativity and Innovation	(8 Weeks)	1. How can I use digital tools to express ideas and solve problems? 2. How can productivity software help me be creative?
Unit 4: Coding and Algorithms	(6 weeks)	1. How can building a set of directions help to complete a task? 2. How can I use critical thinking skills to debug errors in my code?
Unit 5: Engineering Design	(8 weeks)	1. What is engineering and how do engineers solve problems? 2. How can I use the design process to create solutions?
Unit 6: Data and Analysis	(4 weeks)	1. How can I use digital tools to collect and represent data? 2. Why is data important when making decisions?

Student Learning

Career Education (NJDOE CTE Clusters)

21st Century Themes:

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy
- Creativity and Innovation
- Critical Thinking
- Problem Solving
- Communication
- Collaboration
- Information Literacy
- Media Literacy
- ICT (Information, Communication and Technology) Literacy

Modifications and Accommodations:

Special Education

- 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 utilization
- 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 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
- 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
- Varied supplemental materials

ELL

- Allowing students to correct errors (looking for understanding)
- 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, slideshows, 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 the number of answer choices on a multiple choice test
- Tutoring by peers
- Explain/clarify key vocabulary terms

At Risk

- 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, slideshows, 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 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
- Flexible grouping
- Goal setting with students
- Jigsaw
- Mini workshops to re-teach or extend skills Open-ended activities
- Think-Pair-Share
- Varied supplemental materials

Gifted and Talented

- Alternative formative and summative assessments
- Choice boards

- Games and tournaments
- Group investigations
- Independent research and projects Interest groups for real world application
- Learning contracts
- Leveled rubrics
- Multiple intelligence options
- Personal agendas
- Project-based learning
- Problem-based learning
- Stations/centers
- Think-Tac-Toes
- Tiered activities/assignments
- Tiered products_____

504

- 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 utilization
- 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
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- Reduced/shortened written assignments
- Secure attention before giving instruction/directions
- Shortened assignments
- Student working with an assigned partner
- Seacher initiated weekly assignment sheet
- Use open book, study guides, test prototype
- Exploration by interest
- Flexible grouping
- Goal setting with students
- Mini workshops to re-teach or extend skills Open-ended activities
- Think-Pair-Share
- Varied supplemental materials

Unit 1 Overview: Computer Literacy

Unit 1 Summary:
Students will use computers to enhance curricular learning, log on/off of a device, identify basic parts of a computer (chromebook basics), have letter and number recognition within a keyboard, discuss computer and internet safety and navigate the mouse/touchpad to locate icons.

Essential Questions:

- Why do I need to know how things work?
- How do I access technological resources to accomplish tasks?
- How can I responsibly use input devices(keyboard, mouse, etc.)

New Jersey Student Learning Standards

New Jersey Student Learning Standards:

CPI:
8.1.2.CS.1: Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
8.1.2.CS.2: Explain the functions of common software and hardware components of computing systems.
8.1.2.CS.3: Describe basic hardware and software problems using accurate terminology.
8.1.2.NI.1: Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network.
8.1.2.NI.2: Describe how the Internet enables individuals to connect with others worldwide.
8.1.2.NI.3: Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others.
8.1.2.NI.4: Explain why access to devices need to be secured.
9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content.
9.4.2.TL.5: Describe the difference between real and virtual experiences.

Interdisciplinary Connections:
ELA/Literacy

- Brief writing tasks
- Basic features of print
- Phonological awareness/phonics and word recognition
- Reading Fluency

Mathematics

- Make sense of problems and persevere in solving them
- Counting and cardinality

21st Century Themes:

- Media Literacy

- Information Literacy
- ICT (Information, Communication and Technology) Literacy

Enduring Understandings

Students will understand that…

- It is a big responsibility to properly use a computer. They will learn computer etiquette and safety.
- Chromebooks and desktops have similarities and differences. They will compare/contrast various components of each device.They will recognize the rules and procedures to follow in computer class.
- A desktop computer has different elements and functions than a chromebook. They will recognize the basic layout of each device.
- They will identify various keys and icons on computers and devices.
- Technology use can have positive or negative impact on both users and those affected by their use.
- Technology is constantly changing and requires continuous learning of new skills.
- Selection of technology should be based on personal and/or career needs assessment.
- The Internet is a huge group of interconnected computers.

Unit 1 Student Learning Objectives

Students will know…

- Individuals use computing devices to perform a variety of tasks accurately and quickly. Computing devices interpret and follow the instructions they are given literally.
- A computing system is composed of software and hardware.
- Describing a problem is the first step toward finding a solution when computing systems do not work as expected.
- Computer networks can be used to connect individuals to other individuals, places, information, and ideas. The Internet enables individuals to connect with others worldwide.
- Connecting devices to a network or the Internet provides great benefits, but care must be taken to use authentication measures, such as strong passwords, to protect devices and information from unauthorized access.

Unit 1 Assessments

Formative Assessments:

- Pretest/Post test
- Observation
- Class Participation
- Think-Pair-Share

Summative Assessments:

- Quiz
- Unit Projects

Alternative Assessments:

- Do-Now
- Exit Tickets
- Classroom Games
- Self-assessment
- Feedback from home form

Additional Resources/Links

- **ABCyA.com**
- **Typing.com**
- **Typetastic.com**
- **Google Docs**
- **Microsoft Paint**
- **SciShowKids**
- **Craft Computing**
- **CS Unplugged**
- ***Hello, Ruby Adventures in Coding*** **by Linda Liukas**

Unit 2 Overview: Digital Citizenship

Unit 2 Summary:
Students will be able to use the internet to access programs to support the curriculum and collaborate with peers by participating in interactive digital games and activities. They will also engage in a variety of developmentally appropriate learning activities with students in other classes, schools, or countries using various media formats such as online collaborative tools, and social media. Students will demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums). Students will understand digital citizenship and safety concerns.

Essential Questions:
- How can I be a good digital citizen?
- Why is computer and internet safety important?
- How do we stay safe and be kind online?

New Jersey Student Learning Standards

New Jersey Student Learning Standards:

CPI:
9.4.2.DC.1: Explain differences between ownership and sharing of information.
9.4.2.DC.2: Explain the importance of respecting the digital content of others.
9.4.2.DC.3: Explain how to be safe online and follow safe practices when using the internet (e.g., 8.1.2.NI.3, 8.1.2.NI.4).
9.4.2.DC.4: Compare information that should be kept private to information that might be made public.
9.4.2.DC.5: Explain what a digital footprint is and how it is created.
9.4.2.DC.6: Identify respectful and responsible ways to communicate in digital environments.
8.1.2.IC.1: Compare how individuals live and work before and after the implementation of new computing technology.

Interdisciplinary Connections:
ELA/Literacy
- Basic features of print
- Phonological awareness/phonics and word recognition
- Reading Fluency
- Website and documents

Mathematics
- Make sense of problems and persevere in solving them
- Counting and cardinality

21st Century Themes:
- Global Awareness
- Environmental Literacy
- Critical Thinking
- Problem Solving
- Communication
- Collaboration
- Information Literacy
- Media Literacy
- ICT (Information, Communication and Technology) Literacy

Enduring Understandings

Students will understand that…

- It is important to treat others with respect.
- You have control of your actions online and are responsible for keeping yourself safe.

Unit 2 Student Learning Objectives

Students will know…
• Digital artifacts can be owned by individuals or organizations.
• Individuals should practice safe behaviors when using the Internet.
• An individual's digital footprint reflects the various actions an individual makes online, both positive and negative.
• Digital communities allow for social interactions that can result in positive or negative outcomes.
• Young people can have a positive impact on the natural world in the fight against climate change.

Unit 2 Assessments

Formative Assessments:
- Pretest/Post test
- Observation
- Class Participation
- Think-Pair-Share

Summative Assessments:
- Quiz
- Unit Projects

Alternative Assessments:
- Do-Now
- Exit Tickets
- Classroom Games
- Self-assessment
- Feedback from home form

Additional Resources/Links

- **Commonsense.org**
- **ABCya.com**
- **https://iste.org/digital-citizenship-lessons**
- **PBS Learning Media**
- **https://everfi.com/courses/k-12/lesson-plans-empathy-compassion-elementary/**

Unit 3 Overview: Creativity and Innovation

Unit 3 Summary:
Students will use digital devices to create and share ideas with an emphasis placed on creativity and problem solving. They will gain mastery in using digital media to communicate and collaborate with others. Students will use critical thinking skills, construct knowledge, and develop projects and processes using technology.

Essential Questions:
- How can I use digital tools to express ideas and solve problems?
- How can productivity software help me be creative?

New Jersey Student Learning Standards

New Jersey Student Learning Standards:

CPI:
• 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
• 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
• 9.4.2.CT.1: Gather information about an issue, **such as climate change**, and collaboratively brainstorm ways to solve the problem (e.g., K-2-ETS1-1, 6.3.2.GeoGI.2).
• 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
• 9.4.2.DC.7: **Describe actions peers can take to positively impact climate change (e.g., 6.3.2.CivicsPD.1).**
• 9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1).
• 9.4.2.TL.2: Create a document using a word processing application.
• 9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
• 9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts (e.g., W.2.6., 8.2.2.ED.2).

Interdisciplinary Connections:
ELA/Literacy
- Brief writing tasks
- Basic features of print
- Phonological awareness/phonics and word recognition
- Reading Fluency

Mathematics
- Make sense of problems and persevere in solving them
- Counting and cardinality

21st Century Themes:
- Global Awareness
- Creativity and Innovation
- Critical Thinking
- Problem Solving
- Communication
- Collaboration
- Information Literacy

- Media Literacy
- ICT (Information, Communication and Technology) Literacy

Enduring Understandings

Students will understand that…

- They can express ideas digitally using words, pictures, and digital art/media.
- They can use digital software to create something new.
- They can communicate with others using digital media.
- They can build proficiency through practice.

Unit 3 Student Learning Objectives

Students will know…

- Brainstorming can create new, innovative ideas.
- Digital tools have a purpose.
- Collaboration can simplify the work an individual has to do and sometimes produce a better product.

Unit 3 Assessments

Formative Assessments:

- Pretest/Post test
- Observation
- Class Participation
- Think-Pair-Share

Summative Assessments:

- Quiz
- Unit Projects

Alternative Assessments:

- Do-Now
- Exit Tickets
- Classroom Games
- Self-assessment
- Feedback from home form

Additional Resources/Links

- **Google Docs, Google Slides**
- **ABCya.com**
- **MS Paint**
- **Tux Paint**
- **Starfall.com**
- **Bookcreator.com**

Unit 4 Overview: Coding and Algorithms

Unit 4 Summary:
Students will participate in coding activities to develop/enhance an understanding of computational thinking and create and debug algorithms using appropriate terms. Students will be able to understand computational thinking and computer programming as tools used in design and engineering.

Essential Questions:
- How can building a set of directions help to complete a task?
- How can I use critical thinking skills to debug errors in my code?

New Jersey Student Learning Standards

New Jersey Student Learning Standards:

CPI:
8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.
8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.
8.1.2.AP.3: Create programs with sequences and simple loops to accomplish tasks.
8.1.2.AP.4: Break down a task into a sequence of steps.
8.1.2.AP.5: Describe a program's sequence of events, goals, and expected outcomes.
8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops.

Interdisciplinary Connections:
ELA/Literacy
- Directional awareness
- Phonological awareness/phonics and word recognition
- Reading Fluency

Mathematics
- Make sense of problems and persevere in solving them
- Counting and cardinality
- Reason abstractly and quantitatively
- Recognize patterns to make code more efficient using loops

21st Century Themes:
- Creativity and Innovation
- Critical Thinking
- Problem Solving
- Collaboration
- ICT (Information, Communication and Technology) Literacy

Enduring Understandings

Students will understand that…

- Computer scientists blend human ideas and digital tools to efficiently solve problems in our everyday lives.
- Computational thinking can be used to break down steps within a complex task.

Unit 4 Student Learning Objectives

Students will know…
• Individuals develop and follow directions as part of daily life.
• A sequence of steps can be expressed as an algorithm that a computer can process.
• Real world information can be stored and manipulated in programs as data (e.g., numbers, words, colors, images).
• Computers follow precise sequences of steps that automate tasks.
• Complex tasks can be broken down into simpler instructions, some of which can be broken down even further.
• People work together to develop programs for a purpose, such as expressing ideas or addressing problems.
• The development of a program involves identifying a sequence of events, goals, and expected outcomes, and addressing errors (when necessary).

Unit 4 Assessments

Formative Assessments:
- Pretest/Post test
- Observation
- Class Participation
- Think-Pair-Share

Summative Assessments:
- Quiz
- Unit Projects

Alternative Assessments:
- Do-Now
- Exit Tickets
- Classroom Games
- Self-assessment
- Feedback from home form

Additional Resources/Links

- **Code and Go Mouse**
- **OSMO: Coding with Awbie**
- **kodable.com**
- **CodeMonkey.com**
- **Code Studio**
- **Ozobot coding**
- **SciShowKids**
- ***How to Code a Sandcastle* by Josh Funk**

- ***Invent-a-Pet*** **by Vicki Fang**
- **Dash, BeeBot Robots**
- **Scratch Jr.**

Unit 5 Overview: Engineering and Design

Unit 5 Summary:
Students will develop an understanding of human, cultural, and societal values that are fundamental when designing technology systems and products in the global society. They will brainstorm ideas, identify designed products and prototype solutions using 2D and/or 3D models. Students will use critical thinking skills, construct knowledge, and develop projects and processes using technology and consider their effects on the natural world.

Essential Questions:
- What is engineering and how do engineers solve problems?
- How can I use the design process to create solutions?

New Jersey Student Learning Standards

New Jersey Student Learning Standards:

CPI:
8.2.2.ED.1: Communicate the function of a product or device.
8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
8.2.2.ED.3: Select and use appropriate tools and materials to build a product using the design process.
8.2.2.ED.4: Identify constraints and their role in the engineering design process.
8.2.2.ITH.1: Identify products that are designed to meet human wants or needs.
8.2.2.ITH.2: Explain the purpose of a product and its value.
8.2.2.ITH.3: Identify how technology impacts or improves life.
8.2.2.ITH.4: Identify how various tools reduce work and improve daily tasks.
8.2.2.ITH.5: Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.
8.2.2.NT.1: Model and explain how a product works after taking it apart, identifying the relationship of each part, and putting it back together.
8.2.2.NT.2: Brainstorm how to build a product, improve a designed product, fix a product that has stopped working, or solve a simple problem.
8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology.
8.2.2.ETW.2: Identify the natural resources needed to create a product.
8.2.2.ETW.3: Describe or model the system used for recycling technology.
8.2.2.ETW.4: **Explain how the disposal of or reusing a product affects the local and global environment.**
8.2.2.EC.1: Identify and compare technology used in different schools, communities, regions, and parts of the world.

Interdisciplinary Connections:
ELA/Literacy
- Brief writing tasks
- Basic features of print
- Phonological awareness/phonics and word recognition
- Reading Fluency

Mathematics
- Make sense of problems and persevere in solving them
- Counting and cardinality

21st Century Themes:

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy
- Creativity and Innovation
- Critical Thinking
- Problem Solving
- Communication
- Collaboration
- Information Literacy
- Media Literacy
- ICT (Information, Communication and Technology) Literacy

Enduring Understandings

Students will understand that…

- Engineers use a design process to solve problems based on a real world need.
- They can ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

Unit 5 Student Learning Objectives

Students will know…
• Engineering design is a creative process for meeting human needs or wants that can result in multiple solutions.
• Limitations (constraints) must be considered when engineering designs.
• Human needs and desires determine which new tools are developed.
• Technology has changed the way people live and work.
• Various tools can improve daily tasks and quality of life.
• Innovation and the improvement of existing technology involves creative thinking.
• The use of technology developed for the human designed world can affect the environment, including land, water, air, plants, and animals.
• Technologies that use natural sources can have negative effects on the environment, its quality, and inhabitants.
• Reusing and recycling materials can save money while preserving natural resources and avoiding damage to the environment.
• The availability of technology for essential tasks varies in different parts of the world.

Unit 5 Assessments

Formative Assessments:

- Pretest/Post test
- Observation
- Class Participation

- Think-Pair-Share

Summative Assessments:

- Quiz
- Unit Projects

Alternative Assessments:

- Do-Now
- Exit Tickets
- Classroom Games
- Self-assessment
- Feedback from home form

Additional Resources/Links

- **Legos/Building Blocks**
- **3D printers**
- **Cardboard & DIY materials**
- **Virtual field trips**
- **teachengineering.org**
- **commonsense.org**
- **https://www.globalgoals.org/**
- **https://kids.nationalgeographic.com/**
- **Engineering is Elementary**
- **Dash/BeeBot Robots**
- **Fairy Tale STEM Challenges**

Unit 6 Overview: Data Analysis

Unit 6 Summary:
Students will be able to recognize that information can be organized in different ways. They will use a spreadsheet application to create tables and graphs.

Essential Questions:
- How can I use digital tools to collect and represent data?
- Why is data important when making decisions?

New Jersey Student Learning Standards

New Jersey Student Learning Standards:

CPI:
8.1.2.DA.1: **Collect and present data, including climate change data, in various visual formats.**
8.1.2.DA.2: Store, copy, search, retrieve, modify, and delete data using a computing device.
8.1.2.DA.3: Identify and describe patterns in data visualizations.
8.1.2.DA.4: Make predictions based on data using charts or graphs.
9.4.2.TL.3: Enter information into a spreadsheet and sort the information.

Interdisciplinary Connections:
ELA/Literacy
- Brief writing tasks
- Basic features of print
- Phonological awareness/phonics and word recognition
- Reading Fluency
- Graphic Organizer

Mathematics
- Make sense of problems and persevere in solving them
- Counting and cardinality
- Organize numerical data in table and graph formats
- Use spreadsheets to perform calculations on numeric data

21st Century Themes:
- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Creativity and Innovation
- Critical Thinking
- Problem Solving
- Communication
- Collaboration
- Information Literacy
- Media Literacy
- ICT (Information, Communication and Technology) Literacy

Enduring Understandings

Students will understand that…

- Computer technology is a useful tool for organizing, calculating, and analyzing data.
- Effective use of data can help us make decisions and solve problems.

Unit 6 Student Learning Objectives

Students will know…
• Individuals collect, use, and display data about individuals and the world around them.
• Computers store data that can be retrieved later.
• Data can be copied, stored in multiple locations, and retrieved.
• Data can be used to make predictions about the world.

Unit 6 Assessments

Formative Assessments:
- Pretest/Post test
- Observation
- Class Participation
- Think-Pair-Share

Summative Assessments:
- Quiz
- Unit Projects

Alternative Assessments:
- Do-Now
- Exit Tickets
- Classroom Games
- Self-assessment
- Feedback from home form

Additional Resources/Links

- **Google Sheets/Microsoft Excel**
- **CS Unplugged- Image Representation**
- **Graphs for Kids**
- **ABCya.com-Fuzz Bugs (Graph Interpretation)**
- **https://nces.ed.gov/nceskids/**
- **Graph creator-Canva**
- **https://virtualscienceteachers.org/pie-chart-maker/**