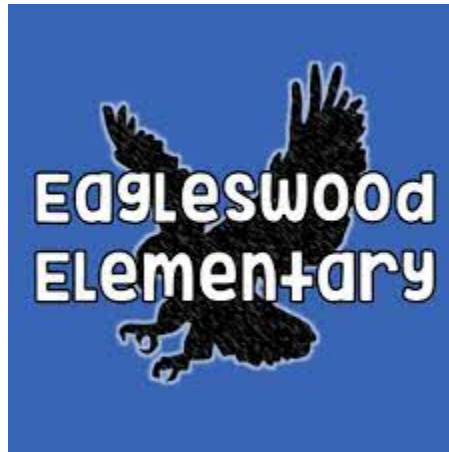


Eagleswood Township Elementary
School District



Computer Curriculum

Grade 3

Adopted by the Eagleswood
Board Of Education
August 15, 2022

Content Area: Technology
Grade Level: 3rd
Date Created: August 2022
Author(s): Heather Wawrzyniak

Pacing Guide

Unit 1: Problem Solving/ Decision Making/Computer Navigation & Basics	Marking Period 1
Unit 2: Presentations	Marking Period 2
Unit 3: Spreadsheets	Marking Period 3
Unit 4: STEAM Integration	Marking Period 4

Unit 1- NJSLS- [Computer Science and Design Thinking](#)

NJSLS for Technology

- 8.1.5.CS.1: Model how computing devices connect to other components to form a system.
- 8.1.5.NI.1: Develop models that successfully transmit and receive information using both wired and wireless methods
- 8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.
- 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.
- 8.1.5.DA.2: Compare the amount of storage space required for different types of data.
- 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.
- 8.1.5.AP.5: Modify, remix, or incorporate pieces of existing programs into one's own work to add additional features or create a new program.

NJSLS for 21st Century Skills (Standard 8.1.8.2,9.4- Updated & revised Edition)

- Standard 8.1 Computer Science-Technology, outlines a comprehensive set of concepts and skills, such as data and analysis, algorithms and programming, and computing systems.
- Standard 8.2 Design Thinking— Technology, outlines the technological design concepts and skills essential for technological and engineering literacy. The new framework design, detailed previously, includes Engineering Design, Ethics and Culture, and the Effects of Technology on the Natural world among the disciplinary concepts.
- Career Readiness, Life Literacies, and Key Skills standard 9.4- Given the ubiquity of technology, our students will continue to be required to demonstrate increasing levels of proficiency to access, manage, evaluate, and synthesize information in their

personal, academic, and professional lives.

NJSLS for ELA

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
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- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.
- RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- RI.3.2. Determine the main idea of a text; recount the key details and explain how they support the main idea.
- RI.3.3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
- W.3.8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
- A. Use sentence-level context as a clue to the meaning of a word or phrase.

NJSLS for Math

- MP1 Make sense of problems and persevere in solving them. Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.
- 3.MD.B.3 Represent and interpret data- Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs.

NJSLS for Science

- 3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on

how well each is likely to meet the criteria and constraints of the problem.

- 3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.
- 3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
- 3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
- 3-LS4-4. Make a claim about the merits of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

NJSLS for Social Studies

- 6.1.P.A.1 Demonstrate an understanding of rules by following most classroom routines.
- 6.1.P.A.2 Demonstrate responsibility by initiating simple classroom tasks and jobs.

Unit 1

Central Idea/ Enduring Understanding

Students will...

- Select technology based on personal and/or career needs assessment.
- Technology use can have positive or negative impact on both users and those affected by their use.
- Use the design process to systematically approach problems
- Navigation tools are convenient ways for users to access and manipulate various computer software, programming, and applications.
- Technology is constantly changing and require continuous learning of new skills.
- Understand and use technology systems.
- Select and use applications effectively and productively.

Guiding Questions

- How do I choose which technological tools to use and when it is appropriate to use them?
- How can I transfer what I know to new technological situations/experiences?
- How can the design process help to develop an understanding of a variety of tools and systems?
- How to use keywords and categories in search engines. It also teaches privacy issues to consider when providing information on the World Wide Web?
- How to identify and use URLs to research information online, create and use bookmarks, and use the navigation buttons?

Content

- Cybersafety
- Hour of Code/BitsBox/Ozobots
- Assess the credibility and accuracy of digital content
- Use digital tools to research and evaluate.
- Introduce Mystery Hangouts,

Skills (objectives)

- To engage in online discussions
- To collaborate with students in another class using electronic tools
- To explore copyrights
- To consider ethical responsibilities when solving a problem
- Perform online searches using

<p>GoogleHangouts, webquests, etc.</p> <ul style="list-style-type: none"> ● Basic computer troubleshooting ● Google Earth/Google Maps/Geoguesser 	<p>search engines.</p> <ul style="list-style-type: none"> ● Perform both real text and keyword searches, and determine the success of a search. ● Perform category searches to find information ● Identify resources used to create technological products ● Explain the importance of safety in the use of technology tools
<p>Performance Tasks</p> <ul style="list-style-type: none"> ● Formative Assessment ● Open-Ended Problems ● Project-Based Assessment ● Self-Assessment 	<p>Other Evidence of Learning</p> <ul style="list-style-type: none"> ● Class-Work Review ● Teacher Observation
<p>Learning Opportunities and Strategies</p> <ul style="list-style-type: none"> ● Use online resources to explore a global problem (e.g., hunger) ● Use online search engines to navigate online effectively. ● Solve a problem using digital tools ● Use lessons from Hour of Code/Bits Box/Ozobots ● Use Google Earth to complete an activity ● Complete teacher generated assignments using Word/Publisher, online software to create Word Searches/Crosswords/Word Clouds/Comics ● Communicate using digital tools. 	<p>Resources</p> <ul style="list-style-type: none"> ● Internet ● Digital Tools ● Blogs ● Microsoft Word/Publisher

Unit 2- NJSLS- [Computer Science and Design Thinking](#)

NJSLS for Technology

- 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
- 8.1.5.E.1 Use digital tools to research and evaluate the accuracy, relevance, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.
- 8.2.5.D.3 Follow step by step directions to assemble a product or solve a problem.

NJSLS for 21st Century Skills (standard 9)

- CRP1. Act as a responsible and contributing citizen and employee.

- CRP2. Apply appropriate academic and technical skills
- CRP4. Communicate clearly and effectively and with reason.
- CRP11. Use technology to enhance productivity

NJSLS for ELA

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
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- NJSLS for Social Studies
- 6.1.P.A.1 Demonstrate an understanding of rules by following most classroom routines.
 - 6.1.P.A.2 Demonstrate responsibility by initiating simple classroom tasks and jobs.

Unit 2	
<p>Central Idea/ Enduring Understanding Students will...</p> <ul style="list-style-type: none"> ● Understand that technology is constantly changing and requires continuous learning of new skills. ● Understand that the selection of technology should be based on personal and/or career needs assessment. ● Technology is constantly changing and requires continuous learning of new skills. ● A computer is an adaptable tool for organizing information and solving problems that facilitate lifelong learning. 	<p>Guiding Questions</p> <ul style="list-style-type: none"> ● How can presentation software be used to tell stories and present ideas and information? ● How to identify a story's sequence and view slides and slide shows in presentation software?
<p>Content</p> <ul style="list-style-type: none"> ● Use digital tools to research and evaluate. (8.1.5.E.1) ● Microsoft PowerPoint - copyright rules (8.1.5.D.1) ● Basic computer Troubleshooting(+CRP2) 	<p>Skills (objectives)</p> <ul style="list-style-type: none"> ● That presentation software is used to make slideshows on a computer. ● That a slide show is made up of a series of slides. ● To navigate through a slide show. ● To add multiple slides to a presentation.

	<ul style="list-style-type: none"> ● To choose a specific slide layout. ● To add a specific background design to slides. ● Add graphics and text ● To use slide preview and other views to evaluate work progress and final product.
Performance Tasks <ul style="list-style-type: none"> ● Open-Ended Problems ● Project-Based Assessment ● Self-Assessment 	Other Evidence of Learning <ul style="list-style-type: none"> ● Class-Work Review ● Teacher Observation
Learning Opportunities and Strategies <ul style="list-style-type: none"> ● Modeling of task ● Follow multi-step instruction ● Project example ● Direct Instruction ● Cooperative learning opportunities through shared documents 	Resources <ul style="list-style-type: none"> ● Software ● Smart board/ projector ● MS Powerpoint or Google Slides

Unit 3- NJSLS- [Computer Science and Design Thinking](#)

NJSLS for Technology

- 8.1.5.A.1 Select and use appropriate digital tools and resources to accomplish a variety of tasks including problem solving.
- 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.
- 8.1.5.A.5 Create and use a database to answer basic questions.
- 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data.
- 8.1.5.F.1 Apply digital tools to collect, organize, and analyze data that support a scientific finding.
- 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.

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NJSLS for Social Studies

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- 6.1.P.A.2 Demonstrate responsibility by initiating simple classroom tasks and jobs.

Unit 3

Central Idea/ Enduring Understanding

Students will...

- Spreadsheets are valuable to everyday users, when there is a proficient understanding of its use.

Guiding Questions

- What is a spreadsheet programs and what are worksheets, cells, rows, columns, and cell addresses?
- How to navigate in tables and enter data?

Content

- Microsoft Excel (8.1.5.A.4)
- Basic computer troubleshooting(+CRP2)

Skills (objectives)

- To identify and name the components of a spreadsheet, including worksheet, cell, row, and column.
- The concept of a cell.
- The concepts of rows and columns, including number and letter labels.
- That a cell location name is based on the cell's row and column.
- To enter data in individual cells.
- To select and generate a graph or chart from spreadsheet data.
- Analyze data collated to support scientific research

Performance Tasks

- Formative Assessment
- Open-Ended Problems
- Project-Based Assessment
- Self-Assessment

Other Evidence of Learning

- Class-Work Review
- Teacher Observation

Learning Opportunities and Strategies

- Teacher generated Microsoft Excel activities.
- Creating graphs and charts

Resources

- MS Excel or Google Sheets
- Computer Lab
- Smartboard/projector

<ul style="list-style-type: none"> • Adding data to spreadsheet cells • Modeling • Following multi-step instruction 	<ul style="list-style-type: none"> • Kids Zone Graphs
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<u>Differentiation Strategies</u>			
High Achieving Students	On Grade Level Students	Struggling Students	Students with Special Needs
<p>Create a PowerPoint presentation summarizing the lesson or introducing a topic</p> <p>Students create a Prezi on a given topic and present it to the class.</p> <p>Differentiate fact from opinion and fix the opinions to make them facts.</p> <p>Use of multiple texts, supplementary materials and computer programs</p> <p>Independent and small group projects chosen by students based on interest</p> <p>Student centered activities with the teacher as a guide</p> <p>Use of Jigsaw</p> <p>Think, Pair, Share</p> <p>Carousel activity to review or introduce material</p> <p>Portfolios for Essay</p> <p>Writing E-pals to share essays</p> <p>Google Classroom</p>	<p>Differentiate fact from opinion in the reading.</p> <p>Visual learners create a graphic organizer of the topic.</p> <p>Auditory learners give an oral report.</p> <p>Break some students into reading groups to discuss the assignment.</p> <p>Allow students to read individually if preferred.</p> <p>Use of student created charts and models</p> <p>Adaptive assessments that get easier or harder depending on how a student is performing.</p> <p>Learning activities in small groups, which are designed around student strengths and weaknesses so that they can tutor each other.</p> <p>Think, Pair, Share</p> <p>Allow for individual, partner and group work</p> <p>Carousel activity to review or introduce material</p>	<p>Offer alternate assessments/ assignments</p> <p>Adapt reading levels</p> <p>Provide textbooks for visual and word learners.</p> <p>Visual learners create a graphic organizer of the topic.</p> <p>Break some students into reading groups to discuss the assignment.</p> <p>Supply note taking organizers and peer buddies</p> <p>Assign reading partners</p> <p>Choral reading/ answering</p> <p>Supply highlighted texts & worksheets</p> <p>Think, Pair, Share</p> <p>Google Classroom</p> <p>Carousel activity to review or introduce material</p> <p>Allow students to read</p>	<p>Offer alternate assessments/ assignments</p> <p>Match vocabulary words to definitions.</p> <p>Read a passage of text and answer related questions.</p> <p>Provide textbooks for visual and word learners.</p> <p>Allow auditory learners to listen to audio books.</p> <p>Give kinesthetic learners the opportunity to complete an interactive assignment online.</p> <p>Visual learners create a graphic organizer of the topic.</p> <p>Break some students into reading groups to discuss the assignment.</p> <p>Allow students to read individually if preferred.</p> <p>Funbrain: quizzes/puzzles/games</p> <p>Kahoot to introduce/conclude lessons</p>

<p>Google docs to turn in and complete work</p> <p>Adapt reading levels</p>	<p>Google Classroom</p>	<p>individually if preferred.</p> <p>Have students define terms with pictures rather than words.</p> <p>Excel charts to compile information</p> <p>Kahoot to introduce/conclude lessons</p>	<p>Internet Scavenger Hunts</p> <p>Google Classroom</p> <p>Google docs to turn in and complete work</p>
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NOTE: Teachers should follow the specific curricular accommodations for students with individualized learning plans such as IEPs and 504

Accommodations for Various Learners

Students that are English Language Learners:

1. Retell content information in easier English
2. Use simple sentence structure (verb-subject-object)
3. Use high frequency words
4. Avoid negative phrasing such as all, but, except
5. Actively help students build connections and associations in order to access background knowledge or previously taught information
6. Present students with written as well as oral messages (provide outlines or a copy of the notes of a classmate)
7. Always write assignments on the chalkboard
8. Modify assignments (fewer questions or fewer vocabulary)
9. Provide taped lessons
10. Provide concrete examples of vocabulary words through the use of visuals
11. Model Think Alouds to increase student comprehension
12. Directly teach learning strategies
13. Provide small group instruction
14. Provide preferential seating
15. Provide individual or study carrel
16. Use color overlays or templates
17. Provide oral reading of test questions in English
18. Provide oral reading of reading passages in English
19. Provide frequent monitored breaks
20. Provide extended time

21. Assess whether student has the necessary prerequisite skills. Determine whether materials are appropriate to the student's current functioning levels

Students with Disabilities:

1. Seat student near model (student/teacher)
2. Seat student near instruction
3. Use a highlight marker to identify key words, phrases, or sentences for student to read
4. Provide manipulative objects for student to use in problems solving
5. Have peers deliver directions or explanations
6. Buddy in class to assist and clarify
7. Provide specific guidelines for prewriting
8. Provide mnemonic devices
9. Repeat major points of information
10. Provide visual cues (posters, number lines, gestures, use of technology)
11. Provide study guides
12. Highlight new vocabulary and key words
13. Use advance organizers
14. Allow for frequent breaks (sensory/brain)
15. Be aware of student's preferred learning style and provide matching instruction materials

Students listed as Gifted & Talented:

1. Modify the content through acceleration, compacting, variety, reorganization, flexible pacing, and the use of more advance or complex concepts, abstractions, and materials
2. Provide content that is thematic, broad based, and integrative rather than just single-subject areas
3. Provide opportunities to generalize, integrate, and apply ideas to content
4. Encourage students to move through content at their own pace
5. Provide enrichment activities for content such as critical thinking, problem finding, and problem solving
6. Modify process to be more intellectually demanding that require a higher level of response or open-ended questions that stimulate inquiry, active exploration, and discovery
7. Require students to think about topics in more abstract and complex ways
8. Activity selection should be based on student interests and encourage self directed learning
9. Align objectives with Bloom's Taxonomy
10. Modify the learning environment that encourages inquiry and independence. It should include a wide variety of materials, provides some physical movement, and connects the school experiences with the greater world
11. Modify product expectations and student responses. They should demonstrate what they have learned in a wide variety of forms that both reflect knowledge and ability to manipulate ideas

12. Assess curriculum effectiveness by accelerating the mastery of basic skills through testing-out procedures and reorganization of the curriculum according to higher level skills and concepts.

Students with 504 Plans:

Environmental Strategies

- Provide a structured learning environment
- Possible adapting of non-academic times such as lunch, recess, and physical education
- Change student seating
- Alter location or personal or classroom supplies for easier access or to minimize distraction
- Provide sensory breaks
- Provide a written or picture schedule

Presentation Strategies

- Record lessons so the student can review
- Use computer-aided instruction and other audiovisual equipment
- Select alternative textbooks, workbooks, or provide audio books
- Highlight main ideas and supporting details in the book
- Prioritize drill and practice activities for relevance
- Vary the method of lesson presentation using multi-sensory techniques
- Ask student to repeat/paraphrase context to check understanding
- Simplify and repeat instructions
- Vary instructional pace
- Reinforce the use of compensatory strategies, i.e. pencil grip, mnemonic devices, “spell check”
- Reinforce study skill strategies (survey, read, recite, review)
- Pre-teach and/or re-teach important concepts
- Prepare advanced organizers/study guides for new material

Behavioral Strategies

- Use behavioral management techniques consistently within a classroom and across classes
- Implement behavioral/academic contracts
- Utilize positive verbal and/or nonverbal reinforcements
- Utilize logical consequences
- Establish a home/school communication system for behavior monitoring
- Cooperatively generate rules and consequences for classroom behavior
- Reinforce self-monitoring and self-recording of behaviors

Organizational Strategies

- Model and reinforce organizational systems (i.e. color-coding)
- Write out homework assignments, check student's recording of assignments
- Set time expectations for assignments
- Provide clues such as clock faces indicating beginning and ending times
- Teach study/organizational skills

Evaluation Methods

- Limit amount of material presented on page
- Provide a sample or practice test
- Provide for oral testing
- Provide tests in segments so that student hands in one segment before receiving the next part
- Provide personal copy of test tools and allow for color-coding/highlighting
- Adjust time for completion
- Modify weights of tests when grading

Students that are At Risk:

1. Provide a structured learning environment
2. Provide sensory breaks
3. Change student seating
4. Select alternative textbooks, workbooks, or provide audio books
5. Vary the method of lesson presentation using multi-sensory techniques
6. Provide small group or individual instruction

7. Reinforce the use of compensatory strategies
8. Reinforce self-monitoring and self-reflecting strategies
9. Buddy in class to assist and clarify
10. Actively help students build connections and associations in order to access background knowledge or previously taught information
11. Directly teach learning strategies
12. Repeat major points of information
13. Provide visual cues (posters, number lines, gestures, use of technology)

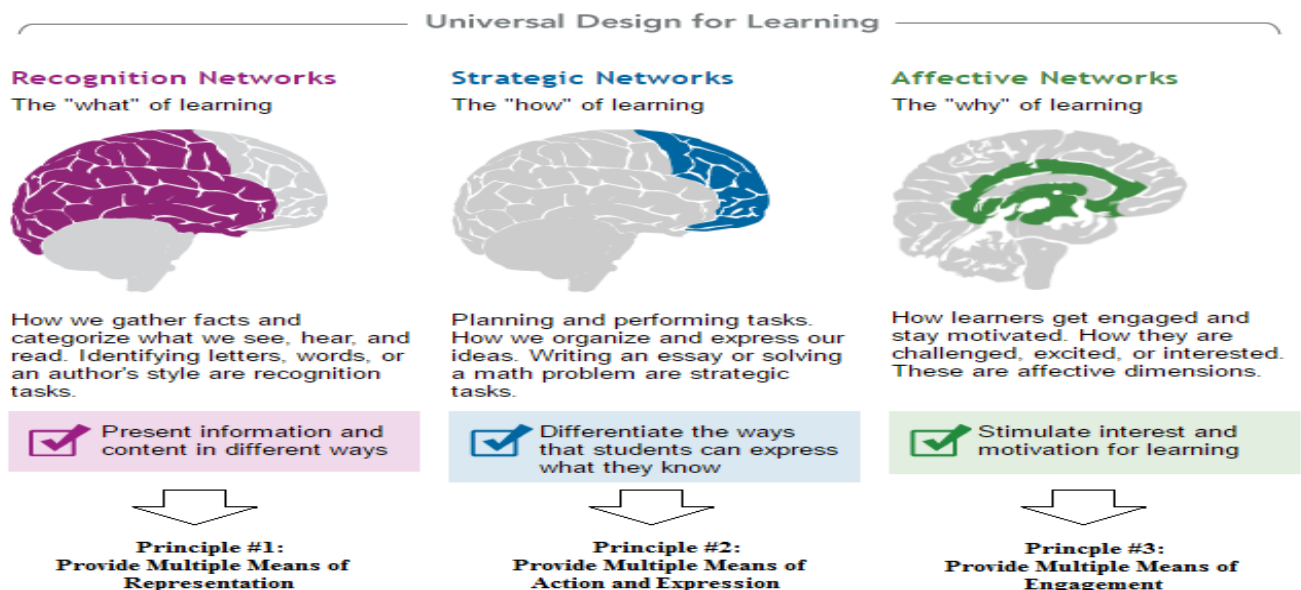
Universal Design

The goal of UDL is to use a variety of teaching methods to remove any barriers to learning and give all students equal opportunities to succeed. It's about building in flexibility that can be adjusted for every student's [strengths](#) and needs. That's why UDL benefits all kids.

- Universal Design for Learning (UDL) is a way of thinking about teaching and learning that helps give all students an equal opportunity to succeed.
- This approach offers flexibility in the ways students access material, engage with it and show what they know.
- Developing lesson plans this way helps all kids, but it may be especially helpful for kids with learning and attention issues.

[The Difference Between UDL and Traditional Education](#)

[UDL in the Classroom](#) (5 Practices)



Works Consulted

The Technology Curriculum of the following districts were reviewed during the development of this curriculum document:

Mount Olive School District, Mount Olive, NJ

Pemberton School District, Pemberton, NJ

Westampton School District, Westampton, NJ