Technology - Grade 3-5

Joseph C. Caruso School

Full Year

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Statement of Purpose

Technology enables students to solve real world problems, enhance life, and extend human capability as they meet the challenges of a dynamic global society.

Summary of the Course

The systematic integration of technology and library media across the curriculum and in the teaching and learning process fosters a population that leverages 21st century resources to:

● Apply information-literacy skills to access, manage, and communicate information using a range of emerging technological tools.

● Think critically and creatively to solve problems, synthesize and create new knowledge, and make informed decisions that affect individuals, the world community and the environment.

● Gain enhanced understanding of global interdependencies as well as multiple cultural perspectives, differing points of views and diverse values.

● Employ a systematic approach to understand the design process, the designed world, and the interrelationship and the impact of technologies.

● Model digital citizenship.

In order to demonstrate a cohesive and complete implementation plan the following general suggestions are provided:

· The use of various formative assessments are encouraged in order to provide an ongoing method of determining the current level of understanding the students have of the material presented.

· Homework, when assigned should be relevant and reflective of the current teaching taking place in the classroom.

· Organizational strategies should be in place that allow the students the ability to take the information gained in the classroom and put in in terms that are relevant to them.

· Instruction should be differentiated to allow students the best opportunity to learn.

· Assessments should be varied and assess topics of instruction delivered in class.

· Modifications to the curriculum should be included that address students with Individualized Educational Plans (IEP), English Language Learners (ELL), and those requiring other modifications (504 plans).

Pacing Guide

Unit	Title of Unit
1	Intermediate/Review Computer Skills
2	Internet Research/Word Processing
3	Coding/Google Earth/ Graph It

Trimester 1: Intermediate Computers

Summary of the Unit: In this unit, students will review previously learned skills about the Internet, cyber bullying, and word processing. They will practice these skills and expand upon them.

Summative Assessment and/ or Summative Criteria to Demonstrate Mastery of the Unit:
Informal observation, class participation, publish piece.
Summative Assessments
Alternative Assessments
Formative Assessments

Instructional Materials:

- Computers
- Internet
- Google Docs
- BrainPOP Jr.
- Blooket

**Please include resource links in the boxes above.*

Topic/ Selection	Suggested Timeline per topic	General Objectives	Instructional Activities	New Jersey Student Learning Standards/ NGSS, etc.
Internet Safety	2 weeks	• Discuss Internet Safety and Cyberbullying • Analyze the dangers that can be associated with using the internet • Create a plan to discuss the importance of safety on the Internet. • What security measures can be taken to protect personal information?	• Students will watch a video on BrainPOP Jr. to learn about Internet Safety(Gr. 3) • Class discussion about Internet Safety (Gr.3) • Create a poster about Internet Safety(Gr. 3) • When using a new online game (i.e. Kahoot, Quizizz, Blooket), discuss the importance of entering only your first name	8.1.5.CS.1 8.1.5.CS.2 8.1.5.CS.3 9.4.5.DC.4 9.4.5.TL.3 9.4.2.DC.1 9.4.2.DC.3

		• Explain differences between ownership and sharing of information. • Explain how to be safe online and follow safe practices when using the internet	and last initial to protect your privacy (Gr.3-5) • Work with a partner to identify passwords as "strong" or "weak". Brainstorm lists of strong passwords. Create strong passwords that are unique, omit personal information, use at least 8 characters, and use combinations of uppercase and lowercase letters, numbers, and symbols. (Gr. 3-5) • Review the Acceptable Use Policy and discuss appropriate behavior when using technology. (Gr. 3-5)	
Using the Computer	4 weeks	• Understand and use technology systems.	• Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. • Have students create a Google Doc in which they use the mouse or mouse pad to click on the toolbar to alter the style and font, insert bullets, and use spell check. (Gr.3- 4)	
Word Processing	6 weeks	• Conduct short research projects that build knowledge about a topic.Digital learners can use a graphic organizer to organize information about a problem or issue. (VennDiagram)Cube creator is another planning tool that digital learners can use to organize their research outline.	• Have students create Google Slides for a research project. The project should include text and digital images, which will be projected through a projector to share with the class. (Gr. 5) • Cube Creator http://www.readwritethink.org/files/resources/interactives/cube_creator	

			• Biography research,Wonderopolis.org for inquiry research.(Gr.4-5) • Newsela.com for current events. • Google slides • Google drawings • Google docs	

**The suggested timeline per topic should total the number of days in the Pacing Guide for each unit.*

Suggested Modifications for Special Education, 504, English Language Learners, RTI and Gifted Students:
***Consistent with individual plans, when appropriate.**

Students with Disabilities & 504: Utilize modifications & accommodations delineated in the student's IEP. Use of visual and multisensory formats that provide helpful visual, auditory, and tactile reinforcement of ideas, Use of assisted technology, Use of prompts, Modification of content and student products, Testing accommodations, Authentic assessments, Give directions/instructions verbally and in simple written format, Work with a partner.

English Language Learners: Teacher modeling. Peer modeling. Develop and post routines, Label classroom materials. Word walls. Give directions/instructions verbally and in simple written format. Pre-teaching of vocabulary and concepts, Visual learning, including graphic organizers, Use of cognates to increase comprehension, Teacher modeling, Pairing students with beginning English language skills with students who have more advanced English language skills, Scaffolding (word walls, sentence frames, think-pair-share, cooperative learning group). Students will be supported according to the recommendations for "can do's" as outlined by WIDA - https://www.wida.us/standards/CAN_DOs/

Bilingual: Repetition, simplify language (use shorter phrases), visual word banks, limited use of idioms, metaphors and words with multiple meanings, use of cognates. Use realia (concrete objects), dramatization (gestures, facial expressions, intonation), built on students background knowledge (topics/examples students can relate to), texts that reflect their experiences, extended time, provide samples (teacher and students created), model, pair with with partner.

Gifted Students: Adjusting the pace of lessons, Curriculum compacting, Inquiry-based instruction, Independent study, Higher-order thinking skills, Interest based content, Student-driven, Real-world problems and scenarios.

RTI: Using visual demonstrations, illustrations, and models, Give directions/instructions verbally and in simple written format, Peer Support, Increase one on one time, Teachers may modify instructions by modeling what the student is expected to do, Instructions may be printed out in large print and hung up for the student to see during the time of the lesson, Review behavior expectations and adjust for personal space or other behaviors as needed,

Oral prompts can be given, Ask students to restate information, directions, and assignments, Repetition and practice Model skills / techniques to be mastered, Extended time to complete class work, Graphic organizers, More conferencing time, Partner work.

Suggested Technological Innovations/ Use:
Laptops / iPads, links to websites (Standards within the unit)

Interdisciplinary Connections, Career Ready Practices, & 21st Century Connections:

9.1.2.RM.1. There are ways to keep the things we value safely at home and other places. **(Mini Lesson)**
9.2.5.CAP.1 Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.. **(Mini Lesson)**
9.2.5.CAP.8 Identify risks that individuals and households face.
9.4.5.DC.1 Explain the need for and use of copyrights
9.4.5.DC.4 Model safe, legal, and ethical behavior when using online or offline technology.
9.4.5.DC.5 identify the characteristics of a positive and negative online identity and the lasting implications of online activity.

NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others**. (Google Docs)**
ELA W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. **(Mini Lesson) (Google Docs)**
NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. **(Mini Lesson) (Google Docs)**

Trimester 2: Internet Research/Word Processing

Summary of the Unit: students will review previously learned skills about word processing, and the Internet. They will practice these skills by creating an original piece of work.

Summative Assessment and/ or Summative Criteria to Demonstrate Mastery of the Unit:
Informal observation, class participation, publish piece
Summative Assessments
Alternative Assessments
Formative Assessments

Instructional Materials:

- Computers
- Internet
- Google Docs/Slides
- Google Drawings
- A-Z animals.com
- Google Images
- Powtoons.com
- Storyjumper.com
- Wonderoplois.com

**Please include resource links in the boxes above.*

Topic/ Selection	Suggested Timeline per topic	General Objectives	Instructional Activities	New Jersey Student Learning Standards/ NGSS, etc.
Word Processing -Google Slides -Google Drawings -Google Docs -Powtoons/Storyjumper	3 weeks 3 weeks 3 weeks 3 weeks	• Create and format documents with the purpose of enhancing text and including graphics (For Example: Writing / ELA	• Students will research a vacation destination and create/design an electronic brochure to persuade class	8.1.5.IC.1 8.1.5.IC.2: 9.4.5.TL.3 9.4.2.TL.2

		piece, presentation, or Google Doc). ● Create a document using a word processing application. ● Create an animation in a slide presentation using a sequence of images to bring a story or process to life through motion. ● In what ways can technology be used to communicate and collaborate with others?	to visit their vacation spot. (Gr.4) ● Slides ● Drawings ● Students will research an animal using A-Z animals website and create an animal newsletter. (Gr.3) ● Students will create an informational Google Drawing about one of the famous landmarks. (Gr.4) ● *Create an Animation in Google Slides*, students will create an animation in a presentation to illustrate a narrative scene, a short story or the parts of a process. (Gr.5) • Create a Pop Art in Google Drawings, students will create pop art using a photograph. (Gr.5)	

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Suggested Modifications for Special Education, 504, English Language Learners, RTI and Gifted Students:
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English Language Learners: Teacher modeling. Peer modeling. Develop and post routines, Label classroom materials. Word walls. Give directions/instructions verbally and in simple written format. Pre-teaching of vocabulary and concepts, Visual learning, including graphic organizers, Use of cognates to increase comprehension, Teacher modeling, Pairing students with beginning English language skills with students who have more advanced English language skills, Scaffolding (word walls, sentence frames, think-pair-share, cooperative learning group). Students will be supported according to the recommendations for "can do's" as outlined by WIDA - https://www.wida.us/standards/CAN_DOs/

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Gifted Students: Adjusting the pace of lessons, Curriculum compacting, Inquiry-based instruction, Independent study, Higher-order thinking skills, Interest based content, Student-driven, Real-world problems and scenarios.

RTI: Using visual demonstrations, illustrations, and models, Give directions/instructions verbally and in simple written format, Peer Support, Increase one on one time, Teachers may modify instructions by modeling what the student is expected to do, Instructions may be printed out in large print and hung up for the student to see during the time of the lesson, Review behavior expectations and adjust for personal space or other behaviors as needed, Oral prompts can be given, Ask students to restate information, directions, and assignments, Repetition and practice Model skills / techniques to be mastered, Extended time to complete class work, Graphic organizers, More conferencing time, Partner work.

Suggested Technological Innovations/ Use:
Laptops / iPads, links to websites (Standards within the unit)

Interdisciplinary Connections, Career Ready Practices, & 21st Century Connections:

9.2.5.CAP.1 Evaluate personal likes and dislikes and identify careers that might be suited to personal likes (Docs)
9.2.5.CAP.8 identify risks that individuals and households face.
9.4.5.DC.1 Explain the need for and use of copyrights.
9.4.5.DC.4 Model safe, legal, and ethical behavior when using online or offline technology.
ELA W.1.2. Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. **(Mini Lesson) (Google Docs)**
NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. **(Mini Lesson) (Google Docs)**

Trimester 3: Coding/Google Earth

Summary of the Unit: In this unit, students will review what a programmer is and does. They will build upon the programming skills that they have already learned. They will do this by controlling a character in a game by giving it commands. Students will begin to learn about mapping programs and how to get directions from one location to another.

Summative Assessment and/ or Summative Criteria to Demonstrate Mastery of the Unit:
Informal observation, class participation.
Summative Assessments
Alternative Assessments
Formative Assessments

Instructional Materials:

- Computers
- Google Slides
- Internet
- Kodable: Programming for Kids
- Code.org: Anybody can learn
- Google Maps/Earth

**Please include resource links in the boxes above.*

Topic/ Selection	Suggested Timeline per topic	General Objectives	Instructional Activities	New Jersey Student Learning Standards/ NGSS, etc.
Coding	3 weeks	• What is coding? • Students will understand what a programmer is and what they do • Students will learn basic "block" commands that are used to navigate a character through a game. • How does a computer take a series of commands and	• Students will use either Kodable: Programming for Kids or Code.org: Anybody can learn or Thinkrolls application on the iPad to begin learning how to navigate a character through a game by creating an algorithm and being a programmer	8.2.2.EC.1 8.2.8.ED.2 8.2.8.ED.4 8.1.5.AP.3

		interpret that to produce a desired result?		
Me on the Map	3 Weeks	• Understand how to use Google Maps/Google Earth and enter addresses • Analyze locations and routes to locations • Compare and contrast the routes to the same given location • Create their own route to a given location	• Students will use a website to get directions from one place to another (Gr.3) • Students will analyze the directions and type two different sets of directions from one location to another using a word processing program (Gr.4) • Google Earth-Compare and contrast schools from around the world. Analyze the differences and similarities within the school. (Gr 4-5)	

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Suggested Technological Innovations/ Use:
Laptops / iPads, links to websites (Standards within the Unit)

Interdisciplinary Connections, Career Ready Practices, & 21st Century Connections:

9.2.5.CAP.3. Identify qualifications needed to pursue traditional and non-traditional careers and occupations. . **(Mini Lesson)**

6.1.4.B.1 Compare and contrast information that can be found on different types of maps and determine how the information may be useful. (**mini lesson) (Google Maps/Google Earth)**

Trimester 3: Graphing (cont'd)

Summary of the Unit: In this unit, students will be introduced to using a spreadsheet program to input data and use that data to create charts. They will also be introduced to presentation software and create a short slideshow.

Summative Assessment and/ or Summative Criteria to Demonstrate Mastery of the Unit:
Informal observation, class participation, publish piece

Instructional Materials:

- Computers
- Internet
- Google Sheets
- Google Slides
- Vooks
- Storyjumper.com
- Wonderopolis.com

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Topic/ Selection	Suggested Timeline per topic	General Objectives	Instructional Activities	New Jersey Student Learning Standards/ NGSS, etc.
Graph It	2 weeks	• Create a survey and obtain data • Understand the basic features of Google Sheets formatting cells, font size and input locations • Create a graph template and enter data collected • Create a bar, line, and pie graph based on the data collected in class	• Students will be given choices of questions that they can ask their fellow students to obtain survey data • Students will use the data collected to create a spreadsheet and then create graphs using this data	8.1.5.DA.1 8.1.5.DA.3 8.1.5.DA.5 9.4.2.IML.1

			• Students survey their peers using Google Forms, organize their information, use appropriate graphs to display information, analyze what the information means. (Gr.5)	
Research It	3 weeks	• Use digital tools to research information on reduce, reuse, recycle. • Use Google Slides to create, save, and print a piece of original work about Earth Day. • Identify a simple search term to find information in a search engine or digital resource.	• Students will use the Internet to research Earth Day and gather facts (Gr.3) • Students will create a slideshow with presentation software about Earth Day using the data that they collected(Gr. 3) • Students will insert pictures from the Internet to go along with the facts in their presentation • Students can discuss current events related to broad ideas, including privacy, communication, and automation. (Gr.5)	

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NJSLSA.L2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. **(Mini Lesson) (Google Docs)**

Measurement and Data 1.MD
C. Represent and interpret data. 4. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. **(Sheets)**