

Tech Gr PreK Unit 1

Content Area: **Technology**
Course(s): **STEM-Technology**
Time Period: **First Six Weeks**
Length: **School Year**
Status: **Published**

Stage 1 - Learning Outcomes

Unit Overview

Standard 8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Strand A. Technology Operations and Concepts: *Students demonstrate a sound understanding of technology concepts, systems and operations.*

Strand B. Creativity and Innovation: *Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.*

Strand C. Communication and Collaboration: *Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.*

Strand E. Research and Information Fluency: *Students apply digital tools to gather, evaluate, and use information.*

Enduring Understandings

- Digital tools allow me to create and share original ideas.
- Digital tools allow for collaboration anytime/anyplace worldwide.
- Digital tools help me gather and use information.
- Lifelong learners use technology effectively.

Essential Questions

- How do I choose a digital tool to help me learn?
- How do I use digital tools to communicate?
- How do I use technology in my life?
- How do I work with others using digital tools?

Interdisciplinary Connections

1. Common Core Literacy

ELA.PK.L.PK.6	Use words and phrases acquired through conversations, activities and read alouds.
ELA.PK.W.PK.6	With guidance and support, use digital tools to express ideas (e.g., taking a picture of a block structure to document or express ideas, etc.).
ELA.PK.W.PK.7	With guidance and support, participate in shared research and shared writing projects.
ELA.PK.W.PK.8	With guidance and support, recall information from experience or familiar topic to answer a question.
ELA.PK.RF.PK.2	Demonstrate understanding of spoken words and begin to understand syllables and sounds (phonemes).
ELA.PK.RF.PK.4	Begin to engage in a variety of texts with purpose and understanding.
ELA.PK.SL.PK.1	Participate in conversations and interactions with peers and adults individually and in small and large groups.
ELA.PK.SL.PK.2	Ask and answer questions about a text or other information read aloud or presented orally.
ELA.PK.SL.PK.3	Ask and answer questions to seek help, get information, or follow directions.

2. Common Core Math

- MA.PK.4.3.1 Sort, order, pattern, and classify objects by non-measurable (e.g., color, texture, type of material) and measurable attributes (e.g., length, capacity, height).

3. Career Ready Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP11. Use technology to enhance productivity.
- CRP4. Communicate clearly and effectively and with reason
- CRP6. Demonstrate creativity and innovation.

Stage 2 - Assessment

Preschool Rubric for Technology

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Assessment: By the end of the school year, students will open a chromebook, turn it on, log on, choose an activity/website and demonstrate knowledge of the keyboard.

Skill Level	Advanced	Proficient	Basic	Below Basic
Teacher observation	Uses the Chromebook, is able to log on, navigates with a high degree of confidence, accuracy and skill.	Can independently log on and keyboard to control main program functions, such as: <ul style="list-style-type: none"> • Click an icon • Match letter with keyboard. • Proper use of “arrow” keys and “enter” key. 	With assistance, can log on and keyboard to control main program functions.	Not able to log on

Formative Assessment

- Label parts of a computer/keyboard
- Paper laptop
- Teacher observation of student answers/discussion
- Teacher observation of students of students working/playing on the computer.
- Teacher observation of students using the camera

Stage 3 - Learning Plan

Suggested Activities

Model common technology vocabulary, such as email, internet site, software, hardware, computer, mouse, digital camera, and printer.

Paper laptop lesson <http://blogs.ncs-nj.org/k4stemlab/?p=1694>

Computer Parts Labeling Worksheet- Identify the basic features of a digital device and explain its purpose.

Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).

Video Clips- Shown to aid learning by providing a visual, engage the class

Demonstrations- To enhance student learning, ignite curiosity, spur discussion, provide a visual, engage the class.

Interactive mini lecture – Students answer questions, turn and talk, participate in class discussions, look up information in text/online.

Use the <https://www.common sense media.org/educators/scope-and-sequence#grades-k-2> lessons to teach digital citizenship and safety.

Set the stage for highly social, active learning. Choose activities that encourage more than one child to play the game. Place two to three chairs around computers, and multiple head sets around electronic books. Select logic and problem-solving activities that encourage children to work together.

Introduce new technology during circle time, prior to placing it in a center; and model how to care for the technological device.

A-B-C Searching- Students search for pictures online by clicking on letters of the alphabet. They learn that directory sites with alphabetical listings offer one way to find things on the Internet.

Let children pretend with the types of gadgets they see their parents using. Stock the dramatic play area with a non-working mouse and keyboard, cell phone, etc.

Offer technology options in each center of the room during choice and small group times. Use tools such as timers to encourage children to take turns and use other activities in the room.

Encourage children to record their activities and projects using digital cameras.
<http://hillsideelemlibrary.blogspot.com/2013/11/kindergarten-digital-abc-books.html>

<http://www.ncs-tech.org/?p=6192>

Use computers to conduct Internet searches for subjects of interest. Let children participate in the process of coming up with search words, and see the results in ways they can understand (e.g., as a set of images rather than text).

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.

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Supportive Strategies

1. Special Education

- Employ assistive technology as needed
- Modifications on IEP
- Providing written and oral directions, utilizing visuals and exemplars
- Reduction in workload
- Reinforcement Opportunities
- Strategic Grouping for all Group Work and Investigations

2. ESL

- Employ assistive technology as needed
- Making content culturally relevant
- Partner English Learners with Strong English Speakers
- Repetition
- Utilizing visuals and exemplars
- Visual Aids

3. Student at risk of failure

- Employ assistive technology as needed
- Strategic Grouping

4. Gifted and Talented

- Higher Order Questioning
- Tiering of Activities

Core Instructional Materials/Resources

Chromebooks, and/or other digital devices

Paper Laptop <http://blogs.ncs-nj.org/k4stemlab/?p=1694>

Digital camera lesson: <http://hillsideelemlibrary.blogspot.com/2013/11/kindergarten-digital-abc-books.html>

Funbrain Jr <http://www.funbrainjr.com/>

NickJr.com <http://www.nickjr.com/>

Sprout <http://www.sproutonline.com/enter>

Starfall <http://www.starfall.com/>

Kids CBC <http://www.cbc.ca/kidscbc/>

Boowa & Kwala <http://boowakwala.uptoten.com/kids/boowakwala-home.html>

Fisher Price http://www.fisher-price.com/en_US/GamesandActivities/OnlineGames/index.html

Orisinal <http://www.ferryhalim.com/orisinal/>

- BOOWA & KWALA <http://boowakwala.uptoten.com/kids/boowakwala-home.html>
- digital camera lesson: <http://hillsideelemlibrary.blogspot.com/2013/11/kindergarten-digital-abc-books.html>

- Fisher Price http://www.fisher-price.com/en_US/GamesandActivities/OnlineGames/index.html
- Funbrain Jr <http://www.funbrainjr.com/>
- Kids CBC <http://www.cbc.ca/kidscbc/>
- NickJr.com <http://www.nickjr.com/>
- Orisinal <http://www.ferryhalim.com/orisinal/>
- Paper Laptop <http://blogs.ncs-nj.org/k4stemlab/?p=1694>
- Sprout <http://www.sproutonline.com/enter>
- Starfall <http://www.starfall.com/>