Long Beach Island Consolidated School District Curriculum Guide

Grade: K-2	Content Area: Technology

Introduction:

Students in K-2 Technology will complete three units that introduce technology devices, digital citizenship, technology applications, communication using technology as well as other useful online tools. Students will learn the parts of a computer and be introduced to individual chromebook devices in grades 1 and 2. Coding is introduced at differentiated levels to each grade level. All technology units follow the NJ Student Learning Objectives. Student progress will be measured in a variety of methods.

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Original Adoption: August 20, 2019
Created By: Chloe Sheplin

Recommended Pacing Guide	
Unit 1: Technology Introduction: Digital Citizenship and Basic Operations	12 Days
Unit 2: Technology Applications: Keyboarding, Multimedia/Presentation Tools, Word Processing	10 Days
Unit 3: Technology Communication: Keyboarding, Communication and Collaboration	10 Days

*There are about 35 Technology classes throughout the school year.

Unit 1: Technology Introduction	**Duration:** 12 Days

Standards/Learning Targets

New Jersey Technology Strands:

- 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.
    - A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
    - B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology
    - 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.
    - D. Digital Citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
    - E: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

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- F: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

New Jersey Technology Standards:

- 8.1.2. A.1 Identify the basic features of a digital device and explain its purpose.
- 8.1.2. A.2 Create a document using a word processing application.
- 8.1.2. A.3 Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each.
- 8.1.2. A.4 Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums).
- 8.1.2. A.5 Enter information into a spreadsheet and sort the information.
- 8.1.2. A.6 Identify the structure and components of a database.
- 8.1.2. A.7 Enter information into a database or spreadsheet and filter the information.
- 8.1.2. B.1 Illustrate and communicate original ideas and stories using multiple digital tools and resources.
- 8.1.2. C.1 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.
- 8.1.2. D.1 Develop an understanding of ownership of print and nonpoint information.
  8.1.2. E.1 Use digital tools and online resources to explore a problem or issue.
- 8.1.2. F.1 Use geographic mapping tools to plan and solve problems.

Primary Interdisciplinary Connections:

- **ELA**
  - **Speaking & Listening**
    - SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
    - SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
    - SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

21st Century Themes/Career Readiness:

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP11. Use technology to enhance productivity.

21st Century Life and Career Standards:

- 9.2.4.A.1 Identify reasons why people work, different types of work, and how work can

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help a person achieve personal and professional goals.

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Evidence of Student Learning

Formative Tasks:	**Alternative Assessments:**
● Teacher Observation ● Teacher Checklist ● Verbal question & answer ● Self-evaluation of performance and progress ● Class discussions ● Peer editing ● Self-evaluation	● End of Unit Project ● Portfolios ● Performance Tasks
Summative Assessments: ● Student participation ● Student Presentation of Completed Project	**Benchmark Assessments:** ● Baseline SGO ● Mid-year SGO ● End of year SGO

Knowledge & Skills

Unit Objectives: Students will know…	**Unit Objectives:** Students will be able to…
● The use of technology and digital tools requires knowledge and appropriate use of operations and related applications. ● Digital tools and environments support the learning process and foster collaboration in solving local or global issues and problems. ● Technology products and systems impact every aspect of the world in which we live. ● Collect and post the results of a digital classroom survey about a problem or issue and use data to suggest solutions. ● Digital tools facilitate local and global communication and collaboration in designing products and systems.	● Identify the basic features of a digital device and explain its purpose. ● Create a document using a word processing application. ● Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each. ● Demonstrate developmentally appropriate navigation skills in virtual environments (i.e. games, museums). ● Enter information into a spreadsheet and sort the information. ● IIdentify the structure and components of a database.

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● Technological products and systems are created through the application and appropriate use of technological resources.	● Enter information into a database or spreadsheet and filter the information. ● Illustrate and communicate original ideas and stories using multiple digital tools and resources.
Enduring Understandings: Students will understand that… ● Technology is always changing and we need to be lifelong learners. ● We should use technology based on our ● personal and/or career needs. ● A tool is only as good as the person using it. ● Digital tools allow for communication and collaboration anytime/anyplace worldwide.	**Essential Questions:** ● What skills do I need to learn to be a 21st century student? ● How do I choose the right digital tools and when do I use them? ● How can I use my digital tools and skills in new situations?
Core Instructional & Supplemental Materials	
Suggested Activities/Resources: ● Demonstration proper use and practices ● Digital Citizenship Presentation ● Navigation of the mouse and keyboard ● Label the parts of computer ● Hands-on activities ● Collaboration with subject-matter teachers and specialists. ● Identify the basic features of a digital device and explain its purpose. ● Type a poem, essay or story- Create a document using a word processing application. ● Compare Microsoft Word to Google Docs ● Compare the common uses of at least two different digital applications and identify the advantages and disadvantages of using each. ● Use World Book - Demonstrate developmentally appropriate navigation skills in virtual environments (i.e.	**Varied Levels of Text:** ● When Charlie McButton Lost Power by Suzanne Collin ● Webster's Manners by Hannah Whaley ● Chicken Clicking by Jeanne Willis ● Hello Ruby: Journey Inside the Computer by Linda Liuka ● Cyber Safety Simply: A Cautionary Picture Book by Dee Smith

games, museums). ● KidPix ● BrainPopJr. ● Google Earth ● G-Suite ● GMail ● www.lbischools.org ● www.scholastic.com ● www.readingeggs.com	

Accommodations/Modifications

English Language Learners:

- Collaborate with ELL department to make necessary modifications for students
- Provide translated material
- Provided differentiation for students as needed
- Use student helpers and cooperative learning
- Use visual aids
- Rephrase vocabulary
- Allow for alternate forms of responses

Special Education/504 Plans/Students with Disabilities:

- Provide differentiated instruction as needed
- Follow all IEP modifications/504 plan
- Provide manipulatives or the opportunity to draw solution strategies
- Shorten assignments to focus on mastery of key concepts
- Restate, reword and clarify directions
- Lessen the amount of information presented
- Allow for alternate forms of responses
- Increase eye contact
- Maintain close proximity
- Attention techniques

Students at Risk of Failure:

- Make sure children feel welcome and comfortable while being discrete
- Help to provide basic needs while the child is in school (food, clothing, etc)
- Provide resources for basic needs outside of school (medical, shelter, food, etc)
- Pair with adult mentor or buddy
- Rephrase vocabulary
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences
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Economically Disadvantaged:

- Provide clear, achievable expectation, do not lower academic requirements for them.

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- Build a safe and nurturing atmosphere
- Perspective and experiences of the children need to be considered
- Create ways for students to share their emotions
- Give every student the same opportunity for success.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Daily affirmations
- Asking to hear students' hopes and offering reinforcements of those hopes
- Telling students why they can succeed

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Recognize native languages and cultures
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary

Unit 2: Technology Applications	**Duration:** 10 Days

Standards/Learning Targets

New Jersey Technology Strands:

- 8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.
    - A. The Nature of Technology: Creativity and Innovation Technology systems impact every aspect of the world in which we live.
    - B. Technology and Society: Knowledge and understanding of human, cultural and societal values are fundamental when designing technological systems and products in the global society.
    - C. Design: The design process is a systematic approach to solving problems.
    - D. Abilities for a Technological World: The designed world is the product of a design process that provides the means to convert resources into products and systems.
    - E. Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.

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New Jersey Technology Standards:

- 8.2.2. A.1 Define products produced as a result of technology or of nature.
- 8.2.2. A.2 Describe how designed products and systems are useful at school, home and work.
- 8.2.2. A.3 Identify a system and the components that work together to accomplish its purpose.
- 8.2.2. A.4 Choose a product to make and plan the tools and materials needed.
- 8.2.2. A.5 Collaborate to design a solution to a problem affecting the community.
- 8.2.2. B.1 Identify how technology impacts or improves life.
- 8.2.2. B.2 Demonstrate how reusing a product affects the local and global environment.
- 8.2.2. B.3 Identify products or systems that are designed to meet human needs.
- 8.2.2. B.4 Identify how the ways people live and work has changed because of technology.
- 8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product.
- 8.2.2.C.2 Create a drawing of a product or device that communicates its function to peers and discuss.
- 8.2.2.C.3 Explain why we need to make new products.
- 8.2.2.C.4 Identify designed products and brainstorm how to improve one used in the classroom.
- 8.2.2.C.5 Describe how the parts of a common toy or tool interact and work as part of a system.
- 8.2.2.C.6 Investigate a product that has stopped working and brainstorm ideas to correct the problem.
- 8.2.2. D.1 Collaborate and apply a design process to solve a simple problem from everyday experiences.
- 8.2.2.D.2 Discover how a product works by taking it apart, sketching how parts fit, and putting it back together.
- 8.2.2.D.3 Identify the strengths and weaknesses in a product or system.
- 8.2.2.D.4 Identify the resources needed to create technological products or systems.
  8.2.2.D.5 Identify how using a tool (such as a bucket or wagon) aids in reducing work.

Primary Interdisciplinary Connections:

- **ELA**
  - Speaking & Listening
    - SL.K.1. Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
    - SL.1.1. Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
    - SL.2.1. Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

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21st Century Themes/Career Readiness:

- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP6. Demonstrate creativity and innovation.
- CRP7. Employ valid and reliable research strategies.
- CRP11. Use technology to enhance productivity.

21st Century Life and Career Standards:

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Evidence of Student Learning

Formative Tasks:	**Alternative Assessments:**
● Teacher Observation ● Teacher Checklist ● Verbal question & answer ● Self-evaluation of performance and progress ● Exit Slip ● Keyboarding tasks ● Question and answer sheets	● End of Unit Project ● Student self-reflection about creation or discussion while planning a project ● rubric to score student work and presentation of final creation ● Teacher Checklist to record student understanding of skills based on participation and performance of skills
Summative Assessments:	**Benchmark Assessments:**
● Student participation ● Student Presentation of Completed Project	● Baseline SGO ● Mid-year SGO ● End of year SGO

Knowledge & Skills

Unit Objectives: Students will know...	**Unit Objectives:** Students will be able to...
● The characteristics and scope of technology. ● The core concepts of technology. ● The relationships among technologies and the connections between technology and other fields of study.	● Define products produced as a result of technology or of nature. ● Describe how designed products and systems are useful at school, home and work.

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● The cultural, social, economic, and political effects of technology. ● The effects of technology on the environment. ● The role of society in the development and use of technology. ● The influence of technology on history. ● The attributes of design. ● The application of engineering design. ● The role of troubleshooting, research/development, invention/innovation, and experimentation in problem solving. ● How to apply the design process.	● Identify a system and the components that work together to accomplish its purpose. ● Collaborate to design a solution to a problem ● Identify how technology impacts or improves life. ● Identify products or systems that are designed to meet human needs. ● Identify how the ways people live and work has changed because of technology. ● Explain why we need to make new products. ● Collaborate and apply a design process to solve a simple problem from everyday experiences. ● Identify the strengths and weaknesses in a product or system. ● Identify the resources needed to create technological products or systems.
Enduring Understandings: Students will understand that... ● That Technology highly influences individuals, family, community, and the environment. ● Individual parts make up a system and rely on each other to work properly.	**Essential Questions:** ● How does technology affect my life and others? ● What does it mean to be a safe and responsible 21st century learner? ● What digital tools can I use to complete research? ● What digital tools can I use to find information necessary to complete a task?
Core Instructional & Supplemental Materials	
Suggested Activities/Resources: ● Virtual field trips to various locations or museums ● Reading Eggs for reading lesson connection ● Online versions of books for presentations ● Google for research purposes	**Varied Levels of Text:** ● Goodnight iPad: a Parody for the Next Generation by Ann Droyd ● Peter And Pablo The Printer: Adventures In Making The Future by Jeffrey Ito ● But I Read It on the Internet! by Toni Buzzeo

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• Various iPad Apps for digital learning environments • Addition/subtraction flashcards using presentation software • Use Google Earth to find our Country, state, Long Beach Island, etc. • Students can create virtual artwork • Destination Modern Art: From the Museum of Modern Art, this interactive online website speaks to students about art • Groups can research body systems and create multimedia presentations on topics • Computer hardware • Computer programs and software • SmartBoard • Google • KidPix • BrainPopJr. • Google Earth • G-Suite • GMail • www.lbischools.org • www.scholastic.com • www.readingeggs.com	• Dot. by Randi Zuckerberg • Grace Hopper: Queen of Computer Code by Laurie Wallmark • Doug Unplugged by Dan Yaccarino • Patrick's Dinosaurs on the Internet by Carol Carrick

Accommodations/Modifications

English Language Learners:

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- Provided differentiation for students as needed
- Use student helpers and cooperative learning
- Use visual aids
- Rephrase vocabulary
- Allow for alternate forms of responses

Special Education/504 Plans/Students with Disabilities:

- Provide differentiated instruction as needed
- Follow all IEP modifications/504 plan
- Provide manipulatives or the opportunity to draw solution strategies
- Shorten assignments to focus on mastery of key concepts

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- Restate, reword and clarify directions
- Lessen the amount of information presented
- Allow for alternate forms of responses
- Increase eye contact
- Maintain close proximity
- Attention techniques

Students at Risk of Failure:

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- Facilitate successful experiences
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Economically Disadvantaged:

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Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Recognize native languages and cultures
- Respect cultural traditions
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Unit 3: Technology Communication	**Duration:** 10 Days

Standards/Learning Targets

New Jersey Technology Strands:

- 8.2 Technology Education, Engineering, Design, and Computational Thinking -

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Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

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- B. Technology and Society: Knowledge and understanding of human, cultural and societal values are fundamental when designing technological systems and products in the global society.
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- 8.1.2.C.1 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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21st Century Life and Career Standards:

- 9.2.4.A.4 Explain why knowledge and skills acquired in the elementary grades lay the foundation for future academic and career success.

Formative Tasks: ● Teacher Observation ● Teacher Checklist ● Verbal question & answer ● Self-evaluation of performance and progress ● Exit Slip ● Keyboarding tasks ● Question and answer sheets	**Alternative Assessments:** ● Performance Tasks ● Coding Level Score Sheets
Summative Assessments: ● Student participation ● Keyboarding Scores	**Benchmark Assessments:** ● Beginning-of-Year SGO ● Mid-year SGO ● End of year SGO
Knowledge & Skills	
Enduring Understandings: Students will understand that… ● the use of technology help us in careers later in life ● Different programs are beneficial for different means of communication ● A tool is only as good as the person using it. ● Digital tools allow for communication and collaboration worldwide. ● Coding is the set instructions that form a computer program	**Unit Essential Questions**: ● How do digital programs help people communicate around the world? ● Which tool is the best tool to use for a certain task? ● How will tools help students in careers later in life? ● What is coding and how do I use it?
Core Instructional & Supplemental Materials	
Suggested Activities/Resources:	**Varied Levels of Text:**

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• Practice keyboarding skills • Coding activities • Demonstration proper use and practices of technology devices • Navigation of the mouse and keyboard • Label the parts of computer • Hands-on activities • Compare Microsoft Word to Google Docs • G-Suite • GMail • www.lbischools.org • www.scholastic.com • www.readingeggs.com	• HTML for Babies by John C. Vanden-Heuvel, Sr. • Hello Ruby: Adventures in Coding by Linda Liukas • Coding Games in Scratch by Jon Woodcock • Coding for Beginners Using Scratch • Lift-the-Flap Computers and Coding by Usborne Publishing • Coding Projects in Scratch by Jon Woodcock • Python for Kids: A Playful Introduction to Programming by Jason R. Briggs • *DK Coding Workbooks* by DK

Accommodations/Modifications

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