

Shrewsbury Borough School District  
*Technology* Curriculum Guide  
2016

Unit 1 Overview

Unit Title: **Introduction to 5<sup>th</sup> Grade Tech & Internet Safety/ Cyberbullying**  
Each Marking Period

Grade Level: Fifth Grade

Recommended Pacing: One Class

Unit Summary:

- Understand the positive and negatives to the internet.
- Demonstrate ability to know how to surf the web safely.
- Understand the signs to be concerned with when online.
- Review definition of Cyberbullying.
- Watch a video clip from Netsmartz.org.

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NJCCSS:

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

**D. Digital Citizenship:** *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*

**8.1.5.D.3:** Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.

**8.1.5.D.4:** Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

**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.*

**8.2.5.A.4:** Compare and contrast how technologies have changed over time due to human needs and economic, political and/or cultural influences.

**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.*

**8.2.5.D.4:** Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.

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Unit Essential Questions:	Unit Enduring Understandings:
Unit Learning Targets <i>Students will know...</i>	Unit Learning Targets <i>Students will do...</i>

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- In a world of constant change, how should students stay proactive in the fight against internet crimes?
- Why is it important to teach about cyberbullying to the students?

- Students will have a group discussion with teacher about internet safety and cyberbullying.
- Review how the internet is a way people use to get information about them.
- They understand the definition of cyberbullying.
- Students can discuss what they like to do online and teacher will explain how to make sure they are being safe.
- Questions will be answered about the subject.  
Watch video clip about terrible text at  
<http://www.nsteens.org/Videos/TerribleText>

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Evidence of Learning

Formative Assessments:

- Teacher Observation
- Classroom Participation/Acknowledgement

Equipment Needed:

- Internet Connection
- SMART Board
- Website- NSTeens on Netsmartz.org

Teacher Resources:

Resources: All resources are in on teacher computer/grade level folders.

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Unit 2 Overview

Unit Title: **Animal Morph Movie**  
Each Marking Period

Grade Level: Fifth Grade

Recommended Pacing: Ten Classes

Unit Summary:

- Create movie of their own morphed animal.
- Students will research two animals to be morphed.
- Create a new animal name and draw the animal.
- Create a table to be used as a graphic organizer.
- Demonstrate how to find legit information using the internet.
- Demonstrate ability to illustrate an morphed animal and how to export Pixie files as JPEG.
- Write a creative script on what they will say when they record their voice.
- Record their voice in iMovie.
- Demonstrate ability how to use the Ken Burns Effect, transitions, and importing music in iMovie.
- Demonstrate how to change their clip timing to go along with voice.
- Create music in Garageband.

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- Demonstrate how to export a movie to a .mov Format.

NJCCSS:

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

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

**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.A.2:** Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.

**D. Digital Citizenship:** *Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.*

**8.1.5.D.3:** Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and media.

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

**8.1.5.E.1:** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.

**8.1.5.F.1:** Apply digital tools to collect, organize, and analyze data that support a scientific finding.

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Unit Essential Questions:	Unit Enduring Understandings:
Unit Learning Targets <i>Students will know...</i>	Unit Learning Targets <i>Students will do...</i>



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<ul style="list-style-type: none"><li>• How can digital tools be used for creating original and innovative works, ideas, and solutions?</li><li>• In a world of constant change, what skills should we learn?</li><li>• How can I transfer what I know to new technological situations/experiences?</li></ul>	<ul style="list-style-type: none"><li>• Students will pick two animals, research specific information about them.</li><li>• Create a table in Microsoft Word and put all the information in.</li><li>• They will research where their animals live, what they eat, and who their predators are.</li><li>• Learn how to use the highlighting feature in Word.</li><li>• They will create pictures to go with each part in Pixie.</li><li>• They will learn how to select, copy and paste parts of pictures.</li><li>• They will export Pixie pictures and change them to jpeg format.</li><li>• Complete the Ken Burns effect, record voices, change clip timings to go along with their voices.</li><li>• Create a song in Garageband.</li><li>• Learn how to transfer a song from Garageband to iTunes to iMovie.</li><li>• Learn how to Export the movie as a Quicktime file.</li></ul>
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Evidence of Learning
Formative Assessments:

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- Teacher Observation
- Project Based Assessment
- Classroom Participation

Equipment Needed:

- Microsoft Word
- iMovie
- Pixie
- Printer
- Headphones
- Microphone
- Internet Connection
- Gargeband
- iTunes

Teacher Resources:

Resources: All resources are in on teacher computer/grade level folders.

Unit 3 Overview

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Unit Title: <b>Nutrition Graph</b> Each Marking Period
Grade Level: Fifth Grade
Recommended Pacing: Two Classes
Unit Summary: <ul style="list-style-type: none"><li>● Students will come up with an interesting question and several possible answers.</li><li>● Demonstrate knowledge of Microsoft Excel and how to create a bar graph.</li><li>● Demonstrate ability to change colors in the graph, create title, and how to show percent.</li><li>● Demonstrate ability to use <i>Classroom</i> with their Google accounts to collect and share data.</li></ul>
<b>NJCCSS:</b> <b><u>8.1 Educational Technology All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.</u></b> <b>8.1.2.A Technology Operations and Concepts: The use of technology and digital tools requires knowledge and appropriate use of operations and related applications.</b> <b>8.1.5.A.1:</b> Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. <b>8.1.5.A.3:</b> Use a graphic organizer to organize information about problem or issue. <b>8.1.5.A.4:</b> Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.

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**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.

Unit Essential Questions:	Unit Enduring Understandings:
Unit Learning Targets <i>Students will know...</i>	Unit Learning Targets <i>Students will do...</i>
<ul style="list-style-type: none"> <li>● How can digital tools be used for creating original and innovative works, ideas, and solutions?</li> <li>● In a world of constant change, what skills should we learn?</li> <li>● How has the use of digital tools improved opportunities for communication and collaboration?</li> </ul>	<ul style="list-style-type: none"> <li>● Students will think of a creative question and 5 possible answers.</li> <li>● Students will sign into our Google classroom account and share their surveys.</li> <li>● When finished, they will go back to their survey and total up the data and input it in to Microsoft Excel.</li> <li>● Students will create a pie graph.</li> <li>● Change colors of graph, insert title, and percent labels.</li> <li>● Remind students about how to use correct spacing, capital letters, and formatting.</li> <li>● Discuss graphs data results.</li> </ul>

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Evidence of Learning

Formative Assessments:

- Teacher Observation
- Project Based Assessment
- Classroom Participation

Equipment Needed:

- Microsoft Excel
- Google Classroom/Google Accounts
- Internet Connection

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Teacher Resources:

Resources: All resources are in on teacher computer/grade level folders.

Unit 4 Overview

Unit 4 Overview

Unit Title: **Coding: Course 2**  
Each Marking Period

Grade Level: Fifth Grade

Recommended Pacing: \*Continuous Program

Unit Summary:

- Go to code.org account using a username and a passcode

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- Navigate through the website to each lesson in Course 2.

**NJCCSS:**

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

**8.1.2.A Technology Operations and Concepts: The use of technology and digital tools requires knowledge and appropriate use of operations and related applications.**

**8.1.5.A.1:** Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

**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.**

**8.2.2.E.2:** Demonstrate an understanding of how a computer takes input through a series of written commands and then interprets and displays information as output.

**8.2.2.E.3:** Create algorithms (a sets of instructions) using a pre-defined set of commands (e.g., to move a student or a character through a maze).

**8.2.2.E.4:** Debug an algorithm (i.e., correct an error).

**8.2.2.E.5:** Use appropriate terms in conversation (e.g., basic vocabulary words: input, output, the operating system, debug, and algorithm).

**8.2.5.A.5:** Identify how improvement in the understanding of materials science impacts technologies.

**8.2.5.E.1:** Identify how computer programming impacts our everyday lives.

**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.

**8.2.5.E.3:** Using a simple, visual programming language, create a program using loops, events and procedures to generate specific output.

**8.2.5.E.4:** Use appropriate terms in conversation (e.g., algorithm, program, debug, loop, events, procedures, memory, storage, processing, software, coding, procedure, and data).

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Unit Essential Questions:	Unit Enduring Understandings:
Unit Learning Targets <i>Students will know...</i>	Unit Learning Targets <i>Students will do...</i>
<ul style="list-style-type: none"> <li>● In a world of constant change, what skills should we learn?</li> <li>● Can the students communicate ideas using codes and symbols?</li> <li>● Can the student express movement as a series of commands?</li> <li>● Can the students create a program to complete an image using sequential steps?</li> </ul>	<ul style="list-style-type: none"> <li>● Students will sign into their code.org account.</li> <li>● Create a program to draw a shape using sequential steps.</li> <li>● Compare and contrast squares and rectangles by their number of sides and side lengths.</li> <li>● Represent an algorithm as a computer program.</li> <li>● Convert a series of multiple actions into a single loop.</li> <li>● Employ a combination of sequential and looped commands to reach the end of a maze.</li> <li>● Create a program that draws complex shapes by repeating simple sequences.</li> <li>● Compose two-dimensional shapes to create a composite shape.</li> <li>● Convert a series of multiple actions into a single loop.</li> </ul>



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Evidence of Learning

Formative Assessments:

- Teacher Observation
- Skilled Based Assessment
- Lessons Completed: Teacher can see student progress through their specific accounts
- Classroom Participation

Equipment Needed:

- Safari
- Internet Connection
- Headphones
- Code.org user names and passwords

Teacher Resources:

Resources: All resources are in on teacher computer/grade level folders.

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Unit 5 Overview

Unit Title: **If I Were In Charge of the World Poem**

Each Marking Period

Grade Level: Fifth Grade

Recommended Pacing: Two Classes

Unit Summary:

- Students will demonstrate ability to create and type a poem in Microsoft Word
- Show ability to format document properly.

NJCCSS:

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

**8.1.2.A Technology Operations and Concepts: The use of technology and digital tools requires knowledge and appropriate use of operations and related applications.**

**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.A.2:** Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.

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Unit Essential Questions:	Unit Enduring Understandings:
<b>Unit Learning Targets</b> <i>Students will know...</i>	<b>Unit Learning Targets</b> <i>Students will do...</i>
<ul style="list-style-type: none"> <li>● How can I transfer what I know to new technological situations/experiences?</li> <li>● How can digital tools be used for creating original and innovative works, ideas, and solutions?</li> <li>● In a world of constant change, what skills should we learn?</li> </ul>	<ul style="list-style-type: none"> <li>● Students will listen to the poem, <i>If I Were In Charge of the World</i> by Judith Viorst.</li> <li>● Then the students will be given an outline of how they are going to type their poems.</li> <li>● They will fill in the blanks with their own words and what they would do if they were in charge of the world.</li> <li>● Students will change the color, font, and size.</li> <li>● They will bold, underline, center, and italic what is directed to them.</li> <li>● When finished they will save to their folder and print.</li> </ul>

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Evidence of Learning
Formative Assessments: <ul style="list-style-type: none"><li>● Teacher Observation</li><li>● Project Based Assessment</li><li>● Classroom Participation</li></ul>
Equipment Needed: <ul style="list-style-type: none"><li>● Microsoft Word</li><li>● Poem Worksheet</li><li>● Printer</li></ul>

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Teacher Resources:
Resources: All resources are in on teacher computer/grade level folders.

Unit 6 Overview
Unit Title: <b>What Happened Letter?!</b> Each Marking Period
Grade Level: Fifth Grade
Recommended Pacing: One Class
Unit Summary:

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- Students will demonstrate ability to type a friendly, unrealistic letter in Word using correct format.
- Demonstrate how to take a picture with effects in Photobooth and insert it into Microsoft Word.
- Be able to format a picture using tools in Word.

NJCCSS:

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

**8.1.2.A Technology Operations and Concepts: The use of technology and digital tools requires knowledge and appropriate use of operations and related applications.**

**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.A.2:** Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.

Unit Essential Questions:	Unit Enduring Understandings:
Unit Learning Targets <i>Students will know...</i>	Unit Learning Targets <i>Students will do...</i>

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- How can digital tools be used for creating original and innovative works, ideas, and solutions?
- In a world of constant change, what skills should we learn?

- Students will take a picture using the effects portion of Photobooth.
- They will learn how to put the picture on the desktop and rename the image.
- Then the students will insert the picture into Word and type a creative, friendly letter explaining what happened to their face.
- Students will change the color, font, and size.
- When finished they will save to their folder and print.

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Evidence of Learning

Formative Assessments:

- Teacher Observation
- Project Based Assessment

Equipment Needed:

- Microsoft Word
- Letter Format Worksheet
- Printer
- Photobooth

Teacher Resources:

Resources: All resources are in on teacher computer/grade level folders.



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Unit 7 Overview
Unit Title: <b>Population Graph</b> Each Marking Period
Grade Level: Fifth Grade
Recommended Pacing: One Class
Unit Summary: <ul style="list-style-type: none"><li>● Understand how and why to use the program, Microsoft Excel.</li><li>● Demonstrate ability to collect data and input it into a spreadsheet.</li><li>● Students will research the population of 10 colleges.</li><li>● Demonstrate knowledge of Microsoft Excel and how to create a pie graph.</li><li>● Demonstrate ability to change colors in the graph, create title, and how to show percent.</li></ul>
NJCCSS: <b><u>8.1 Educational Technology All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.</u></b>

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**8.1.2.A Technology Operations and Concepts: The use of technology and digital tools requires knowledge and appropriate use of operations and related applications.**

**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.A.3:** Use a graphic organizer to organize information about problem or issue.

**8.1.5.A.4:** Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.

Unit Essential Questions:	Unit Enduring Understandings:
Unit Learning Targets <i>Students will know...</i>	Unit Learning Targets <i>Students will do...</i>

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<ul style="list-style-type: none"><li>● In a world of constant change, what skills should we learn?</li><li>● How do I choose which technological tools to use and when it is appropriate to use them?</li></ul>	<ul style="list-style-type: none"><li>● Students will collect review Excel and go over using search engines to find specific information using the SMART Board.</li><li>● They will review the terminology used in Excel.</li><li>● Students will research and record the population of 10 colleges (Undergraduate) in the US.</li><li>● Students will open a blank spreadsheet in Microsoft Excel.</li><li>● Students will input the data of college undergraduate population.</li><li>● Create a pie graph.</li><li>● Change colors of graph, insert title, and percent labels.</li><li>● Remind students about how to use correct spacing, capital letters, and formatting.</li></ul>
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Evidence of Learning
Formative Assessments:

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- Teacher Observation
- Project Based Assessment
- Classroom Participation

Equipment Needed:

- Microsoft Excel
- Internet Connection

Teacher Resources:

Resources: All resources are in on teacher computer/grade level folders.