EAST RUTHERFORD SCHOOL DISTRICT

TECHNOLOGY CURRICULUM

Grades 6 - 8

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New Jersey Student Learning Standards
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The following maps outline the New Jersey Student Learning Standards for Grades 6-8 Technology determined by the State Standards Initiative. Below is a list of assessment tools that are recommended for tracking student progress in these areas. In addition, resources that can be used in conjunction with instruction of these standards are provided but not limited to the list below. Standards not listed below are addressed in other content area curricula.

Assessment:

Formative Assessment
Class- Work Review
Project- Based Assessment
Self- Assessment
Teacher Observation
Group & Cooperative Work
Student-Created Rubrics

Resources:

Google Classroom & Applications (Docs, Slides, Sheets, Forms, Maps, Sites, etc.)

https://hourofcode.com/us
https://www.mysimpleshow.com/
https://geoguessr.com/
http://www.digizen.org/
http://www.nsteens.org/
https://www.netsmartz.org/Educators 3
https://www.commonsensemedia.org/
http://www.cyberbullying.info/office.php
http://www.thinkuknow.co.uk
http://www.stopcyberbullying.org/index2.html
http://planetnutshell.com/netsafe/
https://www.stopbullying.gov/
https://www.tinkercad.com/
https://scratch.mit.edu/

References:

NJ Technology Standards: http://www.state.nj.us/education/cccs/2014/tech/81.pdf
NJ 21st Century Life & Career Standards: http://www.state.nj.us/education/cccs/2014/career/9.pdf

Interdisciplinary Connections are listed as their own category throughout the curriculum map. These connections include but are not limited to the following:

- Language Arts
- Science
- Social Studies
- Mathematics

Essential Question(s): How can digital tools be used to access, manage, evaluate, and synthesize information in order to solve problems?

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.

Career Ready Practices:

CRP2. Apply appropriate academic and technical skills.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	Example Projects / Activities	Interdisciplinary Connections	Resources
1. Demonstrate knowledge of a real world problem using digital tools.	• Current Issues Website Project • Band Tour Project • Sports Statistics Report Project • Infographic Design Project • Peer Survey Project • Technology Company Research Project • Endangered Species PSA Project	• Mathematics • Social Studies • Science	• Google Sites • Google Sheets • Google Forms • Google Draw • Google Slides • Google Maps • Microsoft PowerPoint
2. Create a document (e.g. newsletter, reports, personalized learning plan, business letters	• Autobiography Project • Computer Parts Presentation • Sports Statistics Report Project • Infographic Design Project • Peer Survey Project • Technology Career Project • Current Issues Website Project	• Language Arts • Mathematics • Social Studies	• Microsoft Word • http://www.mysimpleshow.com • http://www.howstuffworks.com • http://ed.ted.com/ • Google sheets • Google Draw • Google Forms

or flyers) using one or more digital applications to be critiqued by professionals for usability.	• Technology Company Research Project • Technology History Website Project		• Google Slides • Google Sites
3. Use and/or develop a simulation that provides an environment to solve a real world problem or theory.	• Exploring Science with Phet • Evaluating online simulations / games	• Science • Social Studies	• https://phet.colorado.edu/ • https://www.icivics.org/
4. Graph and calculate data within a spreadsheet and present a summary of the results.	• Sports Statistics Report Project • Peer Survey Project • Current Issues Website Project • Band Tour Project	• Mathematics • Social Studies	• Google Sheets • Google Forms • Google Sites • Google Docs • Google Maps
5. Create a database query, sort and create a report and describe the process, and explain the report results.	• Sports Statistics Report Project • Band Tour Project	• Mathematics	• Google Docs • Google Sheets • Google Maps

Essential Question(s): How can digital tools be used to construct knowledge and develop innovative products / processes?

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

Career Ready Practices:

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

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	**Example Projects / Activities**	**Interdisciplinary Connections**	**Resources**
1. Synthesize and publish information about a local or global issue or event (ex. telecollaborative project, blog, school web).	• Current Issues Website • Survey Presentation • Endangered Species PSA	• Mathematics • Social Studies • Science	• Google Sites • Google Slides • Google Forms • Google Sheets • Microsoft PowerPoint • www.youtube.com • http://www.kidsgoglobal.net/

Essential Question(s): How can digital tools be used to communicate and work collaboratively to support learning?

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: 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

Career Ready Practices:

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

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	**Example Projects / Activities**	**Interdisciplinary Connections**	**Resources**
1. Collaborate to develop and publish work that provides perspectives on a global problem for discussions with learners from other countries.	• Current Issues Website • Endangered Species PSA	• Social Studies • Science	• Google Sites • Google Forms • Google Sheets • Microsoft PowerPoint • www.youtube.com • http://www.kidsgoglobal.net/

Essential Question(s): What human, cultural, and societal issues relate to technology use?

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

Career Ready Practices:

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.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP7. Employ valid and reliable research strategies.

CRP9. Model integrity, ethical leadership and effective management.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	Example Projects / Activities	Interdisciplinary Connections	Resources
1. Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media	• Class discussions • View online safety videos • Cyber citizenship interactive stories • Cyber Citizenship Poster Project • Cyber Citizenship Self-Assessment	• Language Arts	• http://www.digizen.org/ • http://www.nsteens.org/ • https://www.netsmartz.org/Educators • https://www.commonsensemedia.org • http://www.cyberbullying.info/office.php • http://www.thinkuknow.co.uk • http://www.stopcyberbullying.org/index2.html • http://planetnutshell.com/netsafe/ • https://www.stopbullying.gov/

2. Demonstrate the application of appropriate citations to digital content.	• Biography Research Project • Endangered Species PSA • Technology Company Research Project • Current Issues Website • Infographic Creation • Computer History Website	• Social Studies • Language Arts • Mathematics • Science	• http://www.mysimpleshow.com • https://www.commonsensemedia.org • Media Center Online Databases (Brittanica, Infobase, etc.) • Google Slides • Google Sites • Google Sheets • Google Draw • Microsoft PowerPoint
3. Demonstrate an understanding of fair use and Creative Commons to intellectual property	• Fair use discussion & online exploration • Computer History Website		• https://www.commonsensemedia.org • http://ed.ted.com/ • Google Sites
4. Assess the credibility and accuracy of digital content.	• Website evaluation / rubric creation • Biography Research Project • Endangered Species PSA • Technology Company Research Project • Current Issues Website	• Social Studies • Language Arts • Science • Mathematics	• Google Docs • Google Slides • Google Sheets • Google Draw • Google Sites • http://www.mysimpleshow.com • http://www.schrockguide.net/

	• Infographic Evaluation • Infographic Creation		
5. Understand appropriate uses for social media and the negative consequences of misuse.	• Social Media Mishaps Presentation • Cyber Citizenship Poster Project • Class discussions • View online safety videos • Cyber Citizenship Self-Assessment		• http://www.digizen.org/ • http://www.nsteens.org/ • https://www.netsmartz.org/Educators • https://www.commonsensemedia.org • http://www.cyberbullying.info/office.php • http://www.thinkuknow.co.uk • http://www.stopcyberbullying.org/index2.html • http://planetnutshell.com/netsafe/ • https://www.stopbullying.gov/

Essential Question(s): How can digital tools be used to gather, evaluate, and use information?

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

Career Ready Practices:

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.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	Example Projects / Activities	Interdisciplinary Connections	Resources
1. Effectively use a variety of search tools and filters in professional public databases to find information to solve a real world problem.	• Infographic Creation • Biography Research Project • Endangered Species PSA • Technology Company Research Project • Current Issues Website	• Science • Mathematics • Social Studies	• http://www.mysimpleshow.com • Media Center Online Databases (Brittanica, Infobase, etc.) • Google Slides • Google Sites • Google Sheets • Google Draw • Microsoft PowerPoint

Essential Question(s): How can digital tools be used to enhance critical thinking skills by conducting research, managing projects, and solving problems ?

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: 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.

Career Ready Practices:

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.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP9. Model integrity, ethical leadership and effective management.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	**Example Projects / Activities**	**Interdisciplinary Connections**	**Resources**
1. Explore a local issue, by using digital tools to collect and analyze data to identify a solution and make an informed decision.	• Current Issues Website • Survey Presentation	• Social Studies • Mathematics	• Google Sites • Google Slides • Google Forms • Google Sheets • www.youtube.com • http://www.kidsgoglobal.net/

Essential Question(s): How do technology systems impact our world?

Standard: 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.

Strand: A. The Nature of Technology: Creativity and Innovation Technology systems impact every aspect of the world in which we live.

Career Ready Practices:

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	Example Projects / Activities	Interdisciplinary Connections	Resources
1. Research a product that was designed for a specific demand and identify how the product has changed to meet new demands (i.e. telephone for communication - smart phone for mobility needs).	• Computer History Website • Digital Technology Exhibit		• Google Sites • Google Slides • http://ed.ted.com/

Essential Question(s): How do human, cultural, and societal values affect the design of technological systems?

Standard: 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.

Strand: 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.

Career Ready Practices:

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	Example Projects / Activities	Interdisciplinary Connections	Resources
1. Evaluate the history and impact of sustainability on the development of a designed product or system over time and present results to peers.	• Computer History Website		• Google Sites • http://ed.ted.com/
5. Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries and societies.	• Computer History Website • Digital Technology Exhibit	• Language Arts	• Google Sites • Google Slides • http://ed.ted.com/

6. Compare and contrast the different types of intellectual property including copyrights, patents and trademarks.	• Fair use discussion & online exploration		• https://www.commonsensemedia.org

Essential Question(s): How can computational thinking build and enhance problem solving?

Standard: 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.

Strand: E. Computational Thinking: Programming: Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.

Career Ready Practices:

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

Cumulative Progress Indicator	**Example Projects / Activities**	**Interdisciplinary Connections**	**Resources**
• Identify ways computers are used that have had an impact across the range of human activity and within different careers where they are used.	• Computer History Website • Digital Technology Exhibit • Technology Career Project		• Google Sites • Google Slides • Google Draw • http://ed.ted.com/
• Demonstrate an understanding of the relationship between hardware and software	• Computer Parts Video Project • Exploring computer hardware presentation / videos / quiz	• Language Arts	• http://www.mysimpleshow.com • http://www.howstuffworks.com • http://ed.ted.com/

• Develop an algorithm to solve an assigned problem using a specified set of commands and use peer review to critique the solution.	• Introduction to Programing • Band Tour Project • Sports Statistics Project	• Mathematics	• Google Sheets • https://hourofcode.com/us • https://scratch.mit.edu/
• Use appropriate terms in conversation (e.g., programming, language, data, RAM, ROM, Boolean logic terms).	• Computer Parts Video Project	• Language Arts	• http://www.mysimpleshow.com • http://www.howstuffworks.com • http://ed.ted.com/