


# Mendham Township Public Schools



## MIDDLE SCHOOL TECHNOLOGY and COMPUTERS Curriculum

Board of Education Adoption Date: July 22, 2014

Board of Education President:   
Andrew Christman

Superintendent of Schools:   
Salvatore M. Constantino

Principal:   
Patrick J. Ciccone

**Technology****Technology Literacy****Grade: 5**

<b>Content Area/ Strands</b>	<u><b>Viewing and Media Literacy</b></u> Constructive Meaning Visual and Verbal Messages Living With Media  <u><b>Educational Technology</b></u> Technology Operations and Concepts Creativity and Innovation Communication and Collaboration  <u><b>Consumer/Life Skills</b></u> Critical Thinking
<b>Essential Questions</b>	How can technology and digital tools be used to access, manage, evaluate, and synthesize information both individually and collaboratively to create and communicate knowledge?  What is needed to be a digital citizen?  How can you use technology effectively to be prepared to live and work in our complex, information-rich world?
<b>NJCCCS</b>	3.5. A, 3.5.B, 3.5.C, 8.1.8.A.1, 8.1.8.A.2, 8.1.8.A.3, 8.1.8.A.4, 8.1.8.A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.D.1, 8.1.8.D.2, 8.1.8.D.3, 8.1.8.E.1, 8.1.8.F.1, 9.2.8.A
<b>Skills/ Proficiencies (CPI)</b>	Use technology and digital tools to access, manage, evaluate, and synthesize information both individually and collaboratively to create and communicate knowledge.  Create professional documents (e.g., newsletter, personalized learning plan, business letter or flyer) using advanced features of a word processing program.  Plan and create a simple database, define fields, input data, and produce a report using sort and query.  Create a presentation including sound and images.  Generate a spreadsheet to calculate, graph, and present information.  Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.

<p><b>Suggested Activities</b></p>	<p><b><u>Keyboarding</u></b> Online and software typing applications and drills</p> <p><b><u>Google Earth/Mapping</u></b></p> <ul style="list-style-type: none"> <li>• Latitude/Longitude</li> <li>• Where In the World Project</li> </ul> <p><b><u>Application Basics</u></b></p> <ul style="list-style-type: none"> <li>• Research New Technology Project/Product Development</li> <li>• Student Info Data Project</li> <li>• Compare/Contrast Information</li> <li>• Understanding File Extensions</li> <li>• Publication/Formatting Basics</li> <li>• Create Personalized Letterhead/Write Letter</li> <li>• Collecting Data/Using Spreadsheet</li> <li>• PowerPoint Techniques</li> <li>• Graphic Design</li> <li>• Working With Digital Images</li> </ul> <p><b><u>5<sup>th</sup> Grade-Enrichment class</u></b> Understanding a computer Hardware and Software AUP policy Internet Safety</p>
<p><b>Assessments/ Performance Indicators</b></p>	<p>Teacher Observation Completed Projects Completed Worksheets Rubrics Simulations/educational games Self Assessment Peer Assessment</p>
<p><b>Resources/ Materials</b></p>	<p>Web-based environments/publications: (Ex: Online databases, web pages, wikis, blogs) Media-rich applications (Ex: Microsoft Office, Inspiration, Google Earth, Typing software (Type To Learn, Mavis Beacon, Online sites), Kid Pix, Paint, Adobe software products) Online discussion/learning communities/shared-hosted services: (Ex: blogs, wikis, games, simulations)</p>

# Technology

## Internet Safety

Grade: 5-8

<b>Content Area/ Strands</b>	<u><b>Educational Technology</b></u> Technology Operations and Concepts Communication and Collaboration Digital Citizenship Research and Information Literacy
<b>Essential Questions</b>	<p>What are the technological advancements create societal concerns regarding the practice of safe, legal, and ethical behaviors?</p> <p>Why is it necessary for each individual, as a member of the global community, to practice cyber safety, cyber security, and cyber ethics when using existing and emerging technologies?</p>
<b>NJCCCS</b>	8.1.8.A.1, 8.1.8.A.3, 8.1.8.A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.D.1, 8.1.8.D.2, 8.1.8.D.3, 8.1.8.E.1
<b>Skills/ Proficiencies (CPI)</b>	<p>Model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics.</p> <p>Summarize the application of fair use and Creative Commons guidelines.</p> <p>Demonstrate how information on a controversial issue may be biased.</p> <p>Use of technology and digital tools requires knowledge and appropriate use of operations and related applications.</p>
<b>Suggested Activities</b>	<p><u><b>8<sup>th</sup> Grade- Cyber Ethics, Online Gaming/File sharing sites</b></u>            Understanding appropriate online behaviors and potential biases</p> <p><u><b>7<sup>th</sup> Grade - Social Networking Project</b></u>            Understanding Social Networks and safety/security issues</p> <p><u><b>6<sup>th</sup> Grade – Copyright issues and Cyber bullying</b></u>            Understanding Cyber bulling, copyright issues and societal concerns</p> <p><u><b>5<sup>th</sup> Grade-Acceptable Use Policy/Basic Internet safety and Security</b></u>            Safe legal and ethical behaviors</p>

<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Projects Completed Worksheets Rubrics Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Web-based environments/publications: (Ex: Online databases, web pages, wikis, blogs) Media-rich applications (Ex: Microsoft Office, Adobe software products) Multi-media presentations: movie, blog, podcast (Ex: Adobe, Manila, Roxio software products) Online discussion/learning communities/shared-hosted services (Ex: Facebook, Twitter, My Space, blogs, wikis) Virtual environments: (Ex: Games, simulations, wikis, blogs)

# Technology

## Technology Literacy

Grade: 6-7

<p><b>Content Area/ Strands</b></p>	<p><b><u>Viewing and Media Literacy</u></b>            Constructive Meaning            Visual and Verbal Messages            Living With Media</p> <p><b><u>Educational Technology</u></b>            Technology Operations and Concepts            Creativity and Innovation            Communication and Collaboration</p> <p><b><u>Consumer/Life Skills</u></b>            Critical Thinking</p>
<p><b>Essential Questions</b></p>	<p>How can technology and digital tools be used to access, manage, evaluate, and synthesize information both individually and collaboratively to create and communicate knowledge?</p> <p>What is needed to be a digital citizen?</p> <p>How can you use technology effectively to be prepared to live and work in our complex, information-rich world?</p>
<p><b>NJCCCS</b></p>	<p>3.5. A, 3.5.B, 3.5.C, 8.1.8.A.1, 8.1.8.A.2, 8.1.8.A.3, 8.1.8.A.4, 8.1.8.A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.D.1, 8.1.8.D.2, 8.1.8.D.3, 8.1.8.E.1, 8.1.8.F.1, 9.2.8.A</p>
<p><b>Skills/ Proficiencies (CPI)</b></p>	<p>Use technology and digital tools be to access, manage, evaluate, and synthesize information both individually and collaboratively to create and communicate knowledge.</p> <p>Create professional documents (e.g., newsletter, personalized learning plan, business letter or flyer) using advanced features of a word processing program.</p> <p>Plan and create a simple database, define fields, input data, and produce a report using sort and query.</p> <p>Create a presentation including sound and images.</p> <p>Generate a spreadsheet to calculate, graph, and present information.</p> <p>Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.</p>

<b>Suggested Activities</b>	<p><b><u>Google Earth/Mapping</u></b></p> <ul style="list-style-type: none"> <li>• Layering</li> <li>• Google Space/Ocean Units</li> </ul> <p><b><u>Digital Storytelling</u></b></p> <ul style="list-style-type: none"> <li>• Electronic storybook</li> <li>• Fragmented fairy tales</li> </ul> <p><b><u>Application Basics</u></b></p> <ul style="list-style-type: none"> <li>• Research - Top Ten Technologies</li> <li>• Fast Food/Healthy Foods (Charts/Compare)</li> <li>• Advanced PowerPoint Techniques</li> <li>• Graphic Design</li> <li>• Technology/Jargon</li> <li>• Self-correcting Quiz (Excel Formulas)</li> <li>• Inventions: History of Technology</li> </ul>
<b>Assessments/ Performance Indicators</b>	<p>Teacher Observation Completed Projects Completed Worksheets Rubrics Simulations/educational games Self Assessment Peer Assessment</p>
<b>Resources/ Materials</b>	<p>Web-based environments/publications: (Ex: Online databases, web pages, wikis, blogs) Media-rich applications: (Ex: Microsoft Office, Inspiration, Google Earth, Kid Pix, Paint, Adobe software products) Online discussion/learning communities/shared-hosted services: (Ex: Blogs, wikis, games, simulations) Electronic authoring tools: (Ex: Storybook Weaver)</p>

## Technology

### Digital Imaging-Animation and Manipulation of Images

Grade: 6

<p><b>Content Area/ Strands</b></p>	<p><b><u>Educational Technology</u></b> Technology Operations and Concepts Creativity and Innovation</p> <p><b><u>Creation and Performance</u></b> Visual Art</p> <p><b><u>Visual and Performing Arts</u></b> Art-Elements and Principles Aesthetics</p> <p><b><u>History and Culture</u></b> Knowledge</p>
<p><b>Essential Questions</b></p>	<p>How can you utilize various media, technologies and processes in the production of visual art?</p> <p>How have technological changes influenced the development of the arts?</p> <p>How can you use digital tools and media-rich resources to enhance creativity and the construction of knowledge?</p>
<p><b>NJCCCS</b></p>	<p>1.1.A.3, 1.1.B.4, 1.2.8.D.2, 1.3.D.1, 1.3.D.2, 1.3.D.3, 1.5.8.A, 8.1.8.A.5</p>
<p><b>Skills/ Proficiencies (CPI)</b></p>	<p>Explore various media, technologies and processes in the production of visual art.</p> <p>Analyze how technological changes have influenced the development of the arts.</p> <p>Understand the elements of art and principals of design that are evident in everyday life.</p> <p>Understand how art is defined by originality and inspired by an individual's imagination.</p> <p>Demonstrate an understanding of the elements and principals of visual art.</p> <p>Utilize digital tools and media-rich resources to enhance creativity and the construction of knowledge.</p>



<b>Suggested Activities</b>	<u>Poetry In Motion</u> Make a simple poem come to life with digital imaging and animation  <u>Scratch Project</u> Animated Nursery Rhyme, Proverb or Tall tale
<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Projects Completed Worksheets Rubrics Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Digital media tools: (Ex: Digital cameras, scanners, document camera) Web-based environments/publications: (Ex: Online databases, web pages) Media-rich applications (Ex: Microsoft Office, Adobe software products) software products) Virtual environments: (Ex: Games, simulations, websites, blogs)

# Technology

<b>Technology Literacy</b>	<b>Grade: 6-7</b>
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<b>Content Area/ Strands</b>	<p><b><u>Viewing and Media Literacy</u></b> Constructive Meaning Visual and Verbal Messages Living With Media</p> <p><b><u>Educational Technology</u></b> Technology Operations and Concepts Creativity and Innovation Communication and Collaboration</p> <p><b><u>Consumer/Life Skills</u></b> Critical Thinking</p>
<b>Essential Questions</b>	<p>How can technology and digital tools be used to access, manage, evaluate, and synthesize information both individually and collaboratively to create and communicate knowledge?</p> <p>What is needed to be a digital citizen?</p> <p>How can you use technology effectively to be prepared to live and work in our complex, information-rich world?</p>
<b>NJCCCS</b>	3.5. A, 3.5.B, 3.5.C, 8.1.8.A.1, 8.1.8.A.2, 8.1.8.A.3, 8.1.8.A.4, 8.1.8.A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.D.1, 8.1.8.D.2, 8.1.8.D.3, 8.1.8.E.1, 8.1.8.F.1, 9.2.8.A
<b>Skills/ Proficiencies (CPI)</b>	<p>Use technology and digital tools be to access, manage, evaluate, and synthesize information both individually and collaboratively to create and communicate knowledge.</p> <p>Create professional documents (e.g., newsletter, personalized learning plan, business letter or flyer) using advanced features of a word processing program.</p> <p>Plan and create a simple database, define fields, input data, and produce a report using sort and query.</p> <p>Create a presentation including sound and images.</p> <p>Generate a spreadsheet to calculate, graph, and present information.</p> <p>Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems.</p>

<b>Suggested Activities</b>	<p><b><u>Google Earth/Mapping</u></b></p> <ul style="list-style-type: none"> <li>• Layering</li> <li>• Google Space/Ocean Units</li> </ul> <p><b><u>Digital Storytelling</u></b></p> <ul style="list-style-type: none"> <li>• Electronic storybook</li> <li>• Fragmented fairy tales</li> </ul> <p><b><u>Application Basics</u></b></p> <ul style="list-style-type: none"> <li>• Research - Top Ten Technologies</li> <li>• Fast Food/Healthy Foods (Charts/Compare)</li> <li>• Advanced PowerPoint Techniques</li> <li>• Graphic Design</li> <li>• Technology/Jargon</li> <li>• Self-correcting Quiz (Excel Formulas)</li> <li>• Inventions: History of Technology</li> </ul>
<b>Assessments/ Performance Indicators</b>	<p>Teacher Observation Completed Projects Completed Worksheets Rubrics Simulations/educational games Self Assessment Peer Assessment</p>
<b>Resources/ Materials</b>	<p>Web-based environments/publications: (Ex: Online databases, web pages, wikis, blogs) Media-rich applications: (Ex: Microsoft Office, Inspiration, Google Earth, Kid Pix, Paint, Adobe software products) Online discussion/learning communities/shared-hosted services: (Ex: Blogs, wikis, games, simulations) Electronic authoring tools: (Ex: Storybook Weaver)</p>

## Technology

### Digital Video-Editing and Design

Grade: 7

<b>Content Area/ Strands</b>	<p><b><u>Educational Technology</u></b></p> <ul style="list-style-type: none"> <li>Technology Operations and Concepts</li> <li>Creativity and Innovation</li> <li>Communication and Collaboration</li> <li>Digital Citizenship</li> <li>Research and Information Literacy</li> <li>Critical Thinking, Problem Solving, and Decision-Making</li> </ul> <p><b><u>Viewing and Media Literacy</u></b></p> <ul style="list-style-type: none"> <li>Constructive Meaning</li> <li>Visual and Verbal Messages</li> <li>Living With Media</li> </ul>
<b>Essential Questions</b>	<p>How can you use digital tools and media-rich resources to enhance creativity and construction of knowledge?</p> <p>How can you use technology to foster collaboration, generate solutions and make informed decisions?</p> <p>How can you construct visual and verbal meaning from multiple print and electronic resources?</p> <p>How can you foster safe, legal and ethical behaviors using technology?</p>
<b>NJCCCS</b>	<p>8.1.8A.3, 8.1.8A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.D.1, 8.1.8.D.2, 8.1.8.D.3, 8.1.8.E.1, 8.1.4.E.1, 8.1.4.E.2, 8.1.8.F.1, 6.2, 3.5.A, 3.5.B, 3.5.C</p>
<b>Skills/ Proficiencies (CPI)</b>	<p>Communicate, analyze data, apply technology, and problem solve on a chosen topic/issue.</p> <p>Compare and contrast how various forms of media cover the same topic.</p> <p>Chose appropriate media for presentation.</p> <p>Use of technology and digital tools requires knowledge and appropriate use of operations and related applications.</p>
<b>Suggested Activities</b>	<p><b><u>History Alive (with Social Studies teacher)</u></b></p> <ul style="list-style-type: none"> <li>Produce video news segments/podcasts on chosen topic from social studies curriculum using storyboard script</li> <li>Research, data collection and documentation</li> <li>Learn basics of multi-media presentation</li> </ul>

<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Projects Completed Worksheets Rubrics Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Web-based environments/publications: (Ex: Online databases, web pages) Media-rich applications: (Ex: Microsoft Office, Adobe software products) Multi-media presentations- Movie, blog, podcast: (Ex: Adobe, Manila, Roxio software products) Digital media tools: (Ex: Digital video and document cameras, scanners, video conferencing) Online discussion/learning communities/shared-hosted services: (Ex: blogs, wikis)

**Technology****Stock Market****Grade: 7**

<b>Content Area/ Strands</b>	<u><b>Consumer Life Skills</b></u> Critical Thinking  <u><b>Educational Technology</b></u> Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Research and Information Literacy  <u><b>Mathematical Processes</b></u> Representations Technology
<b>Essential Questions</b>	How does the stock market work and what factors influence the market?  How can you invest and save for your future?  How can you use critical thinking skills to communicate, analyze data, apply technology and problem solve?  How can you use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge?  How can you use technology effectively to be prepared to live and work in our complex, information-rich world?
<b>NJCCCS</b>	9.2.8.1, 8.1.8.A.4, 8.1.8.A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.D.3, 8.1.8.E.1, 4.5.E, 4.5.F
<b>Skills/ Proficiencies (CPI)</b>	Use critical thinking skills to communicate, analyze data, apply technology and problem solve.  Use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaboratively and to create and communicate knowledge.  Develop an understanding of the types of investments that are available and analyze the factors that influence the financial market.

<b>Suggested Activities</b>	<u><b>Stock Market Simulation Game</b></u> How stocks work What factors influence the financial market How to chose and read stocks Types of investments/savings
<b>Assessments/ Performance Indicators</b>	Teacher Observation Online Simulation Game Completed Research and Projects Completed Worksheets Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Online Stock Market simulation game  Web-based environments/publications: (Ex: Online databases, web pages, wikis, blogs)  Virtual environments: (Ex: Games, simulations)  Shared hosted services: (Ex: Podcasts, videos)

**Technology****Digital Imaging-Photography****Grade: 7**

<b>Content Area/ Strands</b>	<p><b><u>Educational Technology</u></b> Technology Operations and Concepts Creativity and Innovation</p> <p><b><u>Creation and Performance</u></b> Visual Art</p> <p><b><u>Visual and Performing Arts</u></b> Art-Elements and Principles Aesthetics</p> <p><b><u>History and Culture</u></b> Knowledge</p>
<b>Essential Questions</b>	<p>How can you utilize various media, technologies and processes in the production of visual art?</p> <p>How have technological changes influenced the development of the arts?</p> <p>How can you use digital tools and media-rich resources to enhance creativity and the construction of knowledge?</p>
<b>NJCCCS</b>	1.1.A.3, 1.1.B.4, 1.2.8.D.2, 1.3.D.1, 1.3.D.2, 1.3.D.3, 1.5.8.A, 8.1.8.A.5
<b>Skills/ Proficiencies (CPI)</b>	<p>Explore various media, technologies and processes in the production of visual art.</p> <p>Analyze how technological changes have influenced the development of the arts.</p> <p>Understand the elements of art and principals of design that are evident in everyday life.</p> <p>Understand how art is defined by originality and inspired by an individual's imagination.</p> <p>Demonstrate an understanding of the elements and principals of visual art.</p> <p>Utilize digital tools and media-rich resources to enhance creativity and the construction of knowledge.</p>



<b>Suggested Activities</b>	<u>Photography Basics</u> Understand the basics of digital photography/artistic terminology including: Subject matter, Composition, Light and Shadow, Reflections, Still life, Landscape, Portrait, Fragments, Abstraction, Patterns, Texture, Point of View
<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Projects Completed Worksheets Rubrics Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Digital media tools: (Ex: Digital cameras, scanners, document camera) Web-based environments/publications: (Ex: Online databases, web pages) Media-rich applications: (Ex: Microsoft Office, Adobe software products) software products)

**Technology****Video Gaming-Programming****Grade: 7**

<b>Content Area/ Strands</b>	<p><b><u>Educational Technology</u></b></p> <p>Technology Operations and Concepts Creativity and Innovation Communication and Collaboration</p> <p><b><u>Technology Education, Engineering, and Design</u></b></p> <p>Nature of Technology: Creativity and Innovation Design: Critical Thinking, Problem Solving, and Decision-Making Technological Citizenship, Ethics, and Society Research and Information Fluency Communication and Collaboration Resources for a Technological World The Design World</p>
<b>Essential Questions</b>	<p>How can technology and digital tools be used to access, manage, evaluate, and synthesize information both individually and collaboratively to create and communicate knowledge?</p> <p>Why are human-designed systems, products, and environments constantly monitored, maintained, and improved?</p> <p>What are the cultural and societal values of designing technology systems and products in a global society?</p> <p>How can you design and create a product that using science and math principles in the design process and working with specific criteria and constraints?</p> <p>How can you work in collaboration with peers and experts in the field to develop a product using designing products and systems?</p>
<b>NJCCCS</b>	8.1.8.A.2, 8.1.8.A.3, 8.1.8.A.5, 8.1.12.B.1, 8.1.8.C.1, 8.2.8A.1, 8.2.8.B.1, 8.2.8.B.2, 8.2.8.B.3, 8.2.8.C.1, 8.2.8.C.2, 8.2.8.D.1, 8.2.8.E.1, 8.2.8.F.1, 8.2.8.F.2, 8.2.8.G.1, 8.2.8.G.2
<b>Skills/ Proficiencies (CPI)</b>	<p>Design a program and create a product/game that uses science and math principles in the design process while working with specific criteria and constraints.</p> <p>Analyze products and systems to determine how the design process was applied to create the solution.</p>

	<p>Develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment.</p> <p>Explain why human-designed systems, products, and environments need to be monitored, maintained, and improved, and they recognize the interdependence of subsystems as parts of a system.</p>
<b>Suggested Activities</b>	<p><b><u>Game Maker Project</u></b>            Use a video software application and digital tools to create a simple video game using GML language including movement, graphics and simple control structures.</p> <p>Use online resources/discussion boards/virtual environment sites for help and support.</p>
<b>Assessments/ Performance Indicators</b>	<p>Teacher Observation            Completed Projects            Completed Worksheets            Rubrics            Self Assessment            Peer Assessment</p>
<b>Resources/ Materials</b>	<p>Web-based environments/publications: (Ex: Online web pages, wikis, blogs)            Virtual environments: (Ex: Games, simulations)            Shared hosted services: (Ex: Podcasts, videos, game development)</p>

# Technology

## Robotics Engineering

Grade: 8

<b>Content Area/ Strands</b>	<p><b><u>Educational Technology</u></b>            Technology Operations and Concepts            Creativity and Innovation            Communication and Collaboration</p> <p><b><u>Technology Education, Engineering, and Design:</u></b>            Nature of Technology: Creativity and Innovation            Design: Critical Thinking, Problem Solving, and Decision-Making            Technological Citizenship, Ethics, and Society            Research and Information Fluency            Resources for a Technological World            The Designed World</p>
<b>Essential Questions</b>	<p>What is a robot?</p> <p>How is the design process a systematic approach to solving problems?</p> <p>What science and math principles are used in the design process?</p>
<b>NJCCCS</b>	<p>8.1.8.A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.E.1, 8.2.8.A.1, 8.2.8.B.1, 8.2.8.B.2, 8.2.8.B.3, 8.2.8.C.1, 8.2.8.C.2, 8.2.8.D.1, 8.2.8.E.1, 8.2.8.F.1, 8.2.8.F.2, 8.2.8.G.1, 8.2.8.G.2</p>
<b>Skills/ Proficiencies (CPI)</b>	<p>Design a program and apply engineering robotics projects.</p> <p>Analyze products and systems to determine how the design process was applied to create the solution.</p> <p>Develop an understanding of the nature and impact of technology, engineering, technological design, and the designed world, as they relate to the individual, global society, and the environment.</p> <p>Explain why human-designed systems, products, and environments need to be monitored, maintained, and improved, and they recognize the interdependence of subsystems as parts of a system.</p>
<b>Suggested Activities</b>	<p><u>Lego Robotics Mindstorms Project</u>            Applying engineering robotics projects            Discover how to design a program, download it and apply the program            Analyze products and systems to determine how the design process was applied to create the solution</p>

<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Programs/Robot Completed Worksheets Rubrics Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Lego Robotics Mindstorms Education Kits and Software Carnegie Mellon Robotics Engineering-Introduction to Mobile Robotics Vol. 1 Data collection technology: (Ex: Probes, Hand-held devices) Web-based environments/publications: (Ex: Online databases, web pages, wikis, blogs)

## Technology

### Digital Video Production

Grade: 8

<b>Content Area/ Strands</b>	<b><u>Educational Technology</u></b> Technology Operations and Concepts Creativity and Innovation Communication and Collaboration Digital Citizenship Research and Information Literacy Critical Thinking, Problem Solving, and Decision-Making  <b><u>Consumer, Family, and Life Skills</u></b> Critical Thinking
<b>Essential Questions</b>	How can you use digital tools and media-rich resources to enhance creativity and construction of knowledge?  How can you effectively synthesize and publish information on a local or global issue event?  How can you use technology to foster collaboration, generate solutions and make informed decisions?  How can you foster safe, legal and ethical behaviors using technology?
<b>NJCCCS</b>	9.1.8.A, 8.1.8.A.3, 8.1.8.A.5, 8.1.8.B.1, 8.1.8.C.1, 8.1.8.D.1, 8.1.8.D.2, 8.1.8.D.3, 8.1.8.E.1, 8.1.4.E.1, 8.1.4.E.2, 8.1.8.F.1
<b>Skills/ Proficiencies (CPI)</b>	Demonstrate critical life skills in order to be a functional member of society.  Communicate, analyze data, apply technology, and problem solve on a chosen topic/issue.  Use of technology and digital tools requires knowledge and appropriate use of operations and related applications.
<b>Suggested Activities</b>	<b><u>Bulldog News Show</u></b> Produce video news segments/podcasts on chosen topics/school activities and programs using storyboard script Research, data collection and documentation Multi-media presentation

	<b><u>Public Service Announcement</u></b> Create a public service announcement to convey a message/solve a problem using storyboard/script Research, data collection and documentation Multi-media presentation
<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Projects Completed Worksheets Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Web-based environments/publications: (Ex: Online databases, web pages) Media-rich applications: (Ex: Microsoft Office, Adobe software products) Multi-media presentations: movie, blog, podcast: (Ex: Adobe, Manila, Roxio software products) Digital media tools: (Ex: Digital video and document cameras, scanners, video conferencing) Online discussion/learning communities/shared-hosted services: (Ex: UNICEF, Ad Council, blogs, wikis)

**Technology****Digital Imaging-Graphic Design****Grade: 8**

<b>Content Area/ Strands</b>	<u><b>Educational Technology</b></u> Technology Operations and Concepts Creativity and Innovation  <u><b>Creation and Performance</b></u> Visual Art  <u><b>Visual and Performing Arts</b></u> Art-Elements and Principles Aesthetics  <u><b>History and Culture</b></u> Knowledge
<b>Essential Questions</b>	How can you utilize various media, technologies and processes in the production of visual art?  How have technological changes influenced the development of the arts?  How can you use digital tools and media-rich resources to enhance creativity and the construction of knowledge?
<b>NJCCCS</b>	1.1.A.3, 1.1.B.4, 1.2.8.D.2, 1.3.D.1, 1.3.D.2, 1.3.D.3, 1.5.8.A, 8.1.8.A.5
<b>Skills/ Proficiencies (CPI)</b>	Explore various media, technologies and processes in the production of visual art.  Analyze how technological changes have influenced the development of the arts.  Understand how art is defined by originality and inspired by an individual's imagination.  Understand the elements of art and principals of design that are evident in everyday life.  Demonstrate an understanding of the elements and principals of visual art.  Utilize digital tools and media-rich resources to enhance creativity and the construction of knowledge.



<b>Suggested Activities</b>	<u>Modern Art</u> Create an artistic expression of a photograph using the techniques of a modern artist (Ex: Andy Warhol-pop art)
<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Projects Completed Worksheets Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Digital media tools: (Ex: Digital cameras, scanners, document camera) Web-based environments/publications: (Ex: Online databases, web pages) Media-rich applications (Ex: Microsoft Office, Adobe software products) software products)

# Technology

## Career Exploration

Grade: 8

<b>Content Area/ Strands</b>	<b><u>Career and Technical Education</u></b> Career Awareness and Planning / Employment Skills <b><u>Educational Technology</u></b> Technology Operations and Concepts Research and Information Literacy
<b>Essential Questions</b>	What types of careers match your interests and skills?  How can you use technology effectively to be prepared to live and work in our complex, information-rich world?
<b>NJCCCS</b>	9.1A, 9.1B, 8.1.8.A.1, 8.18.A.3, 8.18.A.4, 8.18.A.5, 8.1.8.E.1
<b>Skills/ Proficiencies (CPI)</b>	Develop career awareness by exploring the employable skills, planning and foundational knowledge needed for success in the workplace.  Apply research skills to career exploration and employment opportunities.  Use of technology and digital tools and related applications.
<b>Suggested Activities</b>	<u>Career Exploration Project:</u> Career exploration and personality assessments Research, data collection and documentation Web-based publication and/or media rich applications
<b>Assessments/ Performance Indicators</b>	Teacher Observation Completed Research Project Rubrics Worksheets Self Assessment Peer Assessment
<b>Resources/ Materials</b>	Web-based environments/publications: (Ex: Online databases, web pages, wikis, blogs) Media-rich applications: (Ex: Microsoft Office, Adobe software products) Multi-media presentations: movie, blog, podcast (Ex: Adobe, Manila, Roxio software products)