

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 1 of 30**



## Pacing Guide

<b>Unit Title</b>	<b>Digital Citizenship</b>	<b>Timeframe (# days)</b>	<b>6 days</b>
<b>Unit Summary</b>	<b>Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.</b>		
<b>Standards</b>	8.1.5.NI.2  8.2.5.ITH.1  8.2.5.EC.1	<b>Content/Skills</b>	Describe physical and digital security measures for protecting sensitive personal information.  Explain how societal needs and wants influence the development and function of a product and a system.  Analyze how technology has contributed to or reduced inequities in local and global communities and determine its short- and long-term effects.

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**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 2 of 30**



<b>Unit Title</b>	<b>Computing Systems &amp; Networks</b>	<b>Timeframe (# days)</b>	<b>10 days</b>
<b>Unit Summary</b>	<b>Students interact with a wide variety of computing devices that collect, store, analyze and act upon information in ways that can affect human capabilities both positively and negatively. The physical components (hardware) and instructions (software) that make up a computing system communicate and process information in digital form.</b>		
<b>Standards</b>	8.1.5.CS.1	<b>Content/Skills</b>	Model how computing devices connect to other components to form a system.
	8.1.5.CS.2		Model how computer software and hardware work together as a system to accomplish tasks.
	8.1.5.CS.3		Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
	8.1.5.IC.1		Identify computing technologies that have impacted how individuals

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 3 of 30**



	8.1.5.IC.2		live and work and describe the factors that influenced the changes.
	8.1.5.DA.2		Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.
	8.2.5.NT.1		Compare the amount of storage space required for different types of data.
	8.2.5.NT.2		Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem.
			Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries, and societies.

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 4 of 30**



<b>Unit Title</b>	<b>Google Apps &amp; Research</b>	<b>Timeframe (# days)</b>	<b>14 days</b>
<b>Unit Summary</b>	<b>Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.</b>		
<b>Standards</b>	8.1.5.DA.1	<b>Content/Skills</b>	Collect, organize, and display data in order to highlight relationships or support a claim.
	8.1.5.DA.3		Organize and present collected data visually to communicate insights
	8.1.5.DA.4		Organize and present climate change data visually to highlight relationships or support a claim.
	8.2.5.ITH.2		Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.
	8.2.5.ITH.3		Analyze the effectiveness of a new product or system and



**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 5 of 30**



	8.2.5.ITH.4		<p>identify the positive and/or negative consequences resulting from its use.</p> <p>Describe a technology/tool that has made the way people live easier or has led to a new business or career gained from different views of the data.</p>
	8.2.5.ED.1		<p>Explain the functions of a system and its subsystems.</p>

<b>Unit Title</b>	<b>Robotics/Coding</b>	<b>Timeframe (# days)</b>	<b>6 days</b>
<b>Unit Summary</b>	<b>Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.</b>		
<b>Standards</b>	8.1.5.NI.1	<b>Content/Skills</b>	<p>Develop models that successfully transmit and receive information using both wired and wireless methods.</p>

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 6 of 30**



	8.1.5.DA.5		Propose cause and effect relationships, predict outcomes, or communicate ideas using data.
	8.1.5.AP.1		Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
	8.1.5.AP.2		Create programs that use clearly named variables to store and modify data.
	8.1.5.AP.3		Create programs that include sequences, events, loops, and conditionals.
	8.1.5.AP.4		Break down problems into smaller, manageable sub-problems to facilitate program development.
	8.1.5.AP.5		Modify, remix, or incorporate pieces of existing programs into one's own work to add

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 7 of 30**



	8.1.5.AP.6		<p>additional features or create a new program.</p> <p>Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.</p>
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<b>Unit Title</b>	<b>STEAM</b>	<b>Timeframe (# days)</b>	<b>8 days</b>
<b>Unit Summary</b>	<p><b>Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions. Students design for enjoyment to solve problems, extend human capabilities, satisfy needs and wants, and improve human condition. Engineering Design, a systematic approach to creating solutions to technological problems and finding ways to meet people’s needs and desires, allows for the effective and efficient development of products and systems.</b></p>		
<b>Standards</b>	8.2.5.ED.2	<b>Content/Skills</b>	<p>Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions</p>

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 8 of 30**



			<p>to provide the best results with supporting sketches or models.</p>
	8.2.5.ED.3		<p>Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task</p>
	8.2.5.ED.4		<p>Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).</p>
	8.2.5.ED.5		<p>Describe how specifications and limitations impact the engineering design process.</p>
	8.2.5.ED.6		<p>Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process</p>
	8.2.5.NT.3		<p>Redesign an existing product for a different purpose in a collaborative team.</p>

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 9 of 30**



	8.2.5.NT.4		Identify how improvement in the understanding of materials science impacts technologies
	8.2.5.ETW.1		Describe how resources such as material, energy, information, time, tools, people, and capital are used in products or systems.
	8.2.5.ETW.2		Describe ways that various technologies are used to reduce improper use of resources.
	8.2.5.ETW.3		Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.
	8.2.5.ETW.4		Explain the impact that resources, such as energy and materials used to develop technology, have on the environment.

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 10 of 30**



	8.2.5.ETW.5		Identify the impact of a specific technology on the environment and determine what can be done to increase positive effects and to reduce any negative effects, such as climate change
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# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 11 of 30



## Curriculum

### Key for Indicating Compliance with Laws/Statutes

These symbols used throughout the curriculum indicate compliance with the following mandates:

@ = Amistad

\* = Holocaust

^ = LGBTQ+/Disabilities History

# = Career Education

\$ = Diversity, Equity and Inclusion

<b>Unit Title: Digital Citizenship/Ethics</b>		<b>Timeframe: 6 days</b>
<b>Unit Summary</b>	<b>Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.</b>	
<b>Learning Targets</b>		

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 12 of 30**



<p><b>Essential Questions</b></p>	<p><b>How can I make the world a better place when I'm online?</b>  <b>How can I make sure that I am not taking and using someone else's idea?</b>  <b>How can I keep my device safe from viruses and information safe from hackers?</b>  <b>How can I manage my digital reputation?</b></p>
<p><b>What Students Will Be Able to Do By the End of the Unit</b></p>	<ul style="list-style-type: none"> <li>-engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.</li> <li>-demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.</li> <li>-manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.</li> <li>-cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.</li> </ul>
<p><b>Evidence of Learning</b></p>	
<p><b>Formative Assessments (assessments for learning)</b></p>	<p>Teacher observations                  Skills mastered checkoff sheet                  Rubrics                  Exit Tickets</p>
<p><b>Summative (Assessments of learning)</b></p>	<p>Projects                  Classroom Discussion</p>
<p><b>Learning Activities</b></p>	<p>Netsmartz lessons and "Into the Cloud" series                  Changing passwords to strong passwords</p>



**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 13 of 30**



	<p><u>But I Read it on the Internet</u> book and discussion                  Online Safety discussion and poster                  Cyber Bullying discussion                  Evaluating Websites                  EasyBib bibliography formatting                  My Media Balance</p>
<b>Materials/Equipment/ Resources</b>	Internet, Computer, CommonSense Media, NetSmartzKid
<b>New Jersey Student Learning Standards</b>	
<b>Standard</b>	<b>Performance Expectation</b>
8.1.5.NI.2	Describe physical and digital security measures for protecting sensitive personal information.
8.2.5.ITH.1	Explain how societal needs and wants influence the development and function of a product and a system
8.2.5.EC.1	Analyze how technology has contributed to or reduced inequalities in local and global communities and determine it’s short and long-term effects.

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 14 of 30



## Modifications and Accommodations

### *Basic Skills, Special Education, ELL, 504, Students at Risk for Failure*

- Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.
- Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).
- Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).
- Engage students with a variety of communication practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.
- Structure the learning around explaining or solving a social or community-based issue.
- Provide ELL students with multiple literacy strategies.
- Additional processing time when responding to questions.
- Practice the academic language prior to answering in front of the whole group
- Incorporate effective strategies that build academic language (Turn and Talk, Think/Pair/Share and Small group activities)
- Consistently use dictionaries (picture, bilingual, English, personal) across all levels of proficiency.

*In all instances, activate and/or build background knowledge, key vocabulary and critical language structures connected to the actual tasks, activities and texts that students will need to be successful and emphasize these points throughout the lessons.*

### *Talented and Gifted Students*

- Provide opportunities for students to demonstrate skills in self-directed learning, thinking, research, and communication.
- Expose students to advanced vocabulary which is beyond grade-level.
- Allow students to demonstrate skills in self-directed learning, thinking, research, and communication.
- Utilize advanced, above grade-level texts in reading assignments.

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 15 of 30



- Have students form and participate in a Socratic Seminar or Literature Circles in groups of 6–10 students to share ideas.
- Intentionally move the cognitive process higher in response to the characteristics of the gifted/advanced learners.
- Add depth and complexity to content and tasks demands.
- Create situations in which students must generate and defend ideas.
- Develop opportunities for students to access and apply information through the generation of ideas.
- To nurture creativity, instruct students on the difference between typical responses and responses that are novel and original.
- Provide regular opportunities for students to respond creatively.
- Allow students to search the Internet or other sources to write a summary report about a topic.

## END OF UNIT

<b>Unit Title: Computing Systems &amp; Networks</b>		<b>Timeframe: 10 days</b>
<b>Unit Summary</b>	<b>Students interact with a wide variety of computing devices that collect, store, analyze and act upon information in ways that can affect human capabilities both positively and negatively. The physical components (hardware) and instructions (software) that make up a computing system communicate and process information in digital form.</b>	
<b>Learning Targets</b>		
<b>Essential Questions</b>	<b>What learning environment is best for me and how can I create it? How can I use a brand new technology tool to show what I know? In what ways are all technology devices the same and different?</b>	

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 16 of 30**



<b>What Students Will Be Able to Do By the End of the Unit</b>	<ul style="list-style-type: none"> <li>-build networks and customize their learning environments in ways that support the learning process.</li> <li>-use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.</li> <li>-understand the fundamental concepts of technology operations, demonstrate the ability to choose,</li> <li>-use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.</li> </ul>
<b>Evidence of Learning</b>	
<b>Formative Assessments (assessments for learning)</b>	Teacher observations Skills mastered checkoff sheet Rubrics Exit Tickets
<b>Summative (Assessments of learning)</b>	Projects Classroom Discussion
<b>Learning Activities</b>	Typetastic.com Typing.com Parts of the Computer drag and drop
<b>Materials/Equipment/Resources</b>	Internet, Computer, CommonSense Media
<b>New Jersey Student Learning Standards</b>	
<b>Standard</b>	<b>Performance Expectation</b>

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 17 of 30



8.1.5.CS.1	Model how computing devices connect to other components to form a system.
8.1.5.CS.2	Model how computer software and hardware work together as a system to accomplish tasks
8.1.5.CS.3	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
8.1.5.IC.1	Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.
8.1.5.IC.2	Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.
8.1.5.DA.2	Compare the amount of storage space required for different types of data
8.2.5.NT.1	Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem.
8.2.5.NT.2	Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries, and societies.

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 18 of 30



## Modifications and Accommodations

### *Basic Skills, Special Education, ELL, 504, Students at Risk for Failure*

- Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.
- Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).
- Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).
- Engage students with a variety of communication practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.
- Structure the learning around explaining or solving a social or community-based issue.
- Provide ELL students with multiple literacy strategies.
- Additional processing time when responding to questions.
- Practice the academic language prior to answering in front of the whole group
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*In all instances, activate and/or build background knowledge, key vocabulary and critical language structures connected to the actual tasks, activities and texts that students will need to be successful and emphasize these points throughout the lessons.*

### *Talented and Gifted Students*

- Provide opportunities for students to demonstrate skills in self-directed learning, thinking, research, and communication.
- Expose students to advanced vocabulary which is beyond grade-level.
- Allow students to demonstrate skills in self-directed learning, thinking, research, and communication.
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# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 19 of 30



- Have students form and participate in a Socratic Seminar or Literature Circles in groups of 6–10 students to share ideas.
- Intentionally move the cognitive process higher in response to the characteristics of the gifted/advanced learners.
- Add depth and complexity to content and tasks demands.
- Create situations in which students must generate and defend ideas.
- Develop opportunities for students to access and apply information through the generation of ideas.
- To nurture creativity, instruct students on the difference between typical responses and responses that are novel and original.
- Provide regular opportunities for students to respond creatively.
- Allow students to search the Internet or other sources to write a summary report about a topic.

## END OF UNIT

<b>Unit Title: Google Apps/Research</b>		<b>Timeframe: 12 days</b>
<b>Unit Summary</b>	<b>Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.</b>	
<b>Learning Targets</b>		
<b>Essential Questions</b>	<b>How can I find the information I need quickly? How do I know the information I found is good and reliable? How do I organize the information I find when I search online? What is the best digital tool to use to help me solve a problem? How does a computer function to solve problems?</b>	

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 20 of 30



<b>What Students Will Be Able to Do By the End of the Unit</b>	<ul style="list-style-type: none"> <li>-plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.</li> <li>-evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources</li> <li>-curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions</li> <li>-select and use digital tools to plan and manage a design process that considers design constraints and calculated risks</li> </ul>
<b>Evidence of Learning</b>	
<b>Formative Assessments (assessments for learning)</b>	Teacher observations Skills mastered checkoff sheet Rubrics Exit Tickets
<b>Summative (Assessments of learning)</b>	Projects Classroom Discussion
<b>Learning Activities</b>	Docs, Slides, Drawings and Sheets - data organization, charts, formatting, inserting pictures, copy and paste Guided research projects
<b>Materials/Equipment/Resources</b>	Internet, Computer, Google Applications
<b>New Jersey Student Learning Standards</b>	



# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 21 of 30



Standard	Performance Expectation
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
8.1.5.DA.3	Organize and present collected data visually to communicate insights gained from different views of the data.
8.1.5.DA.4	Organize and present climate change data visually to highlight relationships or support a claim.
8.2.5.ITH.2	Evaluate how well a new tool has met its intended purpose and identify any shortcomings it might have.
8.2.5.ITH.3	Analyze the effectiveness of a new product or system and identify the positive and/or negative consequences resulting from its use.
8.2.5.ITH.4	Describe a technology/tool that has made the way people live easier or has led to a new business or career.
8.2.5.ED.1	Explain the functions of a system and its subsystems.
<b>Modifications and Accommodations</b>	
<i>Basic Skills, Special Education, ELL, 504, Students at Risk for Failure</i> <ul style="list-style-type: none"><li>• Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.</li><li>• Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).</li></ul>	

## ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 22 of 30



- Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).
- Engage students with a variety of communication practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.
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- Create situations in which students must generate and defend ideas.
- Develop opportunities for students to access and apply information through the generation of ideas.
- To nurture creativity, instruct students on the difference between typical responses and responses that are novel and original.
- Provide regular opportunities for students to respond creatively.

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 23 of 30**



- Allow students to search the Internet or other sources to write a summary report about a topic.

**END OF UNIT**

<b>Unit Title: Coding &amp; Robotics</b>		<b>Timeframe: 6 days</b>
<b>Unit Summary</b>	<b>Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.</b>	
<b>Learning Targets</b>		
<b>Essential Questions</b>	<b>How does a computer function to solve problems?</b> <b>How can I use technology to save myself time when I am learning something new?</b>	
<b>What Students Will Be Able to Do By the End of the Unit</b>	-formulate problem definitions suited for technology assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. -understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.	
<b>Evidence of Learning</b>		
<b>Formative Assessments (assessments for learning)</b>	Teacher observations Skills mastered checkoff sheet Rubrics Exit Tickets	

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 24 of 30



<b>Summative (Assessments of learning)</b>	Projects Classroom Discussion
<b>Learning Activities</b>	Dash Robot Kodeable.org Code.org activities Scratch coding games
<b>Materials/Equipment/Resources</b>	Computers, code.org, Scratch, CS First, robots, apps to code robots
<b>New Jersey Student Learning Standards</b>	
<b>Standard</b>	<b>Performance Expectation</b>
8.1.5.NI.1	Develop models that successfully transmit and receive information using both wired and wireless methods.
8.1.5.DA.5	Propose cause and effect relationships, predict outcomes, or communicate ideas using data.
8.1.5.AP.1	Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
8.1.5.AP.2	Create programs that use clearly named variables to store and modify data.
8.1.5.AP.3	Create programs that include sequences, events, loops, and conditionals.

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 25 of 30



8.1.5.AP.4	Break down problems into smaller, manageable sub-problems to facilitate program development.
8.1.5.AP.5	Modify, remix, or incorporate pieces of existing programs into one's own work to add additional features or create a new program.
8.1.5.AP.6	Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.
<b>Modifications and Accommodations</b>	
<p><b><i>Basic Skills, Special Education, ELL, 504, Students at Risk for Failure</i></b></p> <ul style="list-style-type: none"><li>● Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.</li><li>● Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).</li><li>● Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).</li><li>● Engage students with a variety of communication practices to provide students with multiple entry points and multiple ways to demonstrate their understandings.</li><li>● Structure the learning around explaining or solving a social or community-based issue.</li><li>● Provide ELL students with multiple literacy strategies.</li><li>● Additional processing time when responding to questions.</li><li>● Practice the academic language prior to answering in front of the whole group</li><li>● Incorporate effective strategies that build academic language (Turn and Talk, Think/Pair/Share and Small group activities)</li><li>● Consistently use dictionaries (picture, bilingual, English, personal) across all levels of proficiency.</li></ul>	

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 26 of 30



*In all instances, activate and/or build background knowledge, key vocabulary and critical language structures connected to the actual tasks, activities and texts that students will need to be successful and emphasize these points throughout the lessons.*

### *Talented and Gifted Students*

- Provide opportunities for students to demonstrate skills in self-directed learning, thinking, research, and communication.
- Expose students to advanced vocabulary which is beyond grade-level.
- Allow students to demonstrate skills in self-directed learning, thinking, research, and communication.
- Utilize advanced, above grade-level texts in reading assignments.
- Have students form and participate in a Socratic Seminar or Literature Circles in groups of 6–10 students to share ideas.
- Intentionally move the cognitive process higher in response to the characteristics of the gifted/advanced learners.
- Add depth and complexity to content and tasks demands.
- Create situations in which students must generate and defend ideas.
- Develop opportunities for students to access and apply information through the generation of ideas.
- To nurture creativity, instruct students on the difference between typical responses and responses that are novel and original.
- Provide regular opportunities for students to respond creatively.
- Allow students to search the Internet or other sources to write a summary report about a topic.

## **END OF UNIT**

<b>Unit Title:STEAM</b>		<b>Timeframe: 10 days</b>
<b>Unit Summary</b>	<b>Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.</b>	

**ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN**

**Grade and Subject: Grades 3-5**

**Updated: October 2022**

**Collaborators: Shari Rupertus**

**BOE Approval Date:**

**Page 27 of 30**



Learning Targets	
<b>Essential Questions</b>	<p><b>How do I solve problems?</b>  <b>What steps can I take to solve a complex problem that seems to have many solutions?</b>  <b>What do I do when I am having trouble finding the solution to a problem?</b></p>
<b>What Students Will Be Able to Do By the End of the Unit</b>	<p>-know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts solving authentic problems.                      -develop, test and refine prototypes as part of a cyclical design process                      -exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems</p>
Evidence of Learning	
<b>Formative Assessments (assessments for learning)</b>	<p>Teacher observations                      Skills mastered checkoff sheet                      Rubrics                      Exit Tickets</p>
<b>Summative (Assessments of learning)</b>	<p>Projects                      Classroom Discussion</p>
<b>Learning Activities</b>	<p>3D printing                      Green Screen manipulation                      “Free Fred” challenge                      Building with materials to create “tallest”, “longest”, “strongest” structures                      Makerspace cart builds</p>

# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 28 of 30



Materials/Equipment/ Resources	Building tools, computers
New Jersey Student Learning Standards	
Standard	Performance Expectation
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
8.2.5.ED.3	Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.
8.2.5.ED.4	Explain factors that influence the development and function of products and systems (e.g., resources, criteria, desired features, constraints).
8.2.5.ED.5	Describe how specifications and limitations impact the engineering design process.
8.2.5.ED.6	Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process.
8.2.5.NT.3	Redesign an existing product for a different purpose in a collaborative team.
8.2.5.NT.4	Identify how improvement in the understanding of materials science impacts technologies



# ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 29 of 30



8.2.5.ETW.1	Describe how resources such as material, energy, information, time, tools, people, and capital are used in products or systems.
8.2.5.ETW.2	Describe ways that various technologies are used to reduce improper use of resources.
8.2.5.ETW.3	Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.
8.2.5.ETW.4	Explain the impact that resources, such as energy and materials used to develop technology, have on the environment.
8.2.5.ETW.5	Identify the impact of a specific technology on the environment and determine what can be done to increase positive effects and to reduce any negative effects, such as climate change

### **Modifications and Accommodations**

#### ***Basic Skills, Special Education, ELL, 504, Students at Risk for Failure***

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## ALLOWAY TOWNSHIP SCHOOL - CURRICULUM PLAN

Grade and Subject: Grades 3-5

Updated: October 2022

Collaborators: Shari Rupertus

BOE Approval Date:

Page 30 of 30



- Additional processing time when responding to questions.
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**END OF UNIT**