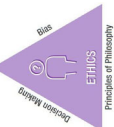


Ethics

	Before K	K-2	3-5	6-8	9-12
 <p>Principles of Philosophy</p>	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Identify and follow rules of the classroom community and display appropriate social behavior. -Follow simple routines and rules provided by adults. 	<p>Students in K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Recognize that others have different perspectives. -Understand the benefits of considering different points of view/opinions. -Demonstrate the importance of acting with empathy and integrity. 	<p>Students in 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Learn how to recognize others opinions and understand the sources of their perspective. -Develop an argument from differing perspectives on the same AI theme/issue. -Understand simple ethical models. 	<p>Students in 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Understand the basic foundations of ethical thinking and philosophy, including social contracts and social norms. -Experience argumentative writing and persuasive speaking in critical AI themes/issues. 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate an understanding of basic philosophical principles and their interaction in the real world (Utilitarianism vs. Kantianism, etc.). -Experience applying various philosophical perspectives in critical AI themes/issues. <ul style="list-style-type: none"> • Acknowledge, empathize, and understand multiple perspectives at once. • Explore and discuss moral and philosophical decision-making for a variety of case studies.
<p>Bias</p>	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Understand that people have different feelings towards similar things. 	<p>Students in K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Recognize that individuals may have different opinions and preferences (e.g.cheese vs. pepperoni pizza). -Appreciate the value of differing opinions and preferences. 	<p>Students in 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Recognize that personal opinions can impact decision making and lead to personal bias (e.g. I only like the color blue, so I tend to only buy blue presents for other people). -Understand how personal opinions can shape how we see things in the world (i.e. through social media, in the news, etc.). 	<p>Students in 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Recognize how bias impacts the decisions made in the field of AI. -Analyze personal bias and how this impacts personal decision making. -Understand how bias impacts one's decisions and shapes one's perceptions of events and the world. 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Recognize different types of bias (e.g. information bias, confirmation bias, technical bias) and identify contributing factors to bias. -Recognize how bias impacts one's decisions and recommend actions to identify biases and account for them. -Identify real world examples of bias and design potential solutions to mitigate it (e.g. data use, algorithms, privacy, perception, representation).
<p>Decision Making</p>	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Demonstrate initiative and self-direction. -Independently select materials and utilize those materials. -Make choices and complete some independent activities. 	<p>Students in K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Understand how and why decisions are made. -Understand how opinions contribute to decision-making. -Learn that decisions lead to results. 	<p>Students in 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Explore a variety of decision-making processes. -Recognize factors that influence individual decision-making including: <ul style="list-style-type: none"> • Data and information sources. • Empathy and bias. • Personal and family experience. -Evaluate the results of decisions. 	<p>Students in 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Apply a variety of decision-making processes as an individual and in a team. -Recognize factors that influence individual and group decision-making including: <ul style="list-style-type: none"> • Data and information sources. • Team dynamics and structures. • Team member diversity. • Personal identity. -Evaluate the future impacts decisions. 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Select and apply various decision-making processes based on desired outcomes as an individual and in a team. -Recognize factors that influence decision-making including: <ul style="list-style-type: none"> • Ethical considerations in influencing the decision-making of others (e.g. just because I can convince you, should I?). • Processes for making decisions. -Understand what metacognition is and its role in decision making. -Evaluate the role of prior decisions and precedent on future decision-making.

Applied Experiences

Before K

K-2

3-5

6-8

9-12

Students birth to 5 years old will be able to:
 -Explore the uses of technology and understand its role in the environment.

Students in the K-2nd grades will be able to:
 -Explore the use of advanced technologies (e.g. robotics, AI, computers) and the role they play in solving problems.
 -Build and program advanced technological tools (i.e. robots, beebots, etc.) to solve pre-identified problems.
 -Participate in advanced technologies through various extracurriculars (e.g. First LEGO Challenge Robotics (Block), Science & Innovation Fair , Drone Racing Team, S.W.A.T. = Students with advanced technology, AI School Night/ Family Night)

Students in the 3rd-5th grades will be able to:
 -Investigate, design, program, and test advanced technological tools (e.g. simple robots, drones, apps) to solve pre-identified problems.
 -Participate in advanced technologies through various extracurriculars (e.g. First LEGO Challenge Robotics (Block), Science & Innovation Fair , Drone Racing Team, S.W.A.T. = Students with advanced technology, AI School Night/ Family Night).

Students in the 6th-8th grades will be able to:
 -Investigate, design, program, and test advanced technological tools (e.g. robotic systems, drones, apps) to solve real-world problems.
 -Participate in advanced technologies through various extracurriculars (e.g. First LEGO Challenge Robotics (Block/Python), Vex Robotics (Robot C), Science & Innovation Fair, Drone Racing Team).

Students in the 9th-12th grades will be able to:
 -Design, program, manufacture, and test advanced technological tools (e.g. assemble an embedded or robotic system, drones, apps) to solve real-world problems.
 -Apply their understanding of advanced technologies through various extracurriculars (e.g. First Robotics (Java; C++), Vex Robotics (Robot C), Science & Innovation Fair).

Students birth to 5 years old will be able to:
 -Recognize and name the feelings of others.
 -Show emerging empathy for others by attempting to comfort and help.

Students in the K-2nd grades will be able to:
 -Develop solutions that take into consideration the needs of others.

Students in the 3rd-5th grades will be able to:
 -Develop solutions that consider a user's:
 • Needs
 • Potential response to the solution
 • Potential behaviors following use

Students in the 6th-8th grades will be able to:
 -Develop solutions that consider a user's:
 • Needs
 • Belief system and preconceptions
 • Potential response to the solution
 • Potential behaviors following use

Students in the 9th-12th grades will be able to:
 -Develop solutions that consider a user's:
 • Needs
 • Belief system and preconceptions
 • Potential physical and emotional responses to the solution
 • Probable interactions with the solution
 -Consider the impacts of preconceptions and bias in designing a solution on the end user's experience.

Students birth to 5 years old will be able to:
 -Explore how technologies respond and interact with them.

Students in the K-2nd grades will be able to:
 -Observe and interact with basic applications of machine learning technology (e.g. image recognition, speech recognition).

Students in the 3rd-5th grades will be able to:
 -Observe and interact with applications of machine learning technology (e.g. image recognition, speech recognition).
 -Test basic machine learning tools that aim to solve relevant problems.

Students in the 6th-8th grades will be able to:
 -Use and interact with machine learning technologies (e.g. programs/apps related image and speech recognition, text filtering)
 -Design, build, and test basic machine learning algorithms and programs to solve predetermined problems.

Students in the 9th-12th grades will be able to:
 -Use, understand, and develop applications of machine learning technology (e.g. programs/apps related image recognition, speech recognition, text filtering).
 -Design, build, and test complex machine learning algorithms and programs to solve real-world problems.



Robotics
 (Applied Computing)

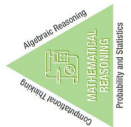
User Experience (UX)

Machine Learning

Creative Problem Solving

	Before K	K-2	3-5	6-8	9-12
Design Thinking	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Demonstrate interest and curiosity. -Sustain attention to a task by engaging in and continuing the task for a period of time. -Show emerging empathy for others by attempting to comfort and help. 	<p>Students in K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate natural curiosity, persistence, and wonder. -Engage in empathy, with prompting and support (e.g. recognizing and considering others' perspectives and experiences, asking questions to gain another perspective, and learning how a solution may impact people differently). -Ideate with peers using brainstorming best practices. -Create physical models that show their ideas in practice. 	<p>Students in 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate curiosity, persistence, and wonder for solving problems. -Engage in active empathy processes including perspective taking, interviews, etc. -Recognize the steps of the design thinking process and have practiced conducting each step of the process. -Utilize design thinking to solve problems or conduct projects in class. -Find multiple pathways to a solution and alternative solutions to problems within multiple subject areas and a <i>culminating 5th grade design capstone</i>. 	<p>Students in 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate curiosity, persistence, and wonder for solving problems. -Use the design thinking process and have multiple opportunities to use it within coursework and extracurricular activities. -Demonstrate the design mindsets within their classroom and extracurriculars. -Find problems that they are passionate about and to develop novel solutions to relevant problems that they have identified within multiple subject areas and a <i>culminating 8th grade design capstone</i>. 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate curiosity, persistence, and wonder for solving problems. -Explain, utilize, and lead the design thinking process and mindsets. -Develop their own creative design capacity by applying the design thinking process and mindsets to solve problems within multiple subject areas and/or a <i>culminating high school design capstone</i>.
Creativity	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Use familiar and new strategies to solve a problem. -Find a creative, inventive way of doing a familiar task or solving a problem. 	<p>Students in K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Understand and experience the value in unsuccessful solutions. -Collaborate with peers on creative projects, and understand that different ideas are important. -Use a variety of tools and processes to create new, impactful, and imaginative solutions. 	<p>Students in 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate a basic understanding of the role of creativity and failing forward within problem solving processes. -Collaborate with peers on creative projects, and understand that different ideas are important. -Experience solving problems in limited resource environments. -Use a variety of tools and processes to create new, impactful, and imaginative solutions. 	<p>Students in 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate an understanding of the importance of creativity and failing forward within problem solving processes. -Explain the concepts of divergent and convergent thinking, what are their uses in terms of creativity, and how they can be leveraged to solve problems. -Experience solving problems in limited resource environments. -Use a variety of tools and collaborative processes to create new, impactful, and imaginative solutions. 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate the importance of creativity and failing forward within problem solving processes. -Apply divergent and convergent thinking tools to develop creative solutions. -Exercise their own creative capacity and express their creativity to create positive change (e.g. use storytelling to persuade an audience or communicate a claim). -Use a variety of tools and collaborative processes to create new, impactful, and imaginative solutions.
Collaborative Leadership	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Demonstrate a cooperative and flexible approach to play and learning. -Plan, initiate, and complete cooperative tasks. 	<p>Students in K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Begin demonstrating a cooperative and flexible approach to collaborating with others. -Recognize the importance of teamwork and utilize it to achieve a desired outcome. -Listen to and acknowledge different ideas from others. 	<p>Students in 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate a cooperative and flexible approach to collaborating with others. -Participate on a collaborative team that is working towards the completion of a task. -Listen to and acknowledge different ideas from others. 	<p>Students in 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate a cooperative and flexible approach to collaborating with others. -Participate on a collaborative team that is working towards the completion of a task. -Understand the characteristics of positive leaders and techniques for managing teams. 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Demonstrate a cooperative and flexible approach to collaborating with others. -Lead and support a collaborative team towards the completion of a task. -Understand different leadership and management techniques and styles, including what leadership moves help in particular circumstances. -Participate in existing GCPS student leadership groups.

Mathematical Reasoning				
Before K	K-2	3-5	6-8	9-12
<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Pattern Recognition: Identify basic patterns and extend them. (Pattern Recognition) -Follow simple rules or instructions to complete a task. (Algorithm) 	<p>Students in the K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Break a basic problem or task down into smaller parts. (Decomposition) -Identify patterns in the real world with pictures, objects, and numbers. (Pattern Recognition) -Make sense of a problem, understanding what is happening in a problem before they solve it (Abstraction) -Identify and find relationships between different operations and processes (Generalization) -Create and debug a simple algorithm to solve a problem. (Algorithm) 	<p>Students in the 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Break a basic problem, task, or process down into smaller parts. (Decomposition) -Identify and sort patterns in the real world and with numbers. (Pattern Recognition) -Determine the operation of a problem before solving (e.g. how do I know how to approach the problem). (Abstraction) -Identify and find relationships between different operations and processes (Generalization) -Create and debug a standard or basic multi-step algorithm to efficiently solve a problem. (Algorithm) 	<p>Students in the 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Break a large problem, task, or process down into smaller parts. (Decomposition) -Identify, classify, extend, and replicate patterns in multiple forms of data. (Pattern Recognition) -Recognize the critical and extraneous information in a predetermined problem. (Abstraction) -Adapt reasoning, processes, and solutions from prior and/or applicable problems to solve new ones. (Generalization) -Create and debug a multi-step algorithm to efficiently solve a problem (Algorithm) 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Break a complex or abstract problem, task, or process down into smaller parts. (Decomposition) -Classify, extend, and replicate complex and abstract patterns in multiple forms of data. (Pattern Recognition) -Recognize the critical and extraneous information in a real world problem. (Abstraction) -Apply and adapt known solutions to novel challenges/problems. (Generalization) -Create and debug a complex multi-step algorithm to efficiently solve a problem (Algorithm)
<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Begin reasoning quantitatively (i.e. less than, more than, larger, smaller). -Use reasoning skills to determine the solution to a mathematical problem and communicate why. 	<p>Students in the K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Reason quantitatively (i.e. less than, more than, larger, smaller), (Number Sense) -Recognize and describe the relationship between two or more numbers or unknown quantities. (Variable Relationships) 	<p>Students in the 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Reason quantitatively and analytically by exploring the properties and relationships of numbers. (Number Sense) -Recognize, describe and predict the relationship between two or more numbers or unknown quantities. (Variable Relationships) 	<p>Students in the 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Reason quantitatively and analytically by exploring the properties and relationships of numbers and by exploring equality as a relationship between quantities. (Number Sense) -Interpret and analyze the structure of mathematical relationships and create complex mathematical models. (Variable Relationships) -Make conjectures (a prediction based on limited evidence) about the properties of numbers and operations. Predict, justify, and prove conjectures using algebraic generalizations. (Predictions) 	<p>Students in the 9th-12th grades will be able to:</p> <ul style="list-style-type: none"> -Reason quantitatively and analytically by applying the properties and relationships of numbers and by exploring equality as a relationship between quantities. (Number Sense) -Interpret and analyze the structure of mathematical relationships and create complex mathematical models. (Variable Relationships) -Make conjectures(a prediction based on limited evidence) about the properties of numbers and operations. Predict, justify, and prove conjectures using algebraic generalizations. (Predictions)
<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Describe data from classroom graphs using numerical math language. 	<p>Students in the K-2nd grades will be able to:</p> <ul style="list-style-type: none"> -Use early statistical thinking to analyze data and make decisions. 	<p>Students in the 3rd-5th grades will be able to:</p> <ul style="list-style-type: none"> -Use early statistical thinking to analyze data to make decisions. -Use data to highlight or propose cause-and-effect relationships, predict outcomes, support a claim or communicate an idea. 	<p>Students in the 6th-8th grades will be able to:</p> <ul style="list-style-type: none"> -Accurately understand and interpret data to make sense of a problem and synthesize data based on statistical displays. -Collect, represent and interpret statistical data and identify appropriate statistical formulas for analyzing a data set. -Communicate statistical reasoning and results to others in a variety of formats (verbal, pictorial, graphical, written). 	<p>Students in the 9th-12th grades will:</p> <ul style="list-style-type: none"> -Accurately understand and interpret large quantities of data to make sense of a problem and synthesize data based on statistical displays. -Collect, represent and interpret statistical data and utilize appropriate statistical formulas for analyzing a data set. -Look for and express regularity in repeated reasoning and communicate complex statistical results to others in a variety of formats and across multiple audiences.



Computational Thinking

Algebraic Reasoning

Probability and Statistics



Data Science

Before K

Students birth to 5 years old will be able to:

- Describe data from classroom graphs using numerical math language.
- Imitate, copy, create, and extend patterns.
- Use clues to make predictions.

K-2

Students in the K-2nd grades will be able to:

- Identify, collect, and organize small sets of data.
- Use data to highlight cause and effect relationships, predict outcomes, support a claim or communicate an idea.

3-5

Students in the 3rd-5th grades will be able to:

- Collect, analyze and organize small quantitative or qualitative data sets to analyze patterns, make predictions, and make decisions.
- Use data to highlight cause and effect relationships, predict outcomes, support a claim or communicate an idea.

6-8

Students in the 6th-8th grades will be able to:

- Collect, analyze, interpret, and find patterns in small quantitative or qualitative data sets using algorithms and pattern analysis.
- Use data collection methods in order to highlight cause and effect relationships, predict outcomes, support a claim or communicate an idea.
- Identify bias that may exist in data collection and develop methods to ensure data is used in valid and reliable ways.

9-12

Students in the 9th-12th grades will be able to:

- Collect, analyze, interpret, and find patterns in large quantitative or qualitative data sets using algorithms and pattern analysis.
- Design reliable data collection methods in order to investigate cause and effect relationships, predict outcomes, support a claim or communicate an idea.
- Identify and correct bias that may exist in data collection and develop methods (e.g. decision trees) to ensure data is used in valid and reliable ways.

Data Analysis

Students birth to 5 years old will be able to:

- Participate in creating simple, real, and pictorial graphs or other simple representations of data.

Students in the K-2nd grades will be able to:

- Read and understand charts, graphs, infographics, and timelines.
- Collect and present data in various traditional and innovative visual formats (i.e. drawings, tables, and charts,).

Students in the 3rd-5th grades will be able to:

- Interpret and represent data sets through the use of traditional and innovative visual formats (i.e. drawings, tables, charts).
- Organize and present data visually to represent relationships and patterns in data.
- Graphically display quantitative and qualitative data for a purpose (i.e. to summarize or communicate an idea).

Students in the 6th-8th grades will be able to:

- Interpret and build traditional and innovative visual models that summarize and communicate qualitative and/or quantitative data, data trends, and data implications across multiple audiences.
- Design data models that support a claim, communicate an idea, or highlight cause and effect relationships.
- Explore various ways that data can be visualized and the impact of such visualizations on perception of the data.

Students in the 9th-12th grades will be able to:

- Interpret and build traditional and innovative visual models that summarize and communicate qualitative and/or quantitative data, data trends, and data implications across multiple audiences and competing claims.
- Design and build reliable data models or algorithms in order to visualize and represent patterns in data, support a claim, or highlight cause and effect relationships.
- Develop data visualizations that account for bias, perceptions, and convey different messages with a single data source.

Modeling and Visualization

Students birth to 5 years old will be able to:

- Describe data using numerical math language.

Students in the K-2nd grades will be able to:

- Understand that data is information and data is collected for a purpose.
- Observe and communicate data that is intended to solve a problem or show evidence of a claim.
- Use programs that require multiple types of data to function appropriately.

Students in the 3rd-5th grades will be able to:

- Understand that data is information and large sets of data are necessary to solve a problem or show evidence of a claim.
- Collect, analyze, and communicate data sets intended to solve a problem or show evidence of a claim.
- Develop algorithms and programs that require different types of data to function appropriately.

Students in the 6th-8th grades will be able to:

- Collect, analyze, and communicate multiple data sets intended to solve a problem, communicate an idea, highlight cause and effect relationships, or show evidence of a claim.
- Develop algorithms that require multiple data sets to function appropriately for the intended purpose.

Students in the 9th-12th grades will be able to:

- Collect, analyze, and communicate multiple data sets that are free of bias and intended to solve a problem, communicate an idea, highlight cause and effect relationships, or show evidence of a claim.
- Develop algorithms that utilize large data sets to function accurately and ethically.

Big Data

Programming

	Before K	K-2	3-5	6-8	9-12
Logical Reasoning	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Interact or experiment with objects to solve a problem. -Try several methods to solve a problem. -Persist in trying to complete a task after previous attempts have failed. 	<p>Students in grades K-2 will be able to:</p> <ul style="list-style-type: none"> -Identify cause and effect (causal) relationships. -Use logical reasoning to investigate potential solutions to a predetermined problem. 	<p>Students in grades 3-5 will be able to:</p> <ul style="list-style-type: none"> -Understand the relationships between inputs and outputs in real world examples and in code. -Use logical reasoning to investigate and design solutions to predetermined real-world problems. 	<p>Students in grades 6-8 will be able to:</p> <ul style="list-style-type: none"> -Identify causal input-output logic chains in real world examples and/or code. -Use logical reasoning to investigate and design solutions to bounded real-world problems. 	<p>Students in grades 9-12 will be able to:</p> <ul style="list-style-type: none"> -Uncover the underlying logic of an input-output chain in real world scenarios and/or code. -Use logical reasoning to identify, investigate, and design solutions to complex problems with consideration of the potential ethical and real-world complications and downstream impacts.
Computer Science	<p>Students birth to 5 years old will be able to:</p> <ul style="list-style-type: none"> -Explore the uses of technology and understand its role in the world. 	<p>Students in grades K-2 will be able to:</p> <ul style="list-style-type: none"> -Identify and describe the function of computer hardware and software. -Identify and explain how information can be shared through the internet. -Understand the foundational principles of internet safety. 	<p>Students in grades 3-5 will be able to:</p> <ul style="list-style-type: none"> -Select a variety of appropriate technology tools to creatively express ideas and solutions to a problem. -Explain how computers process commands and the relationship between hardware (internal and external) and software. -Identify and explain digital citizenship practices to protect personal information. 	<p>Students in grades 6-8 will be able to:</p> <ul style="list-style-type: none"> -Create appropriate digital artifacts to meet a specific need, express ideas, or solve a problem. -Explain the function, troubleshoot, and assemble/disassemble basic components of a computer and a computer network. -Model safe and secure digital citizenship practices to protect personal information. 	<p>Students in grades 9-12 will be able to:</p> <ul style="list-style-type: none"> -Apply computer science skills (e.g. build and manipulate computer components; digital artifacts) to solve complex problems. -Utilize, program, and troubleshoot complex computing systems and networks. -Model relevant and secure digital citizenship decision-making practices across a variety of network uses.
Coding Tools & Languages	<p>Students birth to 5 years old will be familiar with:</p> <p>Unplugged Coding</p> <p>Tactile programming</p>	<p>Students in grades K-2 will be familiar with:</p> <p>Tactile programming</p> <p>Graphic Block Code (e.g. Scratch Jr.)</p> <p>Applied Block Coding Tools:</p> <ul style="list-style-type: none"> • BeeBots • Lego WeDo 2.0 • Connectors • Unplugged Activities 	<p>Students in grades 3-5 will be proficient with:</p> <p>Block Code (e.g. Scratch)</p> <p>Applied Block Coding Tools:</p> <ul style="list-style-type: none"> • LEGO SPIKE Prime • Cubelets • RVR • Dash • Ozobots • Drones • Unplugged Activities <p><i>Note: By the end of 5th grade, students should understand the connection between block code and text-based code.</i></p>	<p>Students in grades 6-8 will transition from block-based programming to be proficient users of:</p> <p>-Program Language (e.g. Python)</p> <p>-Applied Programming Tools:</p> <ul style="list-style-type: none"> • micro:bit kits • Raspberry Pi kits • Robotics equipment & components • Drones • Sensors • Unplugged Activities 	<p>Students in grades 9-12 will apply computational thinking and programming skills relevant to their pathway to be proficient users of:</p> <p>-Program Language(s) like:</p> <ul style="list-style-type: none"> • Python • Java • C# <p>-Applied Programming Tools</p> <ul style="list-style-type: none"> • TensorFlow • Jupyter Notebooks • Kaggle • Raspberry Pi • Robotics equipment & components • Sensors • Proprietary coding packages