Wonder League Robotics Competition 2018-2019:
Standards Correlations

Ages 6–8

Mission I: Stargazing Seeker **(Ages 6–8)**	**CSTA** 1A-CS-01: Select and operate appropriate software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use. 1A-AP-08: Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks. 1A-AP-10: Develop programs with sequences and simple loops, to express ideas or address a problem. 1A-AP-11: Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions. 1A-AP-12: Develop plans that describe a program's sequence of events, goals, and expected outcomes. 1A-AP-14: Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. 1A-AP-15: Using correct terminology, describe steps taken and choices made during the iterative process of program development.
	Common Core CCSS.ELA-Literacy.SL.K.1: Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.SL.1.1: Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.RI.K.10: Actively engage in group reading activities with purpose and understanding. CCSS.ELA-Literacy.RI.1.10: With prompting and support, read informational texts appropriately complex for grade 1. CCSS.ELA-Literacy.RI.2.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.W.K.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

	CCSS.ELA-Literacy.W.1.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.2.8: Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.2.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.K.7: Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). CCSS.ELA-Literacy.W.1.7: Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.Math.Content.K.CC.A.2: Count forward beginning from a given number within the known sequence (instead of having to begin at 1). CCSS.Math.Content.2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

	6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS N/A
Mission II: Waterlogged Ruins **(Ages 6–8)**	**CSTA** 1A-CS-01: Select and operate appropriate software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use. 1A-AP-08: Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks. 1A-AP-09: Model the way programs store and manipulate data by using numbers or other symbols to represent information. 1A-AP-10: Develop programs with sequences and simple loops, to express ideas or address a problem. 1A-AP-11: Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions. 1A-AP-12: Develop plans that describe a program's sequence of events, goals, and expected outcomes. 1A-AP-14: Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. 1A-AP-15: Using correct terminology, describe steps taken and choices made during the iterative process of program development.
	Common Core CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about *grade 2 topics* and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.RI.2.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).

	CCSS.ELA-Literacy.W.2.8 Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.W.K.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.2.8: Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.2.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.K.7: Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). CCSS.ELA-Literacy.W.1.7: Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.Math.Content.2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

	4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS N/A
Mission III: Currents Conundrum (Ages 6–8)	**CSTA** 1A-CS-01: Select and operate appropriate software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use. 1A-AP-08: Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks. 1A-AP-10: Develop programs with sequences and simple loops, to express ideas or address a problem. 1A-AP-11: Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions. 1A-AP-12: Develop plans that describe a program's sequence of events, goals, and expected outcomes. 1A-AP-14: Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. 1A-AP-15: Using correct terminology, describe steps taken and choices made during the iterative process of program development.
	Common Core CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about *grade 2 topics* and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.RI.2.10: By the end of year, read and comprehend informational texts, including

	history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.ELA-Literacy.W.2.8 Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.W.K.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.2.8: Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.2.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.K.7: Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). CCSS.ELA-Literacy.W.1.7: Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.Math.Content.2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to

	choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4c: Students develop, test and refine prototypes as part of a cyclical design process. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS K-2-ETS1-2 Engineering Design: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. K-2-ETS1-3 Engineering Design: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Mission IV: Reverse Rescue **(Ages 6–8)**	**CSTA** 1A-CS-01: Select and operate appropriate software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use. 1A-AP-08: Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks. 1A-AP-10: Develop programs with sequences and simple loops, to express ideas or address a problem. 1A-AP-11: Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.

	1A-AP-12: Develop plans that describe a program's sequence of events, goals, and expected outcomes. 1A-AP-14: Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. 1A-AP-15: Using correct terminology, describe steps taken and choices made during the iterative process of program development. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-12: Modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features.
	Common Core CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about *grade 2 topics* and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.RI.2.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.ELA-Literacy.W.2.8 Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.W.K.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.2.8: Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.2.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.K.7: Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them).

	CCSS.ELA-Literacy.W.1.7: Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.Math.Content.2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS N/A

Mission V: Deep Blue Discovery (Ages 6–8)	**CSTA** 1A-CS-01: Select and operate appropriate software to perform a variety of tasks, and recognize that users have different needs and preferences for the technology they use. 1A-AP-08: Model daily processes by creating and following algorithms (sets of step-by-step instructions) to complete tasks. 1A-AP-10: Develop programs with sequences and simple loops, to express ideas or address a problem. 1A-AP-11: Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions. 1A-AP-12: Develop plans that describe a program's sequence of events, goals, and expected outcomes. 1A-AP-14: Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops. 1A-AP-15: Using correct terminology, describe steps taken and choices made during the iterative process of program development.
	Common Core CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about *grade 2 topics* and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.RI.2.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2-3 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.ELA-Literacy.W.2.8 Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.SL.2.1: Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. CCSS.ELA-Literacy.W.K.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.8: With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.2.8: Recall information from experiences or gather information from provided sources to answer a question. CCSS.ELA-Literacy.W.1.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.

	CCSS.ELA-Literacy.W.2.6: With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers. CCSS.ELA-Literacy.W.K.7: Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). CCSS.ELA-Literacy.W.1.7: Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions). CCSS.ELA-Literacy.W.2.7: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations). CCSS.ELA-Literacy.W.2.1: Write opinion pieces in which they introduce the topic or book they are writing about, state an opinion, supply reasons that support the opinion, use linking words (e.g., *because*, *and*, *also*) to connect opinion and reasons, and provide a concluding statement or section. CCSS.Math.Content.3.MD.D.8: Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. CCSS.Math.Content.2.MD.A.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4c: Students develop, test and refine prototypes as part of a cyclical design process. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or

	communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS K-2-ETS1-2 Engineering Design: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. K-2-ETS1-3 Engineering Design: Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Ages 9–11	
Mission I: Stargazing Seeker (Ages 9–11)	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-15: Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-11: Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
	Common Core CCSS.ELA-Literacy.SL.3.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.4.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.RI.3.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently. CCSS.ELA-Literacy.RI.4.10: By the end of year, read and comprehend informational texts, including

	history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.RI.5.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently. CCSS.ELA-Literacy.W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.4.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.3.7: Conduct short research projects that build knowledge about a topic. CCSS.ELA-Literacy.W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.W.3.8: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. CCSS.ELA-Literacy.W.4.8: Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. CCSS.ELA-Literacy.W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. CCSS.Math.Content.4.MD.C.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: CCSS.Math.Content.4.MD.C.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. CCSS.Math.Content.4.MD.C.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.

	1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS 3-5-ETS1-2 Engineering Design: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Engineering Design: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Mission II: Waterlogged Ruins **(Ages 9–11)**	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-15: Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.

	1B-AP-11: Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
	Common Core CCSS.ELA-Literacy.SL.3.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.4.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.RI.3.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently. CCSS.ELA-Literacy.RI.4.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.RI.5.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently. CCSS.ELA-Literacy.W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.4.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.3.7: Conduct short research projects that build knowledge about a topic. CCSS.ELA-Literacy.W.4.7: Conduct short research projects that build knowledge through investigation of

	different aspects of a topic. CCSS.ELA-Literacy.W.3.8: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. CCSS.ELA-Literacy.W.4.8: Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. CCSS.ELA-Literacy.W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. CCSS.Math.Content.4.MD.C.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: CCSS.Math.Content.4.MD.C.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. CCSS.Math.Content.4.MD.C.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital

	objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS 3-5-ETS1-2 Engineering Design: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Engineering Design: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Mission III: Currents Conundrum (Ages 9–11)	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-15: Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-11: Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
	Common Core CCSS.ELA-Literacy.SL.3.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.4.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4* topics and texts, building on others' ideas and expressing their own clearly.

	CCSS.ELA-Literacy.SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.RI.3.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently. CCSS.ELA-Literacy.RI.4.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.RI.5.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently. CCSS.ELA-Literacy.W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.4.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.3.7: Conduct short research projects that build knowledge about a topic. CCSS.ELA-Literacy.W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.W.3.8: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. CCSS.ELA-Literacy.W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. CCSS.ELA-Literacy.W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. CCSS.Math.Content.4.MD.C.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: CCSS.Math.Content.4.MD.C.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

	CCSS.Math.Content.4.MD.C.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4c: Students develop, test and refine prototypes as part of a cyclical design process. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS K-2-ETS1-2 Engineering Design: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. 3-5-ETS1-2 Engineering Design: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

	3-5-ETS1-3 Engineering Design: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Mission IV: Reverse Rescue (Ages 9–11)	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-15: Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-11: Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. 1B-AP-12: Modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
	Common Core CCSS.ELA-Literacy.SL.3.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 3* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.4.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 4* topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.5.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grade 5* topics and texts, building on others' ideas and expressing their own clearly.

	CCSS.ELA-Literacy.RI.3.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently. CCSS.ELA-Literacy.RI.4.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.RI.5.10: By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4-5 text complexity band independently and proficiently. CCSS.ELA-Literacy.W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.4.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.3.7: Conduct short research projects that build knowledge about a topic. CCSS.ELA-Literacy.W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.W.3.8: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. CCSS.ELA-Literacy.W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. CCSS.ELA-Literacy.W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. CCSS.Math.Content.4.MD.C.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement:

	CCSS.Math.Content.4.MD.C.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. CCSS.Math.Content.4.MD.C.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS 3-5-ETS1-2 Engineering Design: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Engineering Design: Plan and carry out fair tests in which variables are controlled and failure

	points are considered to identify aspects of a model or prototype that can be improved.

Mission V: Deep Blue Discovery (Ages 9–11)	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-15: Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-11: Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.
	Common Core CCSS.ELA-Literacy.SL.4.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.4.4: Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace. CCSS.ELA-Literacy.RI.4.10: By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4-5 text complexity band proficiently, with scaffolding as needed at the high end of the range. CCSS.ELA-Literacy.W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.4.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

	CCSS.ELA-Literacy.W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly. CCSS.ELA-Literacy.W.3.7: Conduct short research projects that build knowledge about a topic. CCSS.ELA-Literacy.W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic. CCSS.ELA-Literacy.W.3.8: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. CCSS.ELA-Literacy.W.4.8: Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. CCSS.ELA-Literacy.W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources. CCSS.Math.Content.4.MD.C.5: Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: CCSS.Math.Content.4.MD.C.6: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. CCSS.Math.Content.4.MD.C.7: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
	1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4c: Students develop, test and refine prototypes as part of a cyclical design process.

	4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS K-2-ETS1-2 Engineering Design: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. 3-5-ETS1-2 Engineering Design: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. 3-5-ETS1-3 Engineering Design: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Ages 12-14	
Mission I: Stargazing Seeker **(Ages 12–14)**	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.

	1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 2-AP-13: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. 2-AP-14: Create procedures with parameters to organize code and make it easier to reuse. 2-AP-17: Systematically test and refine programs using a range of test cases.
	Common Core CCSS.ELA-LITERACY.RST.6-8.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. CCSS.ELA-LITERACY.RST.6-8.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics. CCSS.ELA-Literacy.SL.6.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.7.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.8.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.W.6.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.6.6: Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. CCSS.ELA-Literacy.W.7.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.7.6: Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources. CCSS.ELA-Literacy.W.8.2: Write informative/explanatory texts to examine a topic and convey ideas,

	concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.8.6: Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others. CCSS.Math.Content.7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS MS-ETS1-2 Engineering Design: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

	MS-ETS1-3 Engineering Design: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

Mission II: Waterlogged Ruins (Ages 12–14)	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 2-AP-13: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. 2-AP-14: Create procedures with parameters to organize code and make it easier to reuse. 2-AP-17: Systematically test and refine programs using a range of test cases.
	Common Core CCSS.ELA-LITERACY.RST.6-8.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. CCSS.ELA-LITERACY.RST.6-8.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics. CCSS.ELA-Literacy.SL.6.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.7.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups,

	and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.8.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.W.6.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.6.6: Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. CCSS.ELA-Literacy.W.7.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.7.6: Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources. CCSS.ELA-Literacy.W.8.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.8.6: Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others. CCSS.Math.Content.7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

	5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS MS-ETS1-2 Engineering Design: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. MS-ETS1-3 Engineering Design: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

Mission III: Currents Conundrum **(Ages 12–14)**	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate.

	2-AP-12: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 2-AP-13: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. 2-AP-14: Create procedures with parameters to organize code and make it easier to reuse. 2-AP-17: Systematically test and refine programs using a range of test cases.
	Common Core CCSS.ELA-LITERACY.RST.6-8.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. CCSS.ELA-LITERACY.RST.6-8.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics. CCSS.ELA-Literacy.SL.6.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.7.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.8.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.W.6.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.6.6: Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. CCSS.ELA-Literacy.W.7.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.7.6: Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources. CCSS.ELA-Literacy.W.8.2: Write informative/explanatory texts to examine a topic and convey ideas,

	concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.8.6: Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others. CCSS.ELA-Literacy.SL.6.4: Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.8.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.Math.Content.7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4c: Students develop, test and refine prototypes as part of a cyclical design process. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations.

	6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS MS-ETS1-2 Engineering Design: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. MS-ETS1-3 Engineering Design: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success. MS-ETS1-4 Engineering Design: Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.

Mission IV: Reverse Rescue **(Ages 12–14)**	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 2-AP-12: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals.

	2-AP-13: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. 2-AP-14: Create procedures with parameters to organize code and make it easier to reuse. 2-AP-17: Systematically test and refine programs using a range of test cases.
	Common Core CCSS.ELA-LITERACY.RST.6-8.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. CCSS.ELA-LITERACY.RST.6-8.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics. CCSS.ELA-Literacy.SL.6.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.7.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.8.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.W.6.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.6.6: Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. CCSS.ELA-Literacy.W.7.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.7.6: Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources. CCSS.ELA-Literacy.W.8.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.8.6: Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

	CCSS.ELA-Literacy.SL.6.4: Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.8.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.Math.Content.6.EE.B.8: Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams. CCSS.Math.Content.7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
	ISTE 1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. 1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. 1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. 4a: Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. 4d: Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. 5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. 6a: Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. 6b: Students create original works or responsibly repurpose or remix digital resources into new creations. 6c: Students communicate complex ideas clearly and effectively by creating or using a variety of digital

	objects such as visualizations, models or simulations. 7c: Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
	NGSS MS-ETS1-2 Engineering Design: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. MS-ETS1-3 Engineering Design: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

Mission V: Deep Blue Discovery **(Ages 12–14)**	**CSTA** 1B-IC-20: Seek diverse perspectives for the purpose of improving computational artifacts. 1B-AP-17 Describe choices made during program development using code comments, presentations, and demonstrations. 1B-AP-16: Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. 1B-AP-13: Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences. 1B-AP-10: Create programs that include sequences, events, loops, and conditionals. 1B-AP-08: Compare and refine multiple algorithms for the same task and determine which is the most appropriate. 2-AP-12: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. 2-AP-13: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. 2-AP-14: Create procedures with parameters to organize code and make it easier to reuse. 2-AP-17: Systematically test and refine programs using a range of test cases.

	Common Core CCSS.ELA-LITERACY.RST.6-8.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. CCSS.ELA-LITERACY.RST.6-8.4: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics. CCSS.ELA-Literacy.SL.6.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.7.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.SL.8.1: Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.W.6.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.SL.6.4: Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.8.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.W.6.6: Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting. CCSS.ELA-Literacy.W.7.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.7.6: Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.

	CCSS.ELA-Literacy.W.8.2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. CCSS.ELA-Literacy.W.8.6: Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others. CCSS.ELA-Literacy.SL.6.4: Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.7.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.ELA-Literacy.SL.8.4: Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. CCSS.Math.Content.6.EE.B.8: Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams. CCSS.Math.Content.7.G.B.5: Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.
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