Main Criteria: Forward Education

Secondary Criteria: Alabama Courses of Study, Alaska Content and Performance Standards, Arizona's College and Career Ready Standards, Arkansas Standards, California Content Standards, Colorado Academic Standards (CAS), Connecticut State Standards, Delaware Standards and Instruction, Florida Standards, Georgia Standards of Excellence, Hawaii Content and Performance Standards

Subjects: Mathematics, Science, Technology Education

Grades: 3, 4, Key Stage 1, Key Stage 2

Forward Education

Protecting Pollinators with a Bee Counter

Alabama Courses of Study

Mathematics

Grade **3** - Adopted: **2019/Impl. 2020**

STRAND / DOMAIN		Mathematical Practices
OBJECTIVE / CATEGORY	MP1	Make sense of problems and persevere in solving them.
OBJECTIVE / CATEGORY	MP2	Reason abstractly and quantitatively.
OBJECTIVE / CATEGORY	MP3	Construct viable arguments and critique the reasoning of others.
OBJECTIVE / CATEGORY	MP4	Model with mathematics.
OBJECTIVE / CATEGORY	MP5	Use appropriate tools strategically.

Alabama Courses of Study

Mathematics

Grade **4** - Adopted: **2019/Impl. 2020**

STRAND / DOMAIN		Mathematical Practices
OBJECTIVE / CATEGORY	MP1	Make sense of problems and persevere in solving them.
OBJECTIVE / CATEGORY	MP2	Reason abstractly and quantitatively.
OBJECTIVE / CATEGORY	MP3	Construct viable arguments and critique the reasoning of others.
OBJECTIVE / CATEGORY	MP4	Model with mathematics.
OBJECTIVE / CATEGORY	MP5	Use appropriate tools strategically.

Alabama Courses of Study

Science

Grade **4** - Adopted: **2015**

STRAND / DOMAIN	**AL.4.LS.**	**LIFE SCIENCE**
OBJECTIVE / CATEGORY		**From Molecules to Organisms: Structures and Processes**
STANDARD	4.LS.9.	Examine evidence to support an argument that the internal and external structures of plants (e.g., thorns, leaves, stems, roots, colored petals, xylem, phloem) and animals (e.g., heart, stomach, lung, brain, skin) function to support survival, growth, behavior, and reproduction.

Alabama Courses of Study
Technology Education
Grade **3** - Adopted: **2018**

STRAND / DOMAIN	**AL.DLCS.3.**	**Digital Literacy and Computer Science**
OBJECTIVE / CATEGORY	**3.1.**	**Computational Thinker**
STANDARD		**Abstraction**
RELATED CONTENT / EXPECTATION	3.1.2.	Analyze a given list of sub-problems while addressing a larger problem.

STRAND / DOMAIN	**AL.DLCS.3.**	**Digital Literacy and Computer Science**
OBJECTIVE / CATEGORY	**3.1.**	**Computational Thinker**
STANDARD		**Algorithms**
RELATED CONTENT / EXPECTATION	3.1.3.	Explain that different solutions exist for the same problem or sub-problem.
RELATED CONTENT / EXPECTATION	3.1.5.	Create an algorithm to solve a problem as a collaborative team.

Alabama Courses of Study
Technology Education
Grade **4** - Adopted: **2018**

STRAND / DOMAIN	**AL.DLCS.4.**	**Digital Literacy and Computer Science**
OBJECTIVE / CATEGORY	**4.1.**	**Computational Thinker**
STANDARD		**Abstraction**
RELATED CONTENT / EXPECTATION	4.1.2.	Formulate a list of sub-problems to consider while addressing a larger problem.

STRAND / DOMAIN	**AL.DLCS.4.**	**Digital Literacy and Computer Science**
OBJECTIVE / CATEGORY	**4.1.**	**Computational Thinker**

STANDARD		**Algorithms**
RELATED CONTENT / EXPECTATION	4.1.3.	Show that different solutions exist for the same problem or sub-problem.

STRAND / DOMAIN	**AL.DLCS.4.**	**Digital Literacy and Computer Science**
OBJECTIVE / CATEGORY	**4.1.**	**Computational Thinker**
STANDARD		**Programming and Development**
RELATED CONTENT / EXPECTATION	4.1.7.	Create a working program in a block-based visual programming environment using arithmetic operators, conditionals, and repetition in programs, in collaboration with others.

STRAND / DOMAIN	**AL.DLCS.4.**	**Digital Literacy and Computer Science**
OBJECTIVE / CATEGORY	**4.5.**	**Innovative Designer**
STANDARD		**Design Thinking**
RELATED CONTENT / EXPECTATION	4.5.21.	Develop, test, and refine prototypes as part of a cyclical design process to solve a simple problem.

Alaska Content and Performance Standards

Mathematics

Grade **3** - Adopted: **2012**

PERFORMANCE / CONTENT STANDARD	**AK.MP.**	**Mathematical Practices**
GRADE LEVEL EXPECTATION / STRAND	MP.1.	Make sense of problems and persevere in solving them.
GRADE LEVEL EXPECTATION / STRAND	MP.2.	Reason abstractly and quantitatively.
GRADE LEVEL EXPECTATION / STRAND	MP.3.	Construct viable arguments and critique the reasoning of others.
GRADE LEVEL EXPECTATION / STRAND	MP.4.	Model with mathematics.
GRADE LEVEL EXPECTATION / STRAND	MP.5.	Use appropriate tools strategically.

Alaska Content and Performance Standards

Mathematics

Grade **4** - Adopted: **2012**

PERFORMANCE / CONTENT STANDARD	AK.MP.	Mathematical Practices
GRADE LEVEL EXPECTATION / STRAND	MP.1.	Make sense of problems and persevere in solving them.
GRADE LEVEL EXPECTATION / STRAND	MP.2.	Reason abstractly and quantitatively.
GRADE LEVEL EXPECTATION / STRAND	MP.3.	Construct viable arguments and critique the reasoning of others.
GRADE LEVEL EXPECTATION / STRAND	MP.4.	Model with mathematics.
GRADE LEVEL EXPECTATION / STRAND	MP.5.	Use appropriate tools strategically.

Alaska Content and Performance Standards

Science

Grade **3** - Adopted: **2019**

PERFORMANCE / CONTENT STANDARD		Interdependent Relationships in Ecosystems: Environmental Impacts on Organisms
GRADE LEVEL EXPECTATION / STRAND	3-LS4-4.	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

PERFORMANCE / CONTENT STANDARD		Engineering Design
GRADE LEVEL EXPECTATION / STRAND	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
GRADE LEVEL EXPECTATION / STRAND	3-5-ETS1-2.	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.
GRADE LEVEL EXPECTATION / STRAND	3-5-ETS1-3.	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.

Alaska Content and Performance Standards

Science

Grade **4** - Adopted: **2019**

PERFORMANCE / CONTENT STANDARD		Structure, Function, and Information Processing

GRADE LEVEL EXPECTATION / STRAND	4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
PERFORMANCE / CONTENT STANDARD		**Engineering Design**
GRADE LEVEL EXPECTATION / STRAND	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
GRADE LEVEL EXPECTATION / STRAND	3-5-ETS1-2.	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.
GRADE LEVEL EXPECTATION / STRAND	3-5-ETS1-3.	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.

Alaska Content and Performance Standards

Technology Education

Grade **3** - Adopted: **2019**

PERFORMANCE / CONTENT STANDARD		**Alaska Computer Science Standards**
GRADE LEVEL EXPECTATION / STRAND		**Algorithms and Programming**
GOAL		**Algorithms**
INDICATOR	3.AP.A.01.	Create and follow algorithms to accomplish a simple task or solve a simple problem

PERFORMANCE / CONTENT STANDARD		**Alaska Digital Literacy Standards**
GRADE LEVEL EXPECTATION / STRAND		**Innovative Design**
GOAL	3-5.ID.4.	Students demonstrate perseverance when working with open-ended problems.

PERFORMANCE / CONTENT STANDARD		**Alaska Digital Literacy Standards**
GRADE LEVEL EXPECTATION / STRAND		**Computational Thinking**
GOAL	3-5.CT.1.	Students explore or solve problems by selecting technology for data analysis, modeling and algorithmic thinking, with guidance from an educator.
GOAL	3-5.CT.3.	Students break down problems into smaller parts, identify key information and propose solutions.
GOAL	3-5.CT.4.	Students understand and explore basic concepts related to automation, patterns and algorithmic thinking.

PERFORMANCE / CONTENT STANDARD		Alaska Digital Literacy Standards
GRADE LEVEL EXPECTATION / STRAND		Global Collaboration
GOAL	3-5.GC.3.	Students perform a variety of roles within a team using age-appropriate technology to complete a project or solve a problem.

Alaska Content and Performance Standards

Technology Education

Grade **4** - Adopted: **2019**

PERFORMANCE / CONTENT STANDARD		Alaska Computer Science Standards
GRADE LEVEL EXPECTATION / STRAND		Algorithms and Programming
GOAL		Algorithms
INDICATOR	4.AP.A.01.	Create, compare & refine multiple algorithms for the same task.

PERFORMANCE / CONTENT STANDARD		Alaska Digital Literacy Standards
GRADE LEVEL EXPECTATION / STRAND		Innovative Design
GOAL	3-5.ID.4.	Students demonstrate perseverance when working with open-ended problems.

PERFORMANCE / CONTENT STANDARD		Alaska Digital Literacy Standards
GRADE LEVEL EXPECTATION / STRAND		Computational Thinking
GOAL	3-5.CT.1.	Students explore or solve problems by selecting technology for data analysis, modeling and algorithmic thinking, with guidance from an educator.
GOAL	3-5.CT.3.	Students break down problems into smaller parts, identify key information and propose solutions.
GOAL	3-5.CT.4.	Students understand and explore basic concepts related to automation, patterns and algorithmic thinking.

PERFORMANCE / CONTENT STANDARD		Alaska Digital Literacy Standards
GRADE LEVEL EXPECTATION / STRAND		Global Collaboration
GOAL	3-5.GC.3.	Students perform a variety of roles within a team using age-appropriate technology to complete a project or solve a problem.

Arizona's College and Career Ready Standards

Mathematics

Grade **3** - Adopted: **2018**

STRAND		Standards for Mathematical Practice
CONCEPT / STANDARD	MP.1	Make sense of problems and persevere in solving them.
CONCEPT / STANDARD	MP.2	Reason abstractly and quantitatively.
CONCEPT / STANDARD	MP.3	Construct viable arguments and critique the reasoning of others.
CONCEPT / STANDARD	MP.4	Model with mathematics.
CONCEPT / STANDARD	MP.5	Use appropriate tools strategically.

Arizona's College and Career Ready Standards

Mathematics

Grade **4** - Adopted: **2018**

STRAND		Standards for Mathematical Practice
CONCEPT / STANDARD	MP.1	Make sense of problems and persevere in solving them.
CONCEPT / STANDARD	MP.2	Reason abstractly and quantitatively.
CONCEPT / STANDARD	MP.3	Construct viable arguments and critique the reasoning of others.
CONCEPT / STANDARD	MP.4	Model with mathematics.
CONCEPT / STANDARD	MP.5	Use appropriate tools strategically.

Arizona's College and Career Ready Standards

Science

Grade **3** - Adopted: **2018**

STRAND		Core Ideas for Using Science
CONCEPT / STANDARD	U2:	The knowledge produced by science is used in engineering and technologies to solve problems and/or create products.

STRAND		Third Grade: Focus on Systems and System Models; Structure and Function
CONCEPT / STANDARD		**Life Sciences: Students develop an understanding that life on Earth depends on energy from the Sun or energy from other organisms to survive.**

PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL		Life Science Standards
OBJECTIVE / GRADE LEVEL EXPECTATION	3.L1U1.5.	Develop and use models to explain that plants and animals (including humans) have internal and external structures that serve various functions that aid in growth, survival, behavior, and reproduction.
OBJECTIVE / GRADE LEVEL EXPECTATION	3.L2U1.8.	Construct an argument from evidence that organisms are interdependent.

Arizona's College and Career Ready Standards

Science

Grade **4** - Adopted: **2018**

STRAND		Core Ideas for Using Science
CONCEPT / STANDARD	U2:	The knowledge produced by science is used in engineering and technologies to solve problems and/or create products.

Arizona's College and Career Ready Standards

Technology Education

Grade **3** - Adopted: **2022**

STRAND		Arizona Educational Technology Standards 2022
CONCEPT / STANDARD	**Standard 4.**	**Innovative Designer - Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.4.a.	Students, in collaboration with an educator, explore and practice a design process by generating ideas to solve a problem by planning, creating and testing innovative products that are shared with others.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.4.b.	Students, in collaboration with an educator, use digital and/or non-digital tools to plan and manage a design process.

STRAND		Arizona Educational Technology Standards 2022
CONCEPT / STANDARD	**Standard 5.**	**Computational Thinker - Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.5.a.	Students, in collaboration with an educator, identify, explore or solve problems by selecting technology for data analysis, modeling, and algorithmic thinking.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.5.c.	Students, in collaboration with an educator, break down problems into smaller parts, identify key information, and propose solutions.

STRAND		Arizona Educational Technology Standards 2022
CONCEPT / STANDARD	**Standard 6.**	**Creative Communicator - Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.**

PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.6.c.	Students, in collaboration with an educator, create digital artifacts using digital tools to communicate ideas visually, graphically, and/or auditorily.

Grade **3** - Adopted: **2018**

STRAND		**Computer Science**
CONCEPT / STANDARD		**Practices**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	**Practice 3.**	**Recognizing and Defining Computational Problems: The ability to recognize appropriate and worthwhile opportunities to apply computation is a skill that develops over time and is central to computing. Solving a problem with a computational approach requires defining the problem, breaking it down into parts, and evaluating each part to determine whether a computational solution is appropriate.**
OBJECTIVE / GRADE LEVEL EXPECTATION	3.1.	Identify complex, interdisciplinary, real-world problems that can be solved computationally.
OBJECTIVE / GRADE LEVEL EXPECTATION	3.2.	Decompose complex real-world problems into manageable subproblems that could integrate existing solutions or procedures.

STRAND		**Computer Science**
CONCEPT / STANDARD		**Practices**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	**Practice 5.**	**Creating Computational Artifacts: The process of developing computational artifacts embraces both creative expression and the exploration of ideas to create prototypes and solve computational problems. Students create artifacts that are personally relevant or beneficial to their community and beyond. Computational artifacts can be created by combining and modifying existing artifacts or by developing new artifacts. Examples of computational artifacts include programs, simulations, visualizations, digital animations, robotic systems, and apps.**
OBJECTIVE / GRADE LEVEL EXPECTATION	5.2.	Create a computational artifact for practical intent, personal expression, or to address a societal issue.

STRAND		**Computer Science**
CONCEPT / STANDARD		**Practices**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	**Practice 6.**	**Testing and Refining Computational Artifacts: Testing and refinement is the deliberate and iterative process of improving a computational artifact. This process includes debugging (identifying and fixing errors) and comparing actual outcomes to intended outcomes. Students also respond to the changing needs and expectations of end users and improve the performance, reliability, usability, and accessibility of artifacts.**
OBJECTIVE / GRADE LEVEL EXPECTATION	6.1.	Systematically test computational artifacts by considering all scenarios and using test cases.
OBJECTIVE / GRADE LEVEL EXPECTATION	6.3.	Evaluate and refine a computational artifact multiple times to enhance its performance, reliability, usability, and accessibility.

STRAND		**Computer Science**
CONCEPT / STANDARD		**Concept: Algorithms and Programming (AP)**

PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL		Subconcept: Algorithms (A)
OBJECTIVE / GRADE LEVEL EXPECTATION	3.AP.A.1.	Recognize and compare multiple algorithms for the same task and determine which are effective. Practice(s): Developing and Using Abstractions: 4.4

Arizona's College and Career Ready Standards

Technology Education

Grade **4** - Adopted: **2022**

STRAND		Arizona Educational Technology Standards 2022
CONCEPT / STANDARD	Standard 4.	Innovative Designer - Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.4.a.	Students, in collaboration with an educator, explore and practice a design process by generating ideas to solve a problem by planning, creating and testing innovative products that are shared with others.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.4.b.	Students, in collaboration with an educator, use digital and/or non-digital tools to plan and manage a design process.

STRAND		Arizona Educational Technology Standards 2022
CONCEPT / STANDARD	Standard 5.	Computational Thinker - Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.5.a.	Students, in collaboration with an educator, identify, explore or solve problems by selecting technology for data analysis, modeling, and algorithmic thinking.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.5.c.	Students, in collaboration with an educator, break down problems into smaller parts, identify key information, and propose solutions.

STRAND		Arizona Educational Technology Standards 2022
CONCEPT / STANDARD	Standard 6.	Creative Communicator - Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	3-5.6.c.	Students, in collaboration with an educator, create digital artifacts using digital tools to communicate ideas visually, graphically, and/or auditorily.

Grade **4** - Adopted: **2018**

STRAND		Computer Science
CONCEPT / STANDARD		Practices

PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	**Practice 3.**	**Recognizing and Defining Computational Problems: The ability to recognize appropriate and worthwhile opportunities to apply computation is a skill that develops over time and is central to computing. Solving a problem with a computational approach requires defining the problem, breaking it down into parts, and evaluating each part to determine whether a computational solution is appropriate.**
OBJECTIVE / GRADE LEVEL EXPECTATION	3.1.	Identify complex, interdisciplinary, real-world problems that can be solved computationally.
OBJECTIVE / GRADE LEVEL EXPECTATION	3.2.	Decompose complex real-world problems into manageable subproblems that could integrate existing solutions or procedures.
STRAND		**Computer Science**
CONCEPT / STANDARD		**Practices**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	**Practice 5.**	**Creating Computational Artifacts: The process of developing computational artifacts embraces both creative expression and the exploration of ideas to create prototypes and solve computational problems. Students create artifacts that are personally relevant or beneficial to their community and beyond. Computational artifacts can be created by combining and modifying existing artifacts or by developing new artifacts. Examples of computational artifacts include programs, simulations, visualizations, digital animations, robotic systems, and apps.**
OBJECTIVE / GRADE LEVEL EXPECTATION	5.2.	Create a computational artifact for practical intent, personal expression, or to address a societal issue.
STRAND		**Computer Science**
CONCEPT / STANDARD		**Practices**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL	**Practice 6.**	**Testing and Refining Computational Artifacts: Testing and refinement is the deliberate and iterative process of improving a computational artifact. This process includes debugging (identifying and fixing errors) and comparing actual outcomes to intended outcomes. Students also respond to the changing needs and expectations of end users and improve the performance, reliability, usability, and accessibility of artifacts.**
OBJECTIVE / GRADE LEVEL EXPECTATION	6.1.	Systematically test computational artifacts by considering all scenarios and using test cases.
OBJECTIVE / GRADE LEVEL EXPECTATION	6.3.	Evaluate and refine a computational artifact multiple times to enhance its performance, reliability, usability, and accessibility.
STRAND		**Computer Science**
CONCEPT / STANDARD		**Concept: Algorithms and Programming (AP)**
PERFORMANCE OBJECTIVE / PROFICIENCY LEVEL		**Subconcept: Algorithms (A)**
OBJECTIVE / GRADE LEVEL EXPECTATION	4.AP.A.1.	Compare and refine multiple algorithms for the same task and determine which is the most effective. Practice(s): Testing and Refining Computational Artifacts, Recognizing and Defining Computational Problems: 6.3

Grade **3** - Adopted: **2016**

STRAND / TOPIC	AR.SC.2.	Interdependent Relationships in Ecosystems
CONTENT STANDARD		**Students who demonstrate understanding can:**
PERFORMANCE EXPECTATION	3-LS4-4.	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

STRAND / TOPIC	AR.SC.5.	Engineering, Technology, and Applications of Science
CONTENT STANDARD		**Students who demonstrate understanding can:**
PERFORMANCE EXPECTATION	3-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
PERFORMANCE EXPECTATION	3-ETS1-2.	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.
PERFORMANCE EXPECTATION	3-ETS1-3.	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.

Arkansas Standards

Science

Grade **4** - Adopted: **2016**

STRAND / TOPIC	AR.SC.1.	Structure, Function, and Information Processing
CONTENT STANDARD		**Students who demonstrate understanding can:**
PERFORMANCE EXPECTATION	4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

STRAND / TOPIC	AR.SC.5.	Engineering, Technology, and Applications of Science
CONTENT STANDARD		**Students who demonstrate understanding can:**
PERFORMANCE EXPECTATION	4-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
PERFORMANCE EXPECTATION	4-ETS1-2.	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.
PERFORMANCE EXPECTATION	4-ETS1-3.	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.

Arkansas Standards

Technology Education

Grade **3** - Adopted: **2020/Beginning 2021**

STRAND / TOPIC		**Computer Science: K-4 Standards Document**
CONTENT STANDARD		**Computational Thinking and Problem Solving**
PERFORMANCE EXPECTATION		**Content Cluster 1: Students will analyze and utilize problem-solving strategies.**
BENCHMARK / PROFICIENCY	CSK8.G3.1.1.	Solve problems using a defined process
BENCHMARK / PROFICIENCY	CSK8.G3.1.3.	Construct innovative solutions to level-appropriate problems collaboratively

STRAND / TOPIC		**Computer Science: K-4 Standards Document**
CONTENT STANDARD		**Algorithms and Programs**
PERFORMANCE EXPECTATION		**Content Cluster 5: Students will create, evaluate, and modify algorithms.**
BENCHMARK / PROFICIENCY	CSK8.G3.5.1.	Create and follow algorithms to accomplish a task or solve a problem
BENCHMARK / PROFICIENCY	CSK8.G3.5.2.	Design and test algorithms collaboratively using technology
BENCHMARK / PROFICIENCY	CSK8.G3.5.4.	Identify and correct multiple errors within an algorithm that accomplishes a level-appropriate task or solves a level-appropriate problem

STRAND / TOPIC		**Computer Science: K-4 Standards Document**
CONTENT STANDARD		**Algorithms and Programs**
PERFORMANCE EXPECTATION		**Content Cluster 6: Students will create programs to solve problems.**
BENCHMARK / PROFICIENCY	CSK8.G3.6.1.	Use a block-based programming language individually and collaboratively to solve level-appropriate problems
BENCHMARK / PROFICIENCY	CSK8.G3.6.3.	Improve or remix existing block-based programs

Arkansas Standards

Technology Education

Grade **4** - Adopted: **2020/Beginning 2021**

STRAND / TOPIC		**Computer Science: K-4 Standards Document**
CONTENT STANDARD		**Computational Thinking and Problem Solving**

PERFORMANCE EXPECTATION		**Content Cluster 1: Students will analyze and utilize problem-solving strategies.**
BENCHMARK / PROFICIENCY	CSK8.G4.1.1.	Examine the process of problem solving and how it applies to algorithmic problem solving
BENCHMARK / PROFICIENCY	CSK8.G4.1.3.	Construct innovative solutions to level-appropriate problems collaboratively
BENCHMARK / PROFICIENCY	CSK8.G4.1.4.	Apply strategies for solving simple hardware and software problems that may occur during use
STRAND / TOPIC		**Computer Science: K-4 Standards Document**
CONTENT STANDARD		**Algorithms and Programs**
PERFORMANCE EXPECTATION		**Content Cluster 5: Students will create, evaluate, and modify algorithms.**
BENCHMARK / PROFICIENCY	CSK8.G4.5.1.	Create and follow algorithms to accomplish a task or solve a problem
BENCHMARK / PROFICIENCY	CSK8.G4.5.2.	Design and test algorithms collaboratively using technology
BENCHMARK / PROFICIENCY	CSK8.G4.5.4.	Identify and correct multiple errors within an algorithm that accomplishes a level-appropriate task or solves a level-appropriate problem
STRAND / TOPIC		**Computer Science: K-4 Standards Document**
CONTENT STANDARD		**Algorithms and Programs**
PERFORMANCE EXPECTATION		**Content Cluster 6: Students will create programs to solve problems.**
BENCHMARK / PROFICIENCY	CSK8.G4.6.1.	Use a block-based programming language individually and collaboratively to solve level-appropriate problems
BENCHMARK / PROFICIENCY	CSK8.G4.6.3.	Improve or remix existing block-based programs

California Content Standards

Mathematics

Grade **3** - Adopted: **2013**

CONTENT STANDARD / DOMAIN / PART	**CA.CC.MP.**	**Standards for Mathematical Practice**
PERFORMANCE STANDARD / MODE	MP.1.	Make sense of problems and persevere in solving them.

PERFORMANCE STANDARD / MODE	MP.2.	Reason abstractly and quantitatively.
PERFORMANCE STANDARD / MODE	MP.3.	Construct viable arguments and critique the reasoning of others.
PERFORMANCE STANDARD / MODE	MP.4.	Model with mathematics.
PERFORMANCE STANDARD / MODE	MP.5.	Use appropriate tools strategically.

California Content Standards

Mathematics

Grade **4** - Adopted: **2013**

CONTENT STANDARD / DOMAIN / PART	CA.CC.MP.	Standards for Mathematical Practice
PERFORMANCE STANDARD / MODE	MP.1.	Make sense of problems and persevere in solving them.
PERFORMANCE STANDARD / MODE	MP.2.	Reason abstractly and quantitatively.
PERFORMANCE STANDARD / MODE	MP.3.	Construct viable arguments and critique the reasoning of others.
PERFORMANCE STANDARD / MODE	MP.4.	Model with mathematics.
PERFORMANCE STANDARD / MODE	MP.5.	Use appropriate tools strategically.

California Content Standards

Science

Grade **3** - Adopted: **2013**

CONTENT STANDARD / DOMAIN / PART	CA.3-LS.	LIFE SCIENCE
PERFORMANCE STANDARD / MODE	**3-LS4.**	**Biological Evolution: Unity and Diversity**
EXPECTATION / SUBSTRAND		**Students who demonstrate understanding can:**

FOUNDATION / PROFICIENCY LEVEL	3-LS4-4.	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

CONTENT STANDARD / DOMAIN / PART	**CA.3-5-ETS.**	**ENGINEERING DESIGN**
PERFORMANCE STANDARD / MODE	**3-5-ETS1.**	**Engineering Design**
EXPECTATION / SUBSTRAND		**Students who demonstrate understanding can:**
FOUNDATION / PROFICIENCY LEVEL	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
FOUNDATION / PROFICIENCY LEVEL	3-5-ETS1-2.	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.
FOUNDATION / PROFICIENCY LEVEL	3-5-ETS1-3.	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.

California Content Standards

Science

Grade **4** - Adopted: **2013**

CONTENT STANDARD / DOMAIN / PART	**CA.4-LS.**	**LIFE SCIENCE**
PERFORMANCE STANDARD / MODE	**4-LS1.**	**From Molecules to Organisms: Structures and Processes**
EXPECTATION / SUBSTRAND		**Students who demonstrate understanding can:**
FOUNDATION / PROFICIENCY LEVEL	4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

CONTENT STANDARD / DOMAIN / PART	**CA.3-5-ETS.**	**ENGINEERING DESIGN**
PERFORMANCE STANDARD / MODE	**3-5-ETS1.**	**Engineering Design**
EXPECTATION / SUBSTRAND		**Students who demonstrate understanding can:**
FOUNDATION / PROFICIENCY LEVEL	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
FOUNDATION / PROFICIENCY LEVEL	3-5-ETS1-2.	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.

FOUNDATION / PROFICIENCY LEVEL	3-5-ETS1-3.	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.

California Content Standards

Technology Education

Grade **3** - Adopted: **2018**

CONTENT STANDARD / DOMAIN / PART		**Computer Science Core Practices**
PERFORMANCE STANDARD / MODE	**P3.**	**Core Practice 3 – Recognizing and Defining Computational Problems**
EXPECTATION / SUBSTRAND	P3.1.	Identify complex, interdisciplinary, real-world problems that can be solved computationally.
CONTENT STANDARD / DOMAIN / PART		**Algorithms & Programming**
PERFORMANCE STANDARD / MODE		**Program Development**
EXPECTATION / SUBSTRAND	3-5.AP.15.	Use an iterative process to plan and develop a program by considering the perspectives and preferences of others. (P1.1, P5.1)
EXPECTATION / SUBSTRAND	3-5.AP.19.	Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2)

California Content Standards

Technology Education

Grade **4** - Adopted: **2018**

CONTENT STANDARD / DOMAIN / PART		**Computer Science Core Practices**
PERFORMANCE STANDARD / MODE	**P3.**	**Core Practice 3 – Recognizing and Defining Computational Problems**
EXPECTATION / SUBSTRAND	P3.1.	Identify complex, interdisciplinary, real-world problems that can be solved computationally.
CONTENT STANDARD / DOMAIN / PART		**Algorithms & Programming**
PERFORMANCE STANDARD / MODE		**Program Development**
EXPECTATION / SUBSTRAND	3-5.AP.15.	Use an iterative process to plan and develop a program by considering the perspectives and preferences of others. (P1.1, P5.1)
EXPECTATION / SUBSTRAND	3-5.AP.19.	Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2)

Colorado Academic Standards (CAS)

Mathematics

Grade **3** - Adopted: **2018**

CONTENT AREA		Prepared Graduates in Mathematics
STANDARD	MP1.	Make sense of problems and persevere in solving them.
STANDARD	MP2.	Reason abstractly and quantitatively.
STANDARD	MP3.	Construct viable arguments and critique the reasoning of others.
STANDARD	MP4.	Model with mathematics.
STANDARD	MP5.	Use appropriate tools strategically.

Colorado Academic Standards (CAS)

Mathematics

Grade **4** - Adopted: **2018**

CONTENT AREA		Prepared Graduates in Mathematics
STANDARD	MP1.	Make sense of problems and persevere in solving them.
STANDARD	MP2.	Reason abstractly and quantitatively.
STANDARD	MP3.	Construct viable arguments and critique the reasoning of others.
STANDARD	MP4.	Model with mathematics.
STANDARD	MP5.	Use appropriate tools strategically.

Colorado Academic Standards (CAS)

Science

Grade **3** - Adopted: **2018**

CONTENT AREA		Prepared Graduates in Science
STANDARD	1	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding structure, properties and interactions of matter.
STANDARD	2	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding interactions between objects and within systems of objects.
STANDARD	3	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how energy is transferred and conserved.
STANDARD	4	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how waves are used to transfer energy and information.

STANDARD	5	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction.
STANDARD	6	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment.
STANDARD	7	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how genetic and environmental factors influence variation of organisms across generations.
STANDARD	8	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how natural selection drives biological evolution accounting for the unity and diversity of organisms.
STANDARD	9	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding the universe and Earth's place in it.
STANDARD	10	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how and why Earth is constantly changing.
STANDARD	11	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how human activities and the Earth's surface processes interact.

CONTENT AREA	**SC.3.2.**	**Life Science**
STANDARD	**SC.3.2.5.**	**Sometimes differences in characteristics between individuals of the same species provide advantages in survival and reproduction.**
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES		**Evidence Outcomes**
EVIDENCE OUTCOMES		**Students Can:**
INDICATOR	SC.3.2.5.b.	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. (3-LS4-4)

Colorado Academic Standards (CAS)

Science

Grade **4** - Adopted: **2018**

CONTENT AREA		**Prepared Graduates in Science**
STANDARD	1	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding structure, properties and interactions of matter.
STANDARD	2	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding interactions between objects and within systems of objects.
STANDARD	3	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how energy is transferred and conserved.

STANDARD	4	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how waves are used to transfer energy and information.
STANDARD	5	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction.
STANDARD	6	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment.
STANDARD	7	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how genetic and environmental factors influence variation of organisms across generations.
STANDARD	8	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how natural selection drives biological evolution accounting for the unity and diversity of organisms.
STANDARD	9	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding the universe and Earth's place in it.
STANDARD	10	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how and why Earth is constantly changing.
STANDARD	11	Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how human activities and the Earth's surface processes interact.

CONTENT AREA	**SC.4.2.**	**Life Science**
STANDARD	**SC.4.2.1.**	**Organisms have both internal and external structures that serve various functions.**
CONCEPTS AND SKILLS / EVIDENCE OUTCOMES		**Evidence Outcomes**
EVIDENCE OUTCOMES		**Students Can:**
INDICATOR	SC.4.2.1.a.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior and reproduction. (4-LS1-1)

Connecticut State Standards

Mathematics

Grade **3** - Adopted: **2010**

DOMAIN / CONTENT STANDARD	**CT.CC.MP.3.**	**Mathematical Practices**
STATE FRAMEWORK	MP.3.1.	Make sense of problems and persevere in solving them.
STATE FRAMEWORK	MP.3.2.	Reason abstractly and quantitatively.

STATE FRAMEWORK	MP.3.3.	Construct viable arguments and critique the reasoning of others.
STATE FRAMEWORK	MP.3.4.	Model with mathematics.
STATE FRAMEWORK	MP.3.5.	Use appropriate tools strategically.

Connecticut State Standards

Mathematics

Grade **4** - Adopted: **2010**

DOMAIN / CONTENT STANDARD	CT.CC.MP.4.	Mathematical Practices
STATE FRAMEWORK	MP.4.1.	Make sense of problems and persevere in solving them.
STATE FRAMEWORK	MP.4.2.	Reason abstractly and quantitatively.
STATE FRAMEWORK	MP.4.3.	Construct viable arguments and critique the reasoning of others.
STATE FRAMEWORK	MP.4.4.	Model with mathematics.
STATE FRAMEWORK	MP.4.5.	Use appropriate tools strategically.

Connecticut State Standards

Science

Grade **3** - Adopted: **2015**

DOMAIN / CONTENT STANDARD	NGSS.3-LS.	LIFE SCIENCE
STATE FRAMEWORK	**3-LS4.**	**Biological Evolution: Unity and Diversity**
GRADE LEVEL EXPECTATION		**Students who demonstrate understanding can:**
INDICATOR	3-LS4-4.	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

DOMAIN / CONTENT STANDARD	NGSS.3-5-ETS.	ENGINEERING DESIGN
STATE FRAMEWORK	**3-5-ETS1.**	**Engineering Design**
GRADE LEVEL EXPECTATION		**Students who demonstrate understanding can:**

INDICATOR	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
INDICATOR	3-5-ETS1-2.	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.
INDICATOR	3-5-ETS1-3.	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.

Connecticut State Standards

Science

Grade **4** - Adopted: **2015**

DOMAIN / CONTENT STANDARD	**NGSS.4-LS.**	**LIFE SCIENCE**
STATE FRAMEWORK	**4-LS1.**	**From Molecules to Organisms: Structures and Processes**
GRADE LEVEL EXPECTATION		**Students who demonstrate understanding can:**
INDICATOR	4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

DOMAIN / CONTENT STANDARD	**NGSS.3-5-ETS.**	**ENGINEERING DESIGN**
STATE FRAMEWORK	**3-5-ETS1.**	**Engineering Design**
GRADE LEVEL EXPECTATION		**Students who demonstrate understanding can:**
INDICATOR	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
INDICATOR	3-5-ETS1-2.	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.
INDICATOR	3-5-ETS1-3.	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.

Connecticut State Standards

Technology Education

Grade **3** - Adopted: **2017**

DOMAIN / CONTENT STANDARD		**CSTA K-12 Computer Science Standards**
STATE FRAMEWORK	**CSTA.1B.**	**Level 1B (Ages 8-11)**
GRADE LEVEL EXPECTATION	**1B-AP.**	**Algorithms & Programming**
INDICATOR		**Program Development**

INDICATOR	1B-AP-13.	Use an iterative process to plan the development of a program by including others'' perspectives and considering user preferences. (P1.1, P5.1)
INDICATOR	1B-AP-16.	Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. (P2.2)
INDICATOR	1B-AP-17.	Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2)
DOMAIN / CONTENT STANDARD		**CSTA K-12 Computer Science Standards**
STATE FRAMEWORK	**CSTA.1 B.**	**Level 1B (Ages 8-11)**
GRADE LEVEL EXPECTATION	**1B-IC.**	**Impacts of Computing**
INDICATOR		**Social Interactions**
INDICATOR	1B-IC-20.	Seek diverse perspectives for the purpose of improving computational artifacts. (P1.1)

Grade **3** - Adopted: **2016**

DOMAIN / CONTENT STANDARD		**ISTE for Students (ISTE-S)**
STATE FRAMEWORK	**CO.ISTE-S.3.**	**Knowledge Constructors: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.**
GRADE LEVEL EXPECTATION	ISTE-S.3.d.	Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.
DOMAIN / CONTENT STANDARD		**ISTE for Students (ISTE-S)**
STATE FRAMEWORK	**CO.ISTE-S.4.**	**Innovative Designers: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.**
GRADE LEVEL EXPECTATION	ISTE-S.4.a.	Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
GRADE LEVEL EXPECTATION	ISTE-S.4.b.	Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
DOMAIN / CONTENT STANDARD		**ISTE for Students (ISTE-S)**
STATE FRAMEWORK	**CO.ISTE-S.5.**	**Computational Thinkers: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.**
GRADE LEVEL EXPECTATION	ISTE-S.5.a.	Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models, and algorithmic thinking in exploring and finding solutions.
GRADE LEVEL EXPECTATION	ISTE-S.5.b.	Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.

GRADE LEVEL EXPECTATION	ISTE-S.5.d.	Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Connecticut State Standards

Technology Education

Grade **4** - Adopted: **2017**

DOMAIN / CONTENT STANDARD		**CSTA K-12 Computer Science Standards**
STATE FRAMEWORK	**CSTA.1 B.**	**Level 1B (Ages 8-11)**
GRADE LEVEL EXPECTATION	**1B-AP.**	**Algorithms & Programming**
INDICATOR		**Program Development**
INDICATOR	1B-AP-13.	Use an iterative process to plan the development of a program by including others'' perspectives and considering user preferences. (P1.1, P5.1)
INDICATOR	1B-AP-16.	Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. (P2.2)
INDICATOR	1B-AP-17.	Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2)

DOMAIN / CONTENT STANDARD		**CSTA K-12 Computer Science Standards**
STATE FRAMEWORK	**CSTA.1 B.**	**Level 1B (Ages 8-11)**
GRADE LEVEL EXPECTATION	**1B-IC.**	**Impacts of Computing**
INDICATOR		**Social Interactions**
INDICATOR	1B-IC-20.	Seek diverse perspectives for the purpose of improving computational artifacts. (P1.1)

Grade **4** - Adopted: **2016**

DOMAIN / CONTENT STANDARD		**ISTE for Students (ISTE-S)**
STATE FRAMEWORK	**CO.ISTE-S.3.**	**Knowledge Constructors: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.**
GRADE LEVEL EXPECTATION	ISTE-S.3.d.	Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

DOMAIN / CONTENT STANDARD		**ISTE for Students (ISTE-S)**
STATE FRAMEWORK	**CO.ISTE-S.4.**	**Innovative Designers: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.**
GRADE LEVEL EXPECTATION	ISTE-S.4.a.	Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

GRADE LEVEL EXPECTATION	ISTE-S.4.b.	Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.
DOMAIN / CONTENT STANDARD		**ISTE for Students (ISTE-S)**
STATE FRAMEWORK	**CO.ISTE-S.5.**	**Computational Thinkers: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.**
GRADE LEVEL EXPECTATION	ISTE-S.5.a.	Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models, and algorithmic thinking in exploring and finding solutions.
GRADE LEVEL EXPECTATION	ISTE-S.5.b.	Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.
GRADE LEVEL EXPECTATION	ISTE-S.5.d.	Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Delaware Standards and Instruction

Mathematics

Grade **3** - Adopted: **2010**

STANDARD / STRAND	**DE.CC.3.MP.**	**Mathematical Practices**
STRAND / INDICATOR	CC.3.MP.1.	Make sense of problems and persevere in solving them.
STRAND / INDICATOR	CC.3.MP.2.	Reason abstractly and quantitatively.
STRAND / INDICATOR	CC.3.MP.3.	Construct viable arguments and critique the reasoning of others.
STRAND / INDICATOR	CC.3.MP.4.	Model with mathematics.
STRAND / INDICATOR	CC.3.MP.5.	Use appropriate tools strategically.

Delaware Standards and Instruction

Mathematics

Grade **4** - Adopted: **2010**

STANDARD / STRAND	**DE.CC.4.MP.**	**Mathematical Practices**
STRAND / INDICATOR	CC.4.MP.1.	Make sense of problems and persevere in solving them.
STRAND / INDICATOR	CC.4.MP.2.	Reason abstractly and quantitatively.
STRAND / INDICATOR	CC.4.MP.3.	Construct viable arguments and critique the reasoning of others.

STRAND / INDICATOR	CC.4.MP.4.	Model with mathematics.
STRAND / INDICATOR	CC.4.MP.5.	Use appropriate tools strategically.

Delaware Standards and Instruction

Science

Grade **3** - Adopted: **2013**

STANDARD / STRAND	**DE.3-LS.**	**LIFE SCIENCE**
STRAND / INDICATOR	**3-LS4.**	**Biological Evolution: Unity and Diversity**
ENDURING UNDERSTANDING		**Students who demonstrate understanding can:**
BENCHMARK	3-LS4-4.	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

STANDARD / STRAND	**DE.3-5-ETS.**	**ENGINEERING DESIGN**
STRAND / INDICATOR	**3-5-ETS1.**	**Engineering Design**
ENDURING UNDERSTANDING		**Students who demonstrate understanding can:**
BENCHMARK	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
BENCHMARK	3-5-ETS1-2.	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.
BENCHMARK	3-5-ETS1-3.	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.

Delaware Standards and Instruction

Science

Grade **4** - Adopted: **2013**

STANDARD / STRAND	**DE.4-LS.**	**LIFE SCIENCE**
STRAND / INDICATOR	**4-LS1.**	**From Molecules to Organisms: Structures and Processes**
ENDURING UNDERSTANDING		**Students who demonstrate understanding can:**
BENCHMARK	4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

STANDARD / STRAND	**DE.3-5-ETS.**	**ENGINEERING DESIGN**

STRAND / INDICATOR	**3-5-ETS1.**	**Engineering Design**
ENDURING UNDERSTANDING		**Students who demonstrate understanding can:**
BENCHMARK	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
BENCHMARK	3-5-ETS1-2.	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.
BENCHMARK	3-5-ETS1-3.	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.

Delaware Standards and Instruction

Technology Education

Grade **3** - Adopted: **2018**

STANDARD / STRAND		**Computer Science Content Standards**
STRAND / INDICATOR	**CSTA.1B.**	**Level 1B (Ages 8-11)**
ENDURING UNDERSTANDING	**1B-AP.**	**Algorithms & Programming**
BENCHMARK		**Program Development**
EXPECTATION	1B-AP-13.	Use an iterative process to plan the development of a program by including others'' perspectives and considering user preferences. (P1.1, P5.1)
EXPECTATION	1B-AP-16.	Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. (P2.2)
EXPECTATION	1B-AP-17.	Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2)

STANDARD / STRAND		**Computer Science Content Standards**
STRAND / INDICATOR	**CSTA.1B.**	**Level 1B (Ages 8-11)**
ENDURING UNDERSTANDING	**1B-IC.**	**Impacts of Computing**
BENCHMARK		**Social Interactions**
EXPECTATION	1B-IC-20.	Seek diverse perspectives for the purpose of improving computational artifacts. (P1.1)

Delaware Standards and Instruction

Technology Education

Grade **4** - Adopted: **2018**

STANDARD / STRAND		**Computer Science Content Standards**
STRAND / INDICATOR	**CSTA.1B.**	**Level 1B (Ages 8-11)**

ENDURING UNDERSTANDING	**1B-AP.**	**Algorithms & Programming**
BENCHMARK		**Program Development**
EXPECTATION	1B-AP-13.	Use an iterative process to plan the development of a program by including others'' perspectives and considering user preferences. (P1.1, P5.1)
EXPECTATION	1B-AP-16.	Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development. (P2.2)
EXPECTATION	1B-AP-17.	Describe choices made during program development using code comments, presentations, and demonstrations. (P7.2)
STANDARD / STRAND		**Computer Science Content Standards**
STRAND / INDICATOR	**CSTA.1B.**	**Level 1B (Ages 8-11)**
ENDURING UNDERSTANDING	**1B-IC.**	**Impacts of Computing**
BENCHMARK		**Social Interactions**
EXPECTATION	1B-IC-20.	Seek diverse perspectives for the purpose of improving computational artifacts. (P1.1)

Florida Standards

Mathematics

Grade **3** - Adopted: **2020**

BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 1: Actively participate in effortful learning both individually and collectively.**
BENCHMARK	**MA.K12.MTR.1.1**	**Mathematicians who participate in effortful learning both individually and with others:**
INDICATOR	MA.K12.MTR.1.1a	Analyze the problem in a way that makes sense given the task.
INDICATOR	MA.K12.MTR.1.1b	Ask questions that will help with solving the task.
INDICATOR	MA.K12.MTR.1.1c	Build perseverance by modifying methods as needed while solving a challenging task.
INDICATOR	MA.K12.MTR.1.1d	Stay engaged and maintain a positive mindset when working to solve tasks.
INDICATOR	MA.K12.MTR.1.1e	Help and support each other when attempting a new method or approach.
BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 2: Demonstrate understanding by representing problems in multiple ways.**

BENCHMARK	**MA.K12.MTR.2.1**	**Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways:**
INDICATOR	MA.K12.MTR.2.1a	Build understanding through modeling and using manipulatives.
INDICATOR	MA.K12.MTR.2.1b	Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.
INDICATOR	MA.K12.MTR.2.1e	Choose a representation based on the given context or purpose.
BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 3: Complete tasks with mathematical fluency.**
BENCHMARK	**MA.K12.MTR.3.1**	**Complete tasks with mathematical fluency.Mathematicians who complete tasks with mathematical fluency:**
INDICATOR	MA.K12.MTR.3.1a	Select efficient and appropriate methods for solving problems within the given context.
BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 4: Engage in discussions that reflect on the mathematical thinking of self and others.**
BENCHMARK	**MA.K12.MTR.4.1**	**Engage in discussions that reflect on the mathematical thinking of self and others. Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:**
INDICATOR	MA.K12.MTR.4.1a	Communicate mathematical ideas, vocabulary and methods effectively.
INDICATOR	MA.K12.MTR.4.1b	Analyze the mathematical thinking of others.
INDICATOR	MA.K12.MTR.4.1c	Compare the efficiency of a method to those expressed by others.
INDICATOR	MA.K12.MTR.4.1e	Justify results by explaining methods and processes.
BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 5: Use patterns and structure to help understand and connect mathematical concepts.**
BENCHMARK	**MA.K12.MTR.5.1**	**Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts:**
INDICATOR	MA.K12.MTR.5.1a	Focus on relevant details within a problem.
INDICATOR	MA.K12.MTR.5.1c	Decompose a complex problem into manageable parts.
BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**

BIG IDEA		**Standard 7: Apply mathematics to real-world contexts.**
BENCHMARK	**MA.K12.MTR.7.1**	**Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts:**
INDICATOR	MA.K12.MTR.7.1a	Connect mathematical concepts to everyday experiences.
INDICATOR	MA.K12.MTR.7.1b	Use models and methods to understand, represent and solve problems.
INDICATOR	MA.K12.MTR.7.1c	Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.

Florida Standards

Mathematics

Grade **4** - Adopted: **2020**

BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 1: Actively participate in effortful learning both individually and collectively.**
BENCHMARK	**MA.K12.MTR.1.1**	**Mathematicians who participate in effortful learning both individually and with others:**
INDICATOR	MA.K12.MTR.1.1a	Analyze the problem in a way that makes sense given the task.
INDICATOR	MA.K12.MTR.1.1b	Ask questions that will help with solving the task.
INDICATOR	MA.K12.MTR.1.1c	Build perseverance by modifying methods as needed while solving a challenging task.
INDICATOR	MA.K12.MTR.1.1d	Stay engaged and maintain a positive mindset when working to solve tasks.
INDICATOR	MA.K12.MTR.1.1e	Help and support each other when attempting a new method or approach.

BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 2: Demonstrate understanding by representing problems in multiple ways.**
BENCHMARK	**MA.K12.MTR.2.1**	**Demonstrate understanding by representing problems in multiple ways. Mathematicians who demonstrate understanding by representing problems in multiple ways:**
INDICATOR	MA.K12.MTR.2.1a	Build understanding through modeling and using manipulatives.
INDICATOR	MA.K12.MTR.2.1b	Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.
INDICATOR	MA.K12.MTR.2.1e	Choose a representation based on the given context or purpose.

BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 3: Complete tasks with mathematical fluency.**
BENCHMARK	**MA.K12.MTR.3.1**	**Complete tasks with mathematical fluency.Mathematicians who complete tasks with mathematical fluency:**
INDICATOR	MA.K12.MTR.3.1a	Select efficient and appropriate methods for solving problems within the given context.

BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 4: Engage in discussions that reflect on the mathematical thinking of self and others.**
BENCHMARK	**MA.K12.MTR.4.1**	**Engage in discussions that reflect on the mathematical thinking of self and others. Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:**
INDICATOR	MA.K12.MTR.4.1a	Communicate mathematical ideas, vocabulary and methods effectively.
INDICATOR	MA.K12.MTR.4.1b	Analyze the mathematical thinking of others.
INDICATOR	MA.K12.MTR.4.1c	Compare the efficiency of a method to those expressed by others.
INDICATOR	MA.K12.MTR.4.1e	Justify results by explaining methods and processes.

BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 5: Use patterns and structure to help understand and connect mathematical concepts.**
BENCHMARK	**MA.K12.MTR.5.1**	**Use patterns and structure to help understand and connect mathematical concepts. Mathematicians who use patterns and structure to help understand and connect mathematical concepts:**
INDICATOR	MA.K12.MTR.5.1a	Focus on relevant details within a problem.
INDICATOR	MA.K12.MTR.5.1c	Decompose a complex problem into manageable parts.

BODY OF KNOWLEDGE		**Mathematical Thinking and Reasoning**
BIG IDEA		**Standard 7: Apply mathematics to real-world contexts.**
BENCHMARK	**MA.K12.MTR.7.1**	**Apply mathematics to real-world contexts. Mathematicians who apply mathematics to real-world contexts:**
INDICATOR	MA.K12.MTR.7.1a	Connect mathematical concepts to everyday experiences.
INDICATOR	MA.K12.MTR.7.1b	Use models and methods to understand, represent and solve problems.

INDICATOR	MA.K12.MTR.7.1c	Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.

Florida Standards

Science

Grade **3** - Adopted: **2008**

BODY OF KNOWLEDGE	FL.SC.3.N.	Nature of Science
BIG IDEA	**SC.3.N.1.**	**The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of ''the scientific method.'' C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.**
BENCHMARK	SC.3.N.1.1.	Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

BODY OF KNOWLEDGE	FL.SC.3.N.	Nature of Science
BIG IDEA	**SC.3.N.3.**	**The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example; ''theory,'' ''law,'' ''hypothesis,'' and ''model'' have very specific meanings and functions within science.**
BENCHMARK	SC.3.N.3.1.	Recognize that words in science can have different or more specific meanings than their use in everyday language; for example, energy, cell, heat/cold, and evidence.

BODY OF KNOWLEDGE	FL.SC.3.L.	Life Science
BIG IDEA	**SC.3.L.14.**	**Organization and Development of Living Organisms - A. All plants and animals, including humans, are alike in some ways and different in others. B. All plants and animals, including humans, have internal parts and external structures that function to keep them alive and help them grow and reproduce. C. Humans can better understand the natural world through careful observation.**
BENCHMARK	SC.3.L.14.1.	Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.

Florida Standards

Science

Grade **4** - Adopted: **2008**

BODY OF KNOWLEDGE	FL.SC.4.N.	Nature of Science
BIG IDEA	**SC.4.N.1.**	**The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of ''the scientific method.'' C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.**
BENCHMARK	SC.4.N.1.1.	Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

BENCHMARK	SC.4.N.1.4.	Attempt reasonable answers to scientific questions and cite evidence in support.
BODY OF KNOWLEDGE	**FL.SC.4.L.**	**Life Science**
BIG IDEA	**SC.4.L.16.**	**Heredity and Reproduction - A. Offspring of plants and animals are similar to, but not exactly like, their parents or each other. B. Life cycles vary among organisms, but reproduction is a major stage in the life cycle of all organisms.**
BENCHMARK	SC.4.L.16.1.	Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination.
BENCHMARK	SC.4.L.16.3.	Recognize that animal behaviors may be shaped by heredity and learning.
BODY OF KNOWLEDGE	**FL.SC.4.L.**	**Life Science**
BIG IDEA	**SC.4.L.17.**	**Interdependence - A. Plants and animals, including humans, interact with and depend upon each other and their environment to satisfy their basic needs. B. Both human activities and natural events can have major impacts on the environment. C. Energy flows from the sun through producers to consumers.**
BENCHMARK	SC.4.L.17.4.	Recognize ways plants and animals, including humans, can impact the environment.

Florida Standards

Technology Education

Grade **3** - Adopted: **2016**

BODY OF KNOWLEDGE	**FL.SC.35.CS-CS.**	**COMPUTER SCIENCE - COMMUNICATION SYSTEMS AND COMPUTING**
BIG IDEA	**SC.35.CS-CS.1.**	**Modeling and simulations**
BENCHMARK	SC.35.CS-CS.1.3	Answer a question, individually and collaboratively, using data from a simulation.
BODY OF KNOWLEDGE	**FL.SC.35.CS-CS.**	**COMPUTER SCIENCE - COMMUNICATION SYSTEMS AND COMPUTING**
BIG IDEA	**SC.35.CS-CS.2.**	**Problem solving and Algorithms**
BENCHMARK	SC.35.CS-CS.2.2	Describe how computational thinking can be used to solve real life issues in science and engineering.
BENCHMARK	SC.35.CS-CS.2.4	Solve real-world problems in science and engineering using computational thinking skills.
BENCHMARK	SC.35.CS-CS.2.6	Write an algorithm to solve a grade-level appropriate problem (e.g., move a character through a maze, instruct a character to draw a specific shape, have a character start, repeat or end activity as required or upon a specific event), individually or collaboratively.
BODY OF KNOWLEDGE	**FL.SC.35.CS-CP.**	**COMPUTER SCIENCE - COMPUTER PRACTICES AND PROGRAMMING**
BIG IDEA	**SC.35.CS-CP.2.**	**Computer programming basics**

BENCHMARK	SC.35.CS-CP.2.2	Create, test, and modify a program in a graphical environment (e.g., block-based visual programming language), individually and collaboratively.

Florida Standards

Technology Education

Grade **4** - Adopted: **2016**

BODY OF KNOWLEDGE	**FL.SC.35.CS-CS.**	**COMPUTER SCIENCE - COMMUNICATION SYSTEMS AND COMPUTING**
BIG IDEA	**SC.35.CS-CS.1.**	**Modeling and simulations**
BENCHMARK	SC.35.CS-CS.1.3	Answer a question, individually and collaboratively, using data from a simulation.

BODY OF KNOWLEDGE	**FL.SC.35.CS-CS.**	**COMPUTER SCIENCE - COMMUNICATION SYSTEMS AND COMPUTING**
BIG IDEA	**SC.35.CS-CS.2.**	**Problem solving and Algorithms**
BENCHMARK	SC.35.CS-CS.2.2	Describe how computational thinking can be used to solve real life issues in science and engineering.
BENCHMARK	SC.35.CS-CS.2.4	Solve real-world problems in science and engineering using computational thinking skills.
BENCHMARK	SC.35.CS-CS.2.6	Write an algorithm to solve a grade-level appropriate problem (e.g., move a character through a maze, instruct a character to draw a specific shape, have a character start, repeat or end activity as required or upon a specific event), individually or collaboratively.

BODY OF KNOWLEDGE	**FL.SC.35.CS-CP.**	**COMPUTER SCIENCE - COMPUTER PRACTICES AND PROGRAMMING**
BIG IDEA	**SC.35.CS-CP.2.**	**Computer programming basics**
BENCHMARK	SC.35.CS-CP.2.2	Create, test, and modify a program in a graphical environment (e.g., block-based visual programming language), individually and collaboratively.

Georgia Standards of Excellence

Science

Grade **3** - Adopted: **2016**

STRAND/TOPIC		**Life Science**
STANDARD / DESCRIPTION	**S3L2.**	**Obtain, evaluate, and communicate information about the effects of pollution (air, land, and water) and humans on the environment.**
ELEMENT	S3L2.b.	Explore, research, and communicate solutions, such as conservation of resources and recycling of materials, to protect plants and animals.

Georgia Standards of Excellence

Science

Grade **4** - Adopted: **2016**

STRAND/TOPIC		**Life Science**
STANDARD / DESCRIPTION	**S4L1.**	**Obtain, evaluate, and communicate information about the roles of organisms and the flow of energy within an ecosystem.**

ELEMENT	S4L1.c.	Design a scenario to demonstrate the effect of a change on an ecosystem.

Georgia Standards of Excellence

Technology Education

Grade **3** - Adopted: **2019**

STRAND/TOPIC		**Computer Science Third Grade (11.07600)**
STANDARD / DESCRIPTION		**Knowledge Constructor**
ELEMENT	**CSS.KC.3-5.2.**	**Curate (analyze and evaluate) a variety of resources and digital tools to construct knowledge and produce creative artifacts.**
ELEMENT/GLE	CSS.KC.3-5.2.3.	Explain why a real-world issue exists or was created and develop a possible solution.

STRAND/TOPIC		**Computer Science Third Grade (11.07600)**
STANDARD / DESCRIPTION		**Global Collaborator**
ELEMENT	**CSS.GC.3-5.7.**	**Use digital tools to expand personal viewpoints and enrich learning by collaborating effectively both locally and globally.**
ELEMENT/GLE	CSS.GC.3-5.7.2.	Plan the development of a program by including others' viewpoints and considering user preferences.

STRAND/TOPIC		**Computer Science Third Grade (11.07600)**
STANDARD / DESCRIPTION		**Reflective Researcher**
ELEMENT	**CSS.RR.3-5.8.**	**Gather, evaluate, and organize quality information from multiple sources.**
ELEMENT/GLE	CSS.RR.3-5.8.3.	Use information from multiple sources to identify real-world issues and create solutions.

Georgia Standards of Excellence

Technology Education

Grade **4** - Adopted: **2019**

STRAND/TOPIC		**Computer Science Fourth Grade (11.07700)**
STANDARD / DESCRIPTION		**Knowledge Constructor**
ELEMENT	**CSS.KC.3-5.2.**	**Curate (analyze and evaluate) a variety of resources and digital tools to construct knowledge and produce creative artifacts.**
ELEMENT/GLE	CSS.KC.3-5.2.3.	Explain why a real-world issue exists or was created and develop a possible solution.

STRAND/TOPIC		**Computer Science Fourth Grade (11.07700)**
STANDARD / DESCRIPTION		**Global Collaborator**
ELEMENT	**CSS.GC.3-5.7.**	**Use digital tools to expand personal viewpoints and enrich learning by collaborating effectively both locally and globally.**

ELEMENT/GLE	CSS.GC.3-5.7.2.	Plan the development of a program by including others' viewpoints and considering user preferences.

STRAND/TOPIC		**Computer Science Fourth Grade (11.07700)**
STANDARD / DESCRIPTION		**Reflective Researcher**
ELEMENT	**CSS.RR.3-5.8.**	**Gather, evaluate, and organize quality information from multiple sources.**
ELEMENT/GLE	CSS.RR.3-5.8.3.	Use information from multiple sources to identify real-world issues and create solutions.

Hawaii Content and Performance Standards

Mathematics

Grade **3** - Adopted: **2010**

CONTENT STANDARD / COURSE	**HI.CC.MP.3.**	**Mathematical Practices**
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.3.1.	Make sense of problems and persevere in solving them.
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.3.2.	Reason abstractly and quantitatively.
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.3.3.	Construct viable arguments and critique the reasoning of others.
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.3.4.	Model with mathematics.
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.3.5.	Use appropriate tools strategically.

Hawaii Content and Performance Standards

Mathematics

Grade **4** - Adopted: **2010**

CONTENT STANDARD / COURSE	**HI.CC.MP.4.**	**Mathematical Practices**
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.4.1.	Make sense of problems and persevere in solving them.

STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.4.2.	Reason abstractly and quantitatively.
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.4.3.	Construct viable arguments and critique the reasoning of others.
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.4.4.	Model with mathematics.
STANDARD / PERFORMANCE INDICATOR / DOMAIN	MP.4.5.	Use appropriate tools strategically.

Hawaii Content and Performance Standards

Science

Grade **3** - Adopted: **2016**

CONTENT STANDARD / COURSE	**NGSS.3-LS.**	**LIFE SCIENCE**
STANDARD / PERFORMANCE INDICATOR / DOMAIN	**3-LS4.**	**Biological Evolution: Unity and Diversity**
INDICATOR / GRADE LEVEL EXPECTATION / BENCHMARK		**Students who demonstrate understanding can:**
EXPECTATION / TOPIC	3-LS4-4.	Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

CONTENT STANDARD / COURSE	**NGSS.3-5-ETS.**	**ENGINEERING DESIGN**
STANDARD / PERFORMANCE INDICATOR / DOMAIN	**3-5-ETS1.**	**Engineering Design**
INDICATOR / GRADE LEVEL EXPECTATION / BENCHMARK		**Students who demonstrate understanding can:**
EXPECTATION / TOPIC	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
EXPECTATION / TOPIC	3-5-ETS1-2.	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.
EXPECTATION / TOPIC	3-5-ETS1-3.	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.

Hawaii Content and Performance Standards

Science

Grade **4** - Adopted: **2016**

CONTENT STANDARD / COURSE	**NGSS.4-LS.**	**LIFE SCIENCE**
STANDARD / PERFORMANCE INDICATOR / DOMAIN	**4-LS1.**	**From Molecules to Organisms: Structures and Processes**
INDICATOR / GRADE LEVEL EXPECTATION / BENCHMARK		**Students who demonstrate understanding can:**
EXPECTATION / TOPIC	4-LS1-1.	Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

CONTENT STANDARD / COURSE	**NGSS.3-5-ETS.**	**ENGINEERING DESIGN**
STANDARD / PERFORMANCE INDICATOR / DOMAIN	**3-5-ETS1.**	**Engineering Design**
INDICATOR / GRADE LEVEL EXPECTATION / BENCHMARK		**Students who demonstrate understanding can:**
EXPECTATION / TOPIC	3-5-ETS1-1.	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
EXPECTATION / TOPIC	3-5-ETS1-2.	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.
EXPECTATION / TOPIC	3-5-ETS1-3.	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.