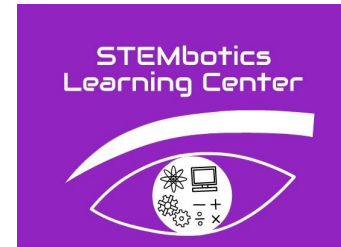


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6-8 Computer Science National Standards Connections

Click [here](#) to view the entire complete list of Computer Science Standards.

Computing Systems

2-CS-01

Recommend improvements to the design of computing devices, based on an analysis of how users interact with the devices.

2-CS-02

Design projects that combine hardware and software components to collect and exchange data.

Data and Analysis

2-DA-08

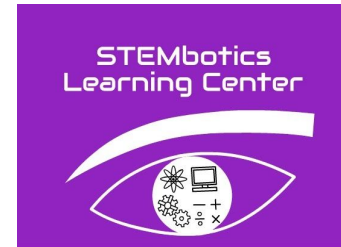
Collect data using computational tools and transform the data to make it more useful and reliable.

2-DA-09

Refine computational models based on the data they have generated.

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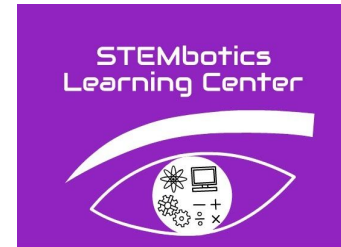


Algorithms & Programming

2-AP-10	Use flowcharts and/or pseudocode to address complex problems as algorithms.
2-AP-11	Create clearly named variables that represent different data types and perform operations on their values.
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-15	Seek and incorporate feedback from team members and users to refine a solution that meets user needs.
2-AP-16	Incorporate existing code, media, and libraries into original programs, and give attribution.
2-AP-18	Distribute tasks and maintain a project timeline when collaboratively developing computational artifacts.
2-AP-19	Document programs in order to make them easier to follow, test, and debug.

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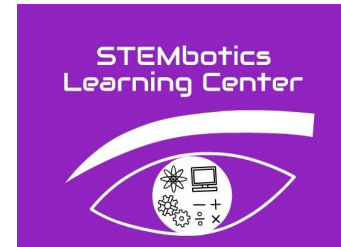
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Impacts of Computing	
2-IC-20	Compare tradeoffs associated with computing technologies that affect people's everyday activities and career options.
2-IC-21	Discuss issues of bias and accessibility in the design of existing technologies.

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6-8 Next Generation K-12 Science Standards Connections

Click [here](#) to view the complete document of science standards.

Middle School Life Sciences

From Molecules to Organisms: Structures & Processes

MS-LS1-5.

Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms

MS-LS1-6.

Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms

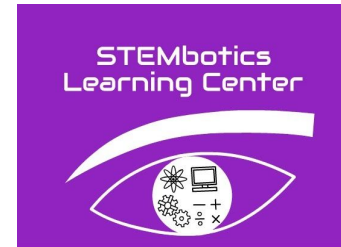
Ecosystems: Interactions, Energy, and Dynamics

MS-LS2-4.

Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. [

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Heredity: Inheritance and Variation of Traits

MS-LS3-1.

Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.

Biological Evolution: Unity & Diversity

MS-LS4-5.

Gather and synthesize information about technologies that have changed the way humans influence the inheritance of desired traits in organisms.

Fourth Grade

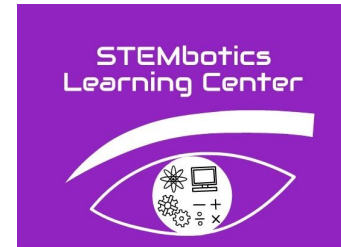
Energy

4-PS3-3.

Ask questions and predict outcomes about the changes in energy that occur when objects collide.

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From Molecules to Organisms: Structures & Processes

4-LS1-1.

Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction

Earth's Systems

4-ESS2-1.

Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation

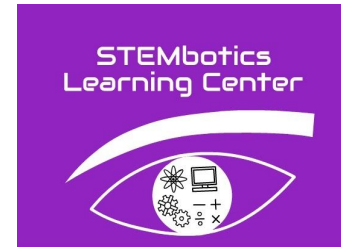
Earth & Human Activity

4-ESS3-2.

Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.

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Fifth Grade

Motion & Stability: Forces & Interactions

5-PS2-1.

Support an argument that the gravitational force exerted by Earth on objects is directed down.

From Molecules to Organisms: Structures & Processes

5-LS1-1.

Support an argument that plants get the materials they need for growth chiefly from air and water.

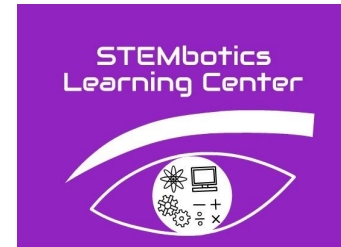
Earth's Place in the University

5-ESS1-2.

Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

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6th-8th Common Core Math Standards

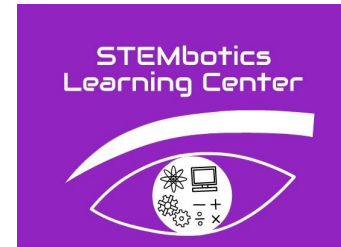
Click [here](#) for the complete K-2 Common Core Math Standards.

Sixth Grade

Ratios and Proportional Relationships	Understand ratio concepts and use ratio reasoning to solve problems.
The Number System	Apply and extend previous understandings of multiplication and division to divide fractions by fractions
Expressions and Equations	Represent and analyze quantitative relationships between dependent and independent variables.
Geometry	Solve real-world and mathematical problems involving area, surface area, and volume.
Statistics and Probability	Develop understanding of statistical variability.

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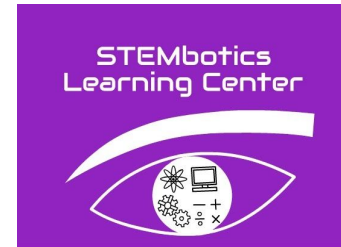
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Seventh Grade	
Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems
The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.
Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations.
Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume
Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models.

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Eighth Grade	
The Number System	Know that there are numbers that are not rational, and approximate them by rational numbers.
Functions	Define, evaluate, and compare functions
Geometry	Solve real-world and mathematical problems involving volume of cylinders, cones and spheres.
Statistics and Probability	Investigate patterns of association in bivariate data.