Level 2 - Foundations of computer science

Lesson 1: Putting a STOP to Online Meanness

CSTA K-12 Computer Science Standards (2017)

IC - Impacts of Computing

- 1A-IC-17 - Work respectfully and responsibly with others online.

Lesson 2: My Robotic Friends Jr.

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 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.

Lesson 3: Programming with Angry Birds

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.
- 1A-AP-15 - Using correct terminology, describe steps taken and choices made during the iterative process of program development.

Lesson 4: Debugging in Maze

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.

CS - Computing Systems

- 1A-CS-03 - Describe basic hardware and software problems using accurate terminology.

Lesson 5: Collecting Treasure with Laurel

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.

Lesson 6: Creating Art with Code

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.
- 1A-AP-14 - Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.

Lesson 7: My Loopy Robotic Friends Jr.

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 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-14 - Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.

Lesson 8: Loops with Rey and BB-8

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 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-14 - Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.

Lesson 9: Harvesting Crops with Loops

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 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-14 - Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.

Lesson 10: Mini-Project: Sticker Art

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 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-13 - Give attribution when using the ideas and creations of others while developing programs.
- 1A-AP-14 - Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.

Lesson 11: The Big Event

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.

Lesson 12: Build a Flappy Game

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.

CS - Computing Systems

- 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.

Lesson 13: Mini-Project: Chase Game

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.
- 1A-AP-13 - Give attribution when using the ideas and creations of others while developing programs.

Lesson 14: Picturing Data

CSTA K-12 Computer Science Standards (2017)

DA - Data & Analysis

- 1A-DA-05 - Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data.
- 1A-DA-06 - Collect and present the same data in various visual formats.
- 1A-DA-07 - Identify and describe patterns in data visualizations, such as charts or graphs, to make predictions.

Lesson 15: Pattern Block Data

CSTA K-12 Computer Science Standards (2017)

DA - Data & Analysis

- 1A-DA-05 - Store, copy, search, retrieve, modify, and delete information using a computing device and define the information stored as data.
- 1A-DA-06 - Collect and present the same data in various visual formats.

Common Core Math Standards

MD - Using Probability To Make Decisions

- K.MD.3 - Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.3

Lesson 16: Binary Bracelets

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-09 - Model the way programs store and manipulate data by using numbers or other symbols to represent information.
- 1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.

CS - Computing Systems

- 1A-CS-02 - Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware).

Lesson 17: End of Course Project

CSTA K-12 Computer Science Standards (2017)

AP - Algorithms & Programming

- 1A-AP-10 - Develop programs with sequences and simple loops, to express ideas or address a problem.
- 1A-AP-12 - Develop plans that describe a program's sequence of events, goals, and expected outcomes.
- 1A-AP-13 - Give attribution when using the ideas and creations of others while developing programs.

- 1A-AP-15 - Using correct terminology, describe steps taken and choices made during the iterative process of program development.

CS - Computing Systems

- 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.