Idaho Standards Alignment with Python with Robots Curriculum

Grades 6-8	Unit 1	Unit 2	Unit 3	Unit 4
Computing Systems				
6-8.CS.01 Exemplify how computational devices impact the quality of life (both positively and negatively) and enhance the ability of people to perform work, communicate, and interact with others.				
6-8.CS.02 Compare and contrast the ways that humans and machines process instructions and sense the world.				
6-8.CS.03 Differentiate features of everyday objects that contain computing components (i.e., computing systems that collect, store, analyze, and/or transmit data) (e.g. Kinect, GoPro, smartphone, car).				
6-8.CS.04 Apply troubleshooting strategies for solving hardware and software problems (e.g. recognizing, describing, reproducing, isolating, fixing and retesting).				
6-8.CS.05 Compare and contrast the capabilities of different hardware and software in computer systems (e.g. processors, display types, input devices, communication, and storage capabilities).				
Networks & the Internet				
6-8.NI.01 Simulate the flow of information as packets on the Internet and networks (e.g. model using strings and paper, note passing).				
6-8.NI.02 Compare and contrast the trade-offs between physical (wired), wireless, and mobile networks (e.g. speed, security, and cost).				
Data and Analysis				
6-8.DA.01 Describe the trade-off between quality and file size of stored data (e.g. music, video, text, images).				
6-8.DA.02 Defend the selection of the data, collection, and analysis needed to answer a question.				
6-8.DA.03 Understand that data collection is used to make recommendations to influence decisions as well as predict behavior. List the positive and negative impacts.				
6-8.DA.04 Encode and decode information using encryption/decryption schemes. (e.g. Morse code, Unicode, binary, symbols, student-created codes, simple ciphers).				
6-8.DA.05 Identify layers of abstraction in different contexts (e.g. video and animation are made of audio and video frames, which are made of pixels, which are made of color codes).				
Algorithms and Programming				
6-8.AP.01 Solicit, evaluate, and integrate peer feedback as appropriate to develop or refine a product.				
6-8.AP.02 Compare different algorithms that may be used to solve the same problem by time and space efficiency.				
6-8.AP.03 Interpret, modify, and analyze content-specific models used to run simulations (e.g. ecosystems, epidemics, spread of ideas) .				
6-8.AP.04 Apply an iterative design process (define the problem, generate ideas, build, test, and improve solutions) in problem solving, both individually and collaboratively.				
6-8.AP.05 Create, analyze, and modify control structures to create programming solutions.				
6-8.AP.06 Predict the outcome of an algorithm and then step through it to verify your predictions.				
6-8.AP.07 Decompose a problem into sub-problems and demonstrate how the parts can be synthesized to create a solution.				
6-8.AP.08 Evaluate the correctness of a program by collecting and analyzing data generated from multiple runs of the program.				
6-8.AP.09 Use debugging and testing to improve program quality.				
Impacts of Computing				
6-8.IC.01 Explore security risks associated with using weak passwords, lack of encryption and/or insecure transactions.				
6-8.IC.02 Explore how computer science fosters innovation and enhances other careers and disciplines.				
6-8.IC.03 Describe ethical issues that relate to computers and networks (e.g. equity of access, security, privacy, ownership and information sharing, copyright, licensing).				
6-8.IC.04 Explore how the Internet impacts global communication and collaboration.				
6-8.IC.05 Design, develop, and present computational artifacts that have a positive social impact (e.g. web pages, mobile applications, animations).				
6-8.IC.06 Redesign user interfaces to be more inclusive, accessible, and minimizing the impact of the designer's inherent bias. (e.g. web pages, mobile applications, animations).				
6-8.IC.07 Understand and explain the elements of federal, state, and local regulations that relate to digital citizenship (e.g. COPPA, CIPA, state laws, district policies).				
6-8.IC.08 Summarize current events and changes resulting from computing and their effects on education, the workplace, and society.				
6-8.IC.09 Predict positive and negative social impacts of existing or student created content and computational artifacts (e.g. economic, entertainment, education, or political).				