

Standards	U1	U2	U3	U4	U5	U6	Tech Unit 1	Tech Unit 2	Tech Unit 3	Tech Unit 4	Tech Unit 5
23											
	Step Counter, Clap, Night Lights, Other-Ties Real-Life micro:bit Python & MCode	Prime Code Base Introduction with Advance Use of Sensors and Measuring Skills	Prime Grip Super Cleanup (detect) and Design for Someone Extension	Loops, Shapes, If/Then Refractor, Emojis, Sound and other Physical Computing/Coding Connections	VR VEX/IRobot Draw Initial, -Art House, Repeat, MyBlocks, Variable, Transport	4 extension	VR Sensors EV3, Movement and Sensors Understanding	Factorites and Automation Over Time, Optimization Airplane, Robot and Future, Pros.	Robot Build EV3 with Movement and Motor Function and Big Ideas	Characteristics, Sensors Ultrasonic, Touch and Color with Real Life Connections Examples	EV3 Guide, Conclusion Wrap-up
8.1.8.CS.1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.1.8.CS.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1.8.CS.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.1.8.CS.4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.1.8.NI.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1.8.NI.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1.8.NI.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1.8.NI.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1.8.IC.1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.1.8.IC.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8.1.8.DA.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.1.8.DA.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1.8.DA.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.1.8.DA.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8.1.8.DA.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

SP Prime
Extension
Possible

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| <input checked="" type="checkbox"/> | 8.1.8.CS.1: Recommend improvements to computing devices in order to improve the ways users interact with the devices. Analyze online reviews, compare/contrast early computers with touch screens, brainstorm how to improve household, redesigns mobile app | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.CS.2: Design a system that combines hardware and software components to process data. Design home security system motion sensor, automatic pet feeder robotics sensors/timer software, conditions. | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.CS.3: Justify design decisions and explain potential system trade-offs. Screen size, battery performance, cost, tools startups. | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | 8.1.8.CS.4: Systematically apply troubleshooting strategies to identify and resolve hardware and software problems in computing systems. Divide/conquer approach, develop flowchart, solve problems for younger students, hardware connection probs. | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.NI.1: Model how information is broken down into smaller pieces, transmitted as addressed packets through multiple devices over networks and the Internet, and reassembled at the destination. Landline/cell versus ethernet wireless. Packet race send across the classroom and reassembled at the end. how data is broken down into parts, large image like broken puzzle. Scrambled messages, rearrange Landline, cell, ethernet, wireless. discuss different, show short video. | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.NI.2: Model the role of protocols in transmitting data across networks and the Internet and how they enable secure and errorless communication. Telephone game, handshake routine. list common protocols, pre-arranged cards change identify error. A short written assignment on a protocol of their choice and its role in data transmission | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.NI.3: Explain how network security depends on a combination of hardware, software, and practices that control access to data and systems. Build fortress cardboard, etc label parts firewalls, p words, swarc/hware visuals help. Importance group pres. | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.NI.4: Explain how new security measures have been created in response to key malware events. Mock news report on fictional malware. Malware events and response to timeline. | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.IC.1: Compare the trade-offs associated with computing technologies that affect an individual's everyday activities and career options. different careers. Tech gadgets smartphones pros/cons routine, classroom debate | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | 8.1.8.IC.2: Describe issues of bias and accessibility in the design of existing technologies. Facial recognition, color contrast, captioning for hearing impaired, popular video game biases | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose. Spreadsheets project, graphs, database change, | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.DA.2: Explain the difference between how the computer stores data as bits and how the data is displayed. Bits/bytes and ASCII compare. Binary code. Audio/video to binary. | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.DA.3: Identify the appropriate tool to access data based on its file format. File conversion activity, recognition, explore | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.DA.4: Transform data to remove errors and improve the accuracy of the data for analysis. Spot errors, data cleaning. | <input type="checkbox"/> |
| <input type="checkbox"/> | 8.1.8.DA.5: Test, analyze, and refine computational models. Feedback loops, sim software (Vex VR), compare models. | <input type="checkbox"/> |

<input type="checkbox"/>	8.1.8.DA.6: Analyze climate change computational models and propose refinements. Suggest changes, simplified change models.	<input type="checkbox"/>
<input type="checkbox"/>	8.1.8.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode. Robotics	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8.1.8.AP.2: Create clearly named variables that represent different data types and perform operations on their values. Variables Myblocks, Program Celsius to Fahrenheit.	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8.1.8.AP.3: Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. Use nested loops robotics	<input checked="" type="checkbox"/>
<input type="checkbox"/>	8.1.8.AP.4: Decompose problems and subproblems into parts to facilitate the design, implementation, and review of programs. Breakdown problems recipe, password checking.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8.1.8.AP.5: Create procedures with parameters to organize code and make it easier to reuse. Rectangle robot, Sphero.	<input checked="" type="checkbox"/>
<input type="checkbox"/>	8.1.8.AP.6: Refine a solution that meets users' needs by incorporating feedback from team members and users. Survey tool and get changes, challenges robotics, etc.	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8.1.8.AP.7: Design programs, incorporating existing code, media, and libraries, and give attribution. Add on existing programs.	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8.1.8.AP.8: Systematically test and refine programs using a range of test cases and users. Test calc app AI2, Robot tasks	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8.1.8.AP.9: Document programs in order to make them easier to follow, test, and debug. Engineering notebook, manual, comments	<input checked="" type="checkbox"/>
<input type="checkbox"/>	8.2.8.ED.1: Evaluate the function, value, and aesthetics of a technological product or system, from the perspective of the user and the producer. Function car, robot, phone, etc. Selec car.robot	<input type="checkbox"/>
<input checked="" type="checkbox"/>	8.2.8.ED.2: Identify the steps in the design process that could be used to solve a problem. Where to find errors? Robot household chores list steps for prototype, potential errors.	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8.2.8.ED.3: Develop a proposal for a solution to a real-world problem that includes a model (e.g., physical prototype, graphical/technical sketch). App Inventor, Robot Sketch. Identify leaves	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	8.2.8.ED.4: Investigate a malfunctioning system, identify its impact, and explain the step-by-step process used to troubleshoot, evaluate, and test options to repair the product in a collaborative team. Robotics Pairs fix it, devise process to fix, work to find fix	<input checked="" type="checkbox"/>
<input type="checkbox"/>	8.2.8.ED.5: Explain the need for optimization in a design process. Test paper airplane flight, how to make it go longer.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.ED.6: Analyze how trade-offs can impact the design of a product. battery life/size.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.ED.7: Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g., annotated sketches). Design eco-friendly water bottles, costs, sketches.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.ITH.1: Explain how the development and use of technology influences economic, political, social, and cultural issues. Fix toaster and find solutions.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.ITH.2: Compare how technologies have influenced society over time. Old CDs what to use for.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.ITH.3: Evaluate the impact of sustainability on the development of a designed product or system.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.ITH.4: Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.ITH.5: Compare the impacts of a given technology on different societies, noting factors that may make a technology appropriate and sustainable in one society but not in another.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.NT.1: Examine a malfunctioning tool, product, or system and propose solutions to the problem.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.NT.2: Analyze an existing technological product that has been repurposed for a different function. Repurpose for robot.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.NT.3: Examine a system, consider how each part relates to other parts, and redesign it for another purpose. Redesign a bicycle, robot, serve another purpose.	<input type="checkbox"/>
<input type="checkbox"/>	8.2.8.NT.4: Explain how a product designed for a specific demand was modified to meet a new demand and led to a new product. Airplane to Drone, Landline to Smartphone, Workers Auto by themselves, workers with automation robots.	<input type="checkbox"/>

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| <input type="checkbox"/> | <input type="checkbox"/> | 8.2.8.ETW.1: Illustrate how a product is upcycled into a new product and analyze the short- and long-term benefits and costs. Plastic bottles can be used as planters. Benefits and costs, time. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8.2.8.ETW.2: Analyze the impact of modifying resources in a product or system (e.g., materials, energy, information, time, tools, people, capital). Replace toy with solar panel...changes of material and function. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8.2.8.ETW.3: Analyze the design of a product that negatively impacts the environment of society and develop possible solutions to lessen its impact. Alternative packaging. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8.2.8.ETW.4: Compare the environmental effects of two alternative technologies devised to address climate change issues and use data to justify which choice is best. Solar versus Wind power, costs, effectiveness, impacts, etc. |
| <input type="checkbox"/> | <input type="checkbox"/> | 8.2.8.EC.1: Explain ethical issues that may arise from the use of new technologies. Facial recognition privacy concerns |
| <input type="checkbox"/> | <input type="checkbox"/> | 8.2.8.EC.2: Examine the effects of ethical and unethical practices in product design and development. (labor unfair, resource minerals) |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.CR.2: Compare various ways to give back through strengths, passions, goals, and other personal factors. Volunteer. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.CR.3: Relate the importance of consumer, business, and government responsibility to the economy and personal finance. Choose sustainable products. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.CDM.2: Demonstrate an understanding of the terminology associated with different types of credit (e.g., credit cards, installment loans, mortgages, lines of credit) and compare and calculate the interest rates associated with each |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.CP.1: Compare prices for the same goods or services. Different prices? Why? |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.CP.2: Analyze how spending habits affect one's ability to save. Going to Starbucks every day? Reduce/ |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.EG.6: Explain the economic principle of the circular flow of money in different situations regarding buying products or services from a local or national business and buying imported or domestic goods. Import vs. Export of products. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.FI.1: Identify the factors to consider when selecting various financial service providers. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.FI.4: Analyze the interest rates and fees associated with financial products |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.FP.1: Describe the impact of personal values on various financial scenarios. Clara pays more for sustainable, local products. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.FP.2: Evaluate the role of emotions, attitudes, and behavior (rational and irrational) in making financial decisions. Buying expensive games and advertisements led to buying something I didn't need |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.FP.3: Explain how self-regulation is important to managing money (e.g., delayed gratification, impulse buying, peer pressure, etc.). Wait for sale, don't take money out of investment. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.FP.5: Determine how spending, investing, and using credit wisely contributes to financial well-being. Invest stocks over years. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.FP.6: Compare and contrast advertising messages to understand what they are trying to accomplish. Cereal: health vs. fun. Car: safety versus speed. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.PB.4: Construct a simple personal savings and spending plan based on various sources of income and different stages of life (e.g. teenager, young adult, family). Budgeted for items to buy. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.RM.1: Determine criteria for deciding the amount of insurance protection needed. Flood: should get? increase home insurance? Valuable items at home. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.RM.2: Analyze the need for and value of different types of insurance and the impact of deductibles in protecting assets against loss. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.1.8.RM.4: Explain the purpose of insurance products and the reasons for property product and liability insurance protection. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.4.8.CI.2: Repurpose an existing resource in an innovative way (e.g., 8.2.8.NT.3). Shoebox as a charging station. |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.4.8.DC.3: Describe tradeoffs between allowing information to be public (e.g., within online games) versus keeping information private and secure. |

9.4.8.DC.8

9.4.8.IML.4

9.4.8.IML.9

9.4.8.TL.1

9.4.8.DC.8: Explain how communities use data and technology to develop measures to respond to effects of climate change (e.g., smart cities). Implement sensors to monitor air quality and address pollution.

9.4.8.IML.4: Ask insightful questions to organize different types of data and create meaningful visualizations. Screen time/sleep: Sales versus advertising.

9.4.8.IML.9: Distinguish between ethical and unethical uses of information and media (e.g., 1.5.8.CR3b, 8.2.8.EC.2). Copyright

9.4.8.TL.1: Construct a spreadsheet in order to analyze multiple data sets, identify relationships, and facilitate data-based decision-making. Analyze information.

Standards	Grade 6	Grade 7	Grade 8	Standards Details
Grade 6				
8.1.8.NI.1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	model packet protocol: packet race puzzle, image
8.1.8.NI.2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	protocols data identify error
8.1.8.NI.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	network security - build fortress infoormatoin
8.1.8.NI.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	security response malware events; timeline, mock news
8.1.8.DA.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	organize data purpose proeject, graphs, dbase, spread, etc.
8.1.8.DA.2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	expalin bits/bytes and binary lesson
8.1.8.DA.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Analyze climate change simple refine models
8.2.8.ITH.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Explain tech product econ, pol, soc, cult: Fix toaster/answers
8.2.8.ITH.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Tech designed neg. consequences of other technologies
8.2.8.NT.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	examine system redesign: bicycle, robot for other purpose
8.2.8.ETW.1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Upcycle product: plastic for planters
8.2.8.ETW.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Change resources: replace toy with solar panel
8.2.8.ETW.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Design negative impact, give solution: envir. friendly packing
8.2.8.ETW.4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Compare enviromental effects (solar vs. wind)