Standard ID	Standard Description
Unit 1: Hardware and Software	
Importing Libraries	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
Communicating with Light	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
Pair Programming	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
Communicating with Sounds	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-21	Evaluate and refine computational artifacts to make them more usable and accessible.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.

Digital Sign	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-21	Evaluate and refine computational artifacts to make them more usable and accessible.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
Ideas to Support Your Design	
3A-AP-19	Systematically design and develop programs for broad audiences by incorporating feedback from users.
Career Connections - Lesson Extension	
3A-IC-27	Use tools and methods for collaboration on a project to increase connectivity of people in different cultures and career fields.
Unit 2: Motors	
Making Moves with Motors	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-13	Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.
3A-AP-20	Evaluate licenses that limit or restrict use of computational artifacts when using resources such as libraries.

New Moves with Motors	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-13	Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.
3A-AP-20	Evaluate licenses that limit or restrict use of computational artifacts when using resources such as libraries.
Automating Action	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-13	Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.
3A-AP-20	Evaluate licenses that limit or restrict use of computational artifacts when using resources such as libraries.
Hopper Run	
3A-AP-13	Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.
3A-AP-21	Evaluate and refine computational artifacts to make them more usable and accessible.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.

Race Day	
3A-AP-13	Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.
3A-AP-21	Evaluate and refine computational artifacts to make them more usable and accessible.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-CS-03	Develop guidelines that convey systematic troubleshooting strategies that others can use to identify and fix errors.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
Ideas to Help with Race Day	
3A-AP-19	Systematically design and develop programs for broad audiences by incorporating feedback from users.
Unit 3: Sensor Control	
Start Sensing	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-DA-12	Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
Charging Rhino	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-DA-12	Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.

Cart Control	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-DA-12	Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
Safe Delivery	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-DA-12	Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
Grasshopper Trouble	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
Ideas to Help Your Grasshopper	
3A-AP-19	Systematically design and develop programs for broad audiences by incorporating feedback from users.

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Unit 4: Loops and Variables	
Warm Up Loop with Leo	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs
Counting Reps with Leo	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs
Dance Loop with Coach	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs

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Setting Conditions for Yoga	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs
Infinite Moves	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs
Leading the Team with Loops	
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-14	Use lists to simplify solutions, generalizing computational problems instead of repeatedly using simple variables.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-18	Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs
Ideas to Help with Leading the Team with Loops	
3A-AP-19	Systematically design and develop programs for broad audiences by incorporating feedback from users.

Unit 5: Conditions for Games	
Controlling Motion with Tilt	
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-23	Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
Claw Machine	
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-23	Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
Charting Game Decisions	
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-23	Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.

Guess Which Color	
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-23	Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
Guessing Game	
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-23	Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-21	Evaluate and refine computational artifacts to make them more usable and accessible.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
Score!	
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-23	Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-21	Evaluate and refine computational artifacts to make them more usable and accessible.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.

Game Time	
3A-AP-16	Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.
3A-AP-17	Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.
3A-AP-23	Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.
3A-AP-22	Design and develop computational artifacts working in team roles using collaborative tools.
3A-AP-21	Evaluate and refine computational artifacts to make them more usable and accessible.
3A-CS-02	Compare levels of abstraction and interactions between application software, system software, and hardware layers.
3A-AP-19	Systematically design and develop programs for broad audiences by incorporating feedback from users.
Ideas to Help with Game Time	
3A-AP-19	Systematically design and develop programs for broad audiences by incorporating feedback from users.

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