intel SKILLS FOR INNOVATION

INNOVATOR KIT

VIRTUAL AND HYBRID LEARNING ADAPTATIONS

Given its future-oriented hardware and topics, the Intel® Innovator Kit is particularly well-suited for virtual and hybrid learning environments. Students can dig into the pillars of computational thinking, using the digital resources provided in the *Activity Cards* and extend their learning with the *Go Further* suggestions. Students may not have access to all the kit hardware components at home, but they can use their own or school-issued devices to program in Scratch* and Python* and emulate a Raspberry Pi* microcomputer. Students can submit code snippets, written independently or collaboratively with peers, to be tested during virtual or face to face class meetings. Some of the activities, such as the artificial intelligence automobile recognition activity, may be best suited for whole group demonstrations. However, the Innovator Kit is designed as a starting point for explorations into unmaned aerial vehicles, microcomputers, and AI. Consider establishing a checkout policy to empower students who are ready to dig deeper into these topics in independent study.

In addition, use the adaptations matrix on the back side of this page to explore ways to modify the learning materials to use them in virtual, online, and hybrid teaching and learning environments.

ADDITIONAL ONLINE RESOURCES

- Raspberry Pi* emulator for Windows* 10
- Scratch* Studio
- Microsoft Visual Studio Live* Share

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ACTIVITY ADAPTATIONS MATRIX

		Whole Group	Small Group	Inde-pendent	Adaptation Ideas
Pillars of Computational Thinking	Activity 1	√	√	√	• Break activities into asynchronous assignments. • Encourage thinking about how students use CT skills outside of the traditional school. • Challenge individual or groups of students with *Go Further* activities.
	Activity 2	√	√	√	
	Activity 3	√	√	√	
	Activity 4			√	
Tello* Drone	Activity 5	√		√	• Watch videos to engage students in what they already know about drones. • Encourage students to explore programming drones at home.
	Activity 6		√	√	• Set up a Scratch* Studio for Tello* programs • Use Visual Studio Live* Share for Python pair programming.
	Activity 7		√	√	• Collect programs from students and test in synchronous virtual meetings.
Raspberry Pi*	Activity 8	√	√	√	• Encourage students to find examples of microcomputers in their homes and communities. • Install Raspberry Pi* Emulators on student Windows* devices. • Demo flying the Tello* Drone for a large group then check out drones and Raspberry Pi* to individuals and small groups to try at home. • Create a time-lapse video project.
	Activity 9	√		√	
	Activity 10		√	√	
Intel® Neural Compute Stick 2	Activity 11	√	√	√	• Create a research project for students to compare and contrast examples of knowledge-based and machine learning AI systems. • Demo automobile recognition with the NCS2 using student photos. • Check out the NCS2 device to students who are ready for independent study.
	Activity 12	√		√	