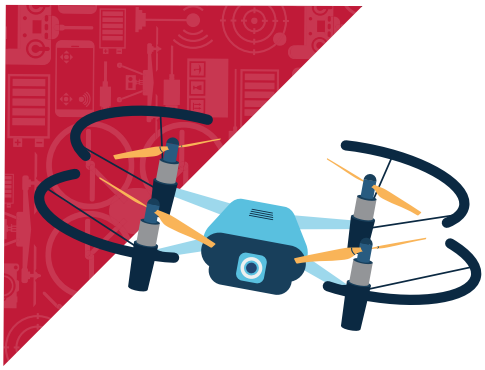

PCS edventures!™

Coding with Drones

Grades: 4-12

DRONES

Students: Unlimited

Contact Hours: 16.5+

Recommended Settings:

- Classrooms looking for hands-on computer science lessons
- After-school programs
- Remote learning

Pricing Options:

Complete Program: $3,295^{00}

Curriculum Topics:

- DroneBlocks Introductory Course
- Introduction to Tello Drone Programming
- Advanced Tello Drone Programming with DroneBlocks
- OpenCV, Python, and DroneBlocks for Tello Camera Control
- Tello Drone Programming with Python
- Node-RED Programming with Tello and Tello EDU
- Introduction to JavaScript Programming with DroneBlocks Code
- Tello & Art Present: Dance
- Tello Challenge from Italy with Mr. Torelli
- Troubleshooting Tello

Note: Courses are periodically updated.

Materials:

Coding with Drones includes a 1-year site license to DroneBlocks that provides up to 10 educators with access to a library of digital curriculum resources. Access to a virtual drone simulator and the DroneBlocks Code app is also included for an unlimited number of students, along with the following supplies:

- Yearly Site License to DroneBlocks Membership: 1
- PCS Edventures Tello Flight Manual: 1
- Storage tub: 1
- LiPo safe storage bag: 2
- Tello carrying cases: 10
- Tello drones: 10
- LiPo batteries: 30
- USB charging cables: 10
- Extra prop guards (4ct): 10
- 4-Port Lipo battery multi-charger: 5

Technical Requirements:

Block Coding DroneBlocks Courses:

- 10 compatible devices (one per drone) running the DroneBlocks app and 1 compatible device running the Tello app.
- The DroneBlocks app requires the use of a Wifi-enabled smartphone, tablet, Chromebook, desktop or laptop running Android, iOS or ChromeOS. (Note: DroneBlocks is not compatible with FireOS, the operating system for Amazon tablets.)
- The Tello app required for firmware updates requires the use of a Wifi-enabled smartphone running Android or iOS. (Note: the Tello app is not compatible with most tablets).

Line Coding Courses, such as Programming with Python:

- 10 devices (one per drone) running Windows, OSX or Linux and 1 compatible device running the Tello app.

Logistics & Storage:
Each kit is shipped in a sturdy tub for easy access and storage throughout the year.

Shipping & Availability:
Contact a PCS STEAM Program Specialist for shipping options.

Product Orientation:
Free product orientation webinar is available upon request on purchases of $500 or more.

Alignment & Standards

For a complete list of Alignment & Standards make sure to visit the product page.

Habits of Mind:

16 "thinking habits" developed by Art Costa and Bena Kallick to empower students to succeed in a 21st century learning environment.

- Persisting
- Thinking Flexibly
- Striving for Accuracy
- Applying Past Knowledge to New Situations
- Thinking and Communicating with Clarity and Precision

21st Century Skills:

- Critical Thinking and Problem Solving
- Information, Media, and Technology Literacy
- Flexibility and Adaptability
- Initiative and Self-Direction

Common Core State Standards:

- CCSS.MATH.CONTENT.6.EE.A.2. Write, read, and evaluate expressions in which letters stand for numbers.

Functions

- CCSS.MATH.CONTENT.8.F.A.1. Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

Geometry

- CCSS.MATH.CONTENT.4.MD.C.5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.

The Number System

- CCSS.MATH.CONTENT.6.NS.C.6. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

Trigonometry

- CCSS.MATH.CONTENT.HSF.TF.A.1. Understand radian measure of an angle as the length of the arc on the unit circle subtended by the angle.

Idaho Computer Science Standards:

Idaho Computer Science Standards, built on the interim 2016 CSTA (Computer Science Teachers Association) standards

Algorithms and Programming

- 3-5.AP.06. Construct and test problem solutions using a block-based visual programming language, both independently and collaboratively (e.g. pair programming).

Computing Systems

- 3-5.CS.02. Identify, using accurate terminology, simple hardware and software problems and apply strategies for solving these problems (e.g. rebooting the device, checking the power, access to the network, read error messages, discuss problems with peers and adults).

Data Analysis

- 9-10.DA.06. Convert between binary, decimal, octal, and hexadecimal representations of data.

Impacts of Computing

- 9-10.IC.04. Describe how computer science shares features with creating and designing an artifact such as in music and art.

Networks and Internet

- 9-10.NI.02. Illustrate the basic components of computer networks, protocols and routing (e.g. team based activities which may include drawing a diagram of a network including routers, switches, local networks, and end user computing devices, creating models with string and paper, see CS unplugged activities).