



DRONE DESIGNERS + CODING WITH DRONES: Exploring STEAM Careers

Grades: 4-8

IDAHO STEM ACTION CENTER 2021



Students: Up to 30

Curriculum Contact Hours: 100+ hours

Drone Designers includes 12 robust lessons, each designed to last about one hour. Use one lesson a day, clump them together into larger blocks or break them apart to be worked in one-at-a-time throughout the course of a school year.

The Coding with Drones 1-year enterprise license to DroneBlocks includes 100+ hours of educator resources on block coding, Python, and JavaScript that range from true beginners to advanced users.

Recommended Settings:

- Classrooms looking for hands-on STEAM activities
- After-school programs
- Summer camps

Curriculum Topics:

- Art and Technology
- Autonomous Drone Operations
- Algorithms & Programming
- Engineering Design Process
- Real-World Careers
- Block Coding, Python & JavaScript

Materials:

Drone Designers + Coding With Drones comes with a printed curriculum guide and a 1-year site license to DroneBlocks that provides access to a library of digital coding resources.

Access to a virtual drone simulator is also included along with all the supplies needed for 30 students:

- Cardstock (white) (250ct): 1
- Cardstock (asst. glitter colors) (40ct): 1
- Colored pencils (12pk): 6
- Construction paper (50 pk): 1
- Craft foam (24ct): 1
- Digital scale: 1
- LED button light (multi-color): 6
- LiPo batteries: 12
- LiPo battery multi-charger: 3

- LiPo safe storage bag: 1
- Metal washers: 60
- Mini quadcopters: 6
- Pencils (#2) (12pk): 3
- Pencil sharpeners: 6
- Plastic container: 1
- Production Team Lanyards: 30
- Protective cages (for quadcopters): 6
- Safety glasses: 30
- Scissors: 31
- Storage tub: 1
- String (ball): 1
- Student booklets: 30
- Superglue (6pk): 1
- Tape (double-sided-rolls): 6
- Tape (masking tape rolls): 6
- Team tote bags: 6
- Tissue paper (24ct): 1
- Velcro fasteners (12ct): 3

Technical Requirements:

Block Coding DroneBlocks Courses:

- Wifi-enabled smartphones, tablets, Chromebooks, desktops or laptops running Android, iOS or ChromeOS. (Note: DroneBlocks is not compatible with FireOS, the operating system for Amazon tablets.)

Line Coding Courses, such as Programming with Python:

- Desktops or laptops running Windows, OSX or Linux

Assessment:

The curriculum includes team challenges to test coding, drone costume design and flight skills.

Logistics & Storage:

Each set is shipped in a sturdy, reusable tub, safely storing materials during the program and throughout the year.

Training Requirements:

Grantees are required to attend a professional development course to be held summer 2021 (date and location tbd).

One graduate PD credit available.