



## DRONES AND DISCOVER CATALOG

2 0 2 3

The Drones and Discover catalog puts the world's fastest-growing technologies into the hands of students. From practical piloting skills, flight safety and ethical operations to programming, robotics, engineering, physics and video production, learners gain integral 21st Century Skills in areas like creative problem-solving and logic-based critical thinking through hands-on, self-guided exploration.

- CLASSROOMS
- AFTER-SCHOOL  
& OUT-OF-SCHOOL  
PROGRAMS
- SUMMER CAMPS
- CTE PROGRAMS

**edventures.com**  
(800) 429-3110

# DRONES

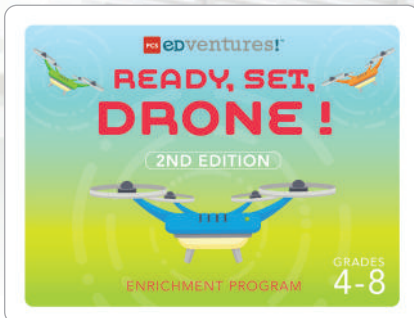
There's just something special about drones. With our continued goal of inspiring a passion for education and innovation in the drone market, PCS Edventures is thrilled to bring today's super-charged technology to the best thinkers, innovators and influencers of tomorrow.

**Are you ready to start a STEMventure?**

*Drone Packages* include a full curriculum and all of the materials needed to get airborne. There are step-by-step directions for educators, including example teaching scripts, curriculum maps & pacing guides, technical manuals, printed hand-outs, standards alignments, key terms, background information, assessment questions and everything in between.

## 3 Curriculum Options - 1 Versatile Drone

- Compatible with smartphones, tablets or other wifi-enabled devices
- 100-meter range
- 720p video recording modes
- Rubber feet and prop guards to resist damage
- Up to 13 minute flight time
- Programmable in *DroneBlocks*, *Javascript*, *Python* and more
- 100% pre-configured and ready to fly!



## What's in a Drone Package?







## Ready, Set, Drone! Second Edition

Take to the skies with mini drones! Paired with thrilling, easy-to-operate **aerial robotics** equipment, these 12, one-hour, **collaborative** lessons are the perfect introduction to the world of unmanned aerial vehicles (UAVs). In this exploration of UAV technology, **safety** is a priority as students learn to fly and capture aerial photos and videos, exploring the **real-world applications** and possibilities of drones. Putting critical thinking to the test, this **multi-subject, inquiry-driven** curriculum has students problem-solve through a thrilling exploration of drone physics, introducing learners to tomorrow's drone-filled future.

GRADES: 4-8 • STUDENTS: Up to 30 • CONTACT HOURS: 12+  
DRONES: 6 • STUDENTS/DRONES: Up to 5:1

Complete Program (Materials + Curriculum) . . . . . \$3,195<sup>00</sup>  
Refill Kit . . . . . \$349<sup>00</sup>  
Add-On for *Drone Designers* . . . . . \$895<sup>00</sup>

## Drone Designers: Exploring STEAM Careers

Drones are transforming the world of arts and entertainment, performing alongside artists as diverse as Metallica, Drake and Cirque du Soleil. Follow in the footsteps of the world's most innovative drone designers, weaving together the **engineering design process** and principles of **aerodynamics** to costume, choreograph and code tiny **aerial robots** in creative performances. Get ready to use your imagination and explore the innovative ways drones are being used for good!

GRADES: 4-8 • STUDENTS: Up to 30 • CONTACT HOURS: 12+  
DRONES: 6 • STUDENTS/DRONES: Up to 5:1

Complete Program (Materials + Curriculum) . . . . . \$3,195<sup>00</sup>  
Refill Kit . . . . . \$349<sup>00</sup>  
Add-On for *Ready, Set, Drone!* . . . . . \$895<sup>00</sup>

## Coding with Drones

*Coding with Drones* combines Tello drones and a library of **application-based, scaffolded** online curriculum resources for educators. With 100+ programming missions and ten (10) **fully-reusable** indoor drones, *Coding with Drones* perfectly melds computer science with one of the fastest-growing technologies, preparing learners for the drone-filled future. Students block code missions in *DroneBlocks*, test their code from anywhere in the *DroneBlocks Tello Simulator* and progress to line-coding in the exclusive *DroneBlocks Code Application*. From applying algebra and geometry in flight missions to exploring Python and JavaScript programming, put the power of flight into the hands of your learners!

GRADES: 4-12 • STUDENTS: Up to 30 • CONTACT HOURS: 100+  
DRONES: 10 • STUDENTS/DRONE: 3:1

Complete Program (Materials + Curriculum) . . . . . \$3,295<sup>00</sup>  
Digital Curriculum Only  
(One-Year DroneBlocks Enterprise License) . . . . . \$495<sup>00</sup>



# INTRODUCING **DISCOVER** DRONES

The *Discover Drones* curriculum delivers six distinct student experiences:

1. Hands-on building and configuration of the RubiQ drone platform
2. Real-time flight training and application, giving students the practical experience needed to ultimately become licensed drone pilots (Part 107)
3. A series of videos and quizzes addressing the technological, legal, safety, ethical and historical framework of drone technology
4. Academic exploration of core STEM concepts related to drone operations
5. Computer-based flight simulator training that prepares students for actual flight
6. Open-ended projects that integrate technological literacy with real-world reading and writing tasks through student-driven learning

As students build RubiQ, the drone in *Discover Drones*, they're engaging with hands-on lessons in structural, mechanical and electrical engineering, robotics, computer science, physics of flight, aerodynamics and flight safety, all the while building an appreciation for the responsibilities that come with flying a drone.

MEET  
**RubiQ**



The world's first buildable, open-source, educational training drone.

- Build From the Ground Up
- Fully Configurable
- High-Flying Educational Tool
- Primed with Safety Features
- No Soldering Required
- Gateway to Degrees, Careers and STEM Interests





## STUDENT RESOURCES

- **LABCards:** Student-Directed, Step-by-Step Curriculum
- **Droneology:** Web-Based Video Learning Series
- **FPV Freerider:** Flight Simulator Pilot Training
- **rubiq.edventures.com:** Online Configuration Guide & Troubleshooting



## EDUCATOR RESOURCES

- **Comprehensive Guides:**
  - Educator Guide
  - FPV Goggle Guide
  - Radio Controller Guide
  - LiPo Battery Charging Guide
  - Flight Simulator Guide
  - Flight Manuals
  - Student LABCards
- **Resource Portal:** Centralized Digital Resource Hub
- **Webinar:** One-Hour Live Online Introductory Webinar with Every Purchase
- **Technical support:** Live Tech Support Available by Phone and Email

## PROFESSIONAL DEVELOPMENT OPTIONS

- **Virtual 4 & 8-hour training sessions:** Training covers curriculum, software licenses and hardware integration.
- **On-site training at your location:** Training covers everything in-depth from curriculum and software licenses to hardware integration and flight demo/practice, at a location of your choosing.
- **Two-Day Introduction to Discover Drones Training in Boise, ID:** Training covers everything in-depth from curriculum and software licenses to hardware integration and flight demo/practice.

# DISCOVER DRONES BASE PACKAGES

In *Discover Drones*, your learning environment will experience the world's fastest-growing technology. Starting with **collaborative learning** and **scaffolded** lessons in engineering and applied science, students begin by building RubiQ, their buildable, open-source training drone. After learning the safety regulations and procedures surrounding unmanned aerial vehicles, they'll then start with the basics of flight, first becoming comfortable on a training simulator before moving onto line-of-sight piloting. After mastering RubiQ's controls, it's time for students to don their First-Person View (FPV) goggles for multiple extensions, experiencing exactly what super-charged **STEM** is like. GRADES: 7-12 • CONTACT HOURS: 30+



Base Package - 2 Drones ..... \$3,995<sup>00</sup>



Base Package - 5 Drones ..... \$7,595<sup>00</sup>

DRONES:  
2

STUDENTS:  
UP TO 10

STUDENT/  
DRONE:  
5:1

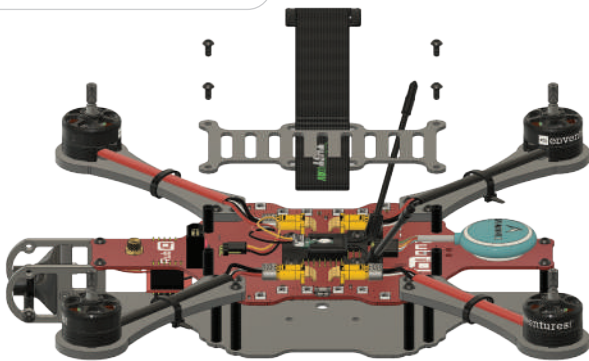
DRONES:  
5

STUDENTS:  
UP TO 25

STUDENT/  
DRONE:  
5:1

## Base Packages include:

### Buildable Drones



Includes spare parts and tools for assembly

### STEM Print Curriculum + Digital Resources



### Supporting Hardware



FPV goggles



Radio controllers



Battery chargers

### Licenses for Flight Simulator





# DISCOVER DRONES PREMIUM PACKAGES (includes rolling storage)

Premium Packages accommodate a tighter student-to-drone ratio, allowing each of your students to have more hands-on time with every aspect of *Discover Drones*. Containing all of the same great materials found in *Discover Drones Base Packages*, plus an abundance of extra radio controllers and FPV goggles to safety equipment, racing gates and flags. All materials are neatly housed inside a modular rolling storage system for proper organization. Digital elements include premium Droneology EDU LMS access and instructor access for an FAA Part 107 Aeronautical Knowledge Test prep course. Your complete drone program is waiting for take-off!


GRADES: 7-12 • CONTACT HOURS: 30+

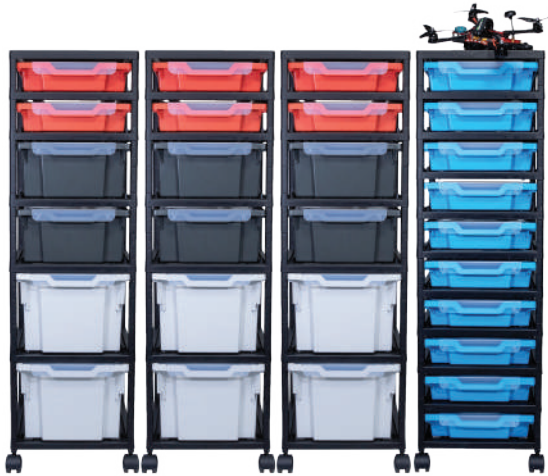


Premium Package - 7 Drones.....\$18,495<sup>00</sup>

**DRONES:**  
7

**STUDENTS:**  
UP TO 21


**STUDENT/  
DRONE:**  
3:1



Premium Package - 10 Drones.....\$25,995<sup>00</sup>

**DRONES:**  
10

**STUDENTS:**  
UP TO 30

**STUDENT/  
DRONE:**  
3:1

## Premium Packages include everything from Base Packages plus:

### Additional Supporting Hardware



x7 x10



x7 x10



Premium Quad  
Battery chargers

### FAA Part 107 Prep Course Access



### Racing Gates and Flags



### Additional Safety Equipment



# DISCOVER DRONES ADD-ONS



## DRONE PILOT GROUND SCHOOL

*Drone Pilot Ground School* is an online test prep course for drone pilots looking to pass the FAA Aeronautical Knowledge Test for a Remote Pilot Certificate (**Part 107**). Obtaining a Part 107 certificate allows a drone pilot to engage in commercial drone operations, for income. Potential applications include real estate photography, event photography, construction site surveying, and many more.

**Individual Seat One-Year Subscription** .....\$180<sup>00</sup>

## INDOOR RACING KIT

Includes four (4) mini FPV quadcopters and all the materials needed for students to hone their piloting skills indoors.

**Full Kit** .....\$1,599<sup>00</sup>

## OUTDOOR RACING KIT

Includes flags and gates and all the materials needed for students to expand their outdoor piloting skills.

**Full Kit** .....\$349<sup>00</sup>

## INSTRUCTOR DRONE KIT

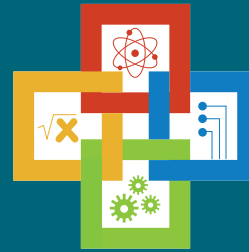
Additional drone materials to develop instructor proficiency and piloting expertise.

**Instructors Drone Kit** .....\$1,999<sup>00</sup>

RubiQ Educational Drone	1
All parts and tools needed for assembly	1
Spare motors	2
LiPo batteries	1
Radio controller and guide	1
Set of FPV goggles	1
License for flight simulator software, <i>FPV Freerider</i>	1
LiPo-safe storage bag for batteries	1
LiPo battery balance charger and guide	1
<i>Discover Drones</i> Educator Guide with Building Instructions	1
Drone Backpack	1
Compartmentalized storage bin with lid	1







# DISCOVER



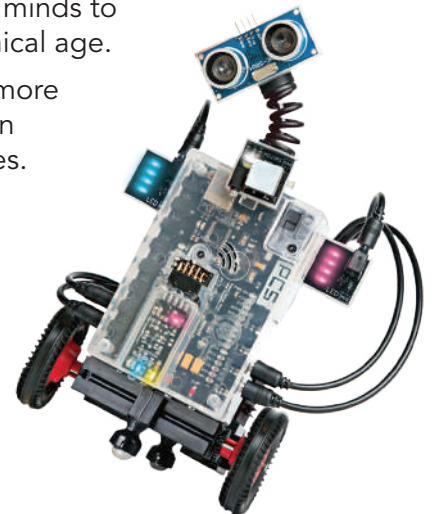
The *Discover* collection allows learners to get their hands on today's **relevant technologies**, approaching contemporary topics through **hands-on, self-guided** exploration. Promoting an atmosphere of creativity and innovation through thrilling lessons in robotics, engineering, and video production, learners explore the topics they are actively interested in, all the while developing essential skills like **communication, critical thinking** and **persistence**.

## What's in a Discover Package?

*Discover* curriculum is self-paced and student-driven for independent exploration. Activities begin with guided instructions, then graduate to more challenging tasks before moving into a final open-ended design challenge. This progression is based on Bloom's Taxonomy, a model of learning that involves mastery and growth in six stages. Whether filming a musical production or coding their first robot, in every lesson, students master new skills and discover new passions.

## Highlights:

- **TODAY'S TECHNOLOGIES:** In a world of constantly evolving technology, how can students keep up? The *Discover* collection brings modern technologies to learners, providing access to the knowledge needed to succeed in emerging STEM industries.
- **ACCESS TO FUTURE CAREERS:** Careers in programming, video production and virtual reality are fast-growing and high-paying. The *Discover* collection opens student minds to the job possibilities of their future and helps them thrive in an increasingly technical age.
- **STUDENT-DRIVEN EXPLORATION:** Studies show that students enjoy learning more when they get a choice in the matter. Designed with flexibility and adaptability in mind, put your learners in charge as they choose their own curriculum adventures.
- **FACILITATOR FLEXIBILITY:** The educator in the *Discover* collection curriculum model acts as a "guide-on-the-side," not a "sage-on-a-stage." With learners leading their discovery through student-focused curriculum, instructors are there to help guide, not lecture, as learners challenge their abilities and conquer new obstacles.
- **SMALL GROUP COLLABORATION:** The *Discover* collection kits are created for individuals or small groups. This bolsters group participation, ensuring there are no idle hands, nurturing motivation and focus, leading to higher individual achievement.



## DISCOVER STEM LAB 3-4

## DISCOVER STEM LAB 5-6



Discover STEM LAB 3-4 aims to inspire upcoming generations to pursue careers in **STEM** through reflective, experiential activities in every facet of STEM. Whether it's the **engineering design process** or math concepts, these collaborative mini-**makerspaces** reach students using modern technology to instill real-life skills and bring learning to life through approachable, **scaffolded and reusable** activities! ♻️ 100% reusable

Grades: 3-4 • Students: up to 24 • Contact Hours: 100+

Complete Grades 3-4 Program ..... \$1,995<sup>00</sup>

Dynamic Duo - Complete 3-4 & 5-6 Program .....



Discover STEM LAB 5-6 easily integrates into any learning environment looking for **reusable, scaffolded** STEM invigoration. Whether it's the **engineering design process** or a survey of sustainability, this curriculum contains over 70 hours of enrichment, where student exploration and **creative thinking** are fostered through a mini-**makerspace** mentality. ♻️ 100% reusable

Grades: 5-6 • Students: up to 24 • Contact Hours: 70+

Complete Grades 5-6 Program ..... \$1,995<sup>00</sup>

Dynamic Duo - Complete 3-4 & 5-6 Program ..... \$3,795<sup>00</sup>

### Science - BrickLAB Zoology

Utilizing PCS Edventures building bricks, *BrickLAB Zoology* is full of hands-on lessons in animal adaptation, **biological innovations** and everything you need to send students down the science rabbit hole.

### Technology - Digital Video LAB

With a simple startup, step-by-step scaffolded activities and built-in **reflections**, this series easily introduces challenging and **reusable** video production skills into any learning environment.

### Engineering - Discover Bots & Blocks

Six **engineering design** activities and six **coding** activities engage learners in **iterative thinking** and develop their **problem-solving** skills.

### Math - Discover Digits & Design

The *Discover Digits & Design* curriculum includes 12 student activities, divided into four groups based on fun and engaging math manipulatives.

### Science - Discover Dynamics

Explore physical phenomena like acceleration, inertia, the principles of linear motion, equilibrium of forces and the laws of motion with *Discover Dynamics*.

### Technology - Discover Robotics & Programming

*Discover Robotics & Programming* combines an **application-based** curriculum with high-quality mechanical building pieces for a scaffolded experience, teaching basic programming logic in the context of mechanical and **engineering design process** challenges.

### Engineering - Discover Engineering

*Discover Engineering* is a fast-moving, **reusable** kit that prepares learners to adapt to today's rapidly evolving technologies.

### Math - Discover Renewable Energy

The *Discover Renewable Energy: Solar Beginner* set is perfectly designed to help students understand the possibilities of **solar energy**.

Discover STEM LAB 3-4



Discover STEM LAB 5-6







## Discover Podcasting

Amplify student voices with the popularity of *Podcasting*! In this **application-based** program, students explore production team roles as they create their own podcasts through **collaborative learning**. **Hands-on** curriculum includes curated content from top podcasters who offer their advice to up-and-coming audio artists. **Scaffolded** lessons break down the creative process step-by-step for added accessibility, especially for **English Learners**. Microphones, headphones and an easy-to-use digital audio workstation provide all the materials you need to set up your own sound studio. Leverage the buzz about podcasts and the **intrinsic motivation** that comes with this engaging medium for learners in grades 4-8. 📅 annual subscription

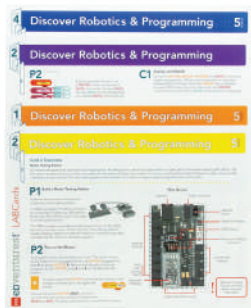
Grades: 6-12 • Students: 30 • Contact Hours: 12+

Complete Program (Materials + Curriculum) ..... \$2,995<sup>00</sup>





PLUS



OR



## Discover Robotics & Programming I

Discover Robotics & Programming combines an **application-based** curriculum with high-quality mechanical building pieces for a **scaffolded** experience, teaching basic programming logic in the context of mechanical and engineering challenges. With curriculum developed around creative **problem-solving** skills, *Discover Robotics and Programming* is flexible, empowering educators to integrate hands-on STEM into virtually any educational environment. ♻️ 100% reusable

Grades: 4-8 • Students: 1-3 per kit • Contact Hours: 20+

### Single Kit:

STUDENTS: 1-3

The Single Kit is perfect for 1-3 students looking to explore the mysteries of robotics and programming.

Complete Program (1 kit) ..... \$495<sup>00</sup>

### Club Pack:

STUDENTS: up to 15

The Club Pack comes with five (5) individual kits and is perfect for up to 15 students in small classrooms, after-school programs, home school groups and more.

Complete Program (5 kits) ..... \$2,395<sup>00</sup>

### Classroom Set:

STUDENTS: up to 48

The Classroom Pack comes with sixteen (16) individual kits and a special Robotics Challenge Guide for additional ideas and guidance when attempting local or national robotics competitions.

Complete Program (16 kits + rolling storage carts) ..... \$8,095<sup>00</sup>

## Discover Robotics & Programming II

Using the same **application-based** building manipulatives from *Discover Robotics and Programming I*, Level II's curriculum dives further into the programming process, introducing procedural programming, the integration of sensors and variable driven behaviors all through a **scaffolded, problem-solving** approach to learning. ♻️ 100% reusable

Grades: 6-8 • Students: 1-3 per kit • Contact Hours: 40+

LABCards Pack (single set) ..... \$295<sup>00</sup>







## Discover Robotics & Physics

This **application-based** learning series has been expertly **scaffolded** to support essential **problem-solving** and **collaborative** skills to formulate and develop a deep understanding of robotics and foundational physics concepts. With high-quality, **reusable** fischertechnik® building manipulatives and hands-on curriculum developed by PCS Edventures, *Discover Robotics and Physics* is an all-in-one start to your next STEMventure. ♻️ 100% reusable

Grades: 4-8 • Students: 1-3 per kit • Contact Hours: 25+

### Single Kit:

STUDENTS: 1-3

The Single Kit is primed for 1-3 eager learners looking to expand their STEM skills into robotics and physics.

Complete Program (1 kit) ..... \$635<sup>00</sup>

### Club Pack:

STUDENTS: up to 15

The Club Pack comes with five (5) individual kits, each of which is suitable for 1-3 students. This bundle is perfect for small classrooms with up to 15 students, after-school programs, homeschool groups and more.

Complete Program (5 kits) ..... \$3,125<sup>00</sup>

### Classroom Set:

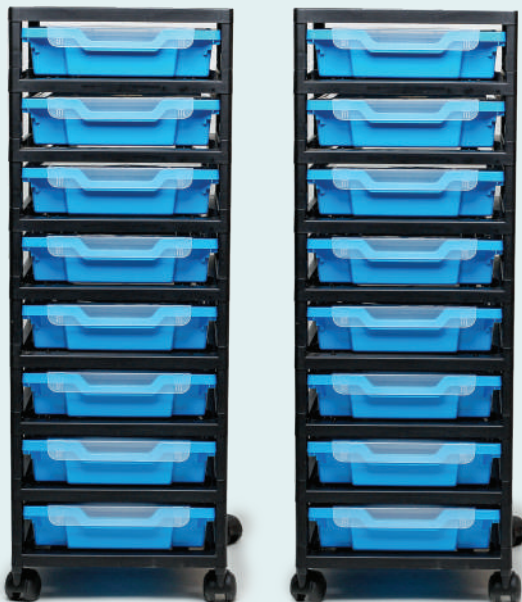
STUDENTS: up to 48

The Classroom Set includes sixteen (16) individual kits, which are stored in rolling storage carts.

Complete Program (16 kits + rolling storage carts) ..... \$10,195<sup>00</sup>



Classroom Set



## Discover Robotics Duo - Programming & Physics

More Robotics than ever! *Discover Robotics Duo* contains eight (8) *Discover Robotics & Programming* and eight (8) *Discover Robotics & Physics* kits which are stored in rolling storage carts.

Grades: 4-8 • Students: 1-3 per kit • Contact Hours: 45+

½ Physics and ½ Programming + Curriculum Digital Download + rolling storage carts ..... \$8,495<sup>00</sup>



## Discover Engineering

The engineering field is dynamic, innovative and constantly seeking the brightest minds. In *Discover Engineering*, get ready to cultivate the young engineers of tomorrow. Geared to bolster student literacy with rapidly evolving technology, this kit combines the latest research-based methods to get learners excited about **STEM**. While introducing the **engineering design process**, the reusable activities in *Discover Engineering* foster student confidence, **problem-solving** talents and other important 21st Century skills through an **iterative, scaffolded** approach to STEM enrichment. With diverse projects designed to be fun and engaging as learners construct trebuchets, cart launchers, transmission models and more, each *Discover Engineering* kit, suitable for 1-6 students, is easy to implement, designed to meet the specific intellectual needs of learners in grades 4-8 and is primed for use in any educational environment. ♻️ 100% reusable

Grades: 4-8 • Students: 1-6 per kit • Contact Hours: 25+

### Single Kit:

**STUDENTS:** 1-6 per kit

The Single Kit is perfect for small groups of students looking to embark on an engineering STEMventure for the first time.

Complete Program (1 kit) ..... \$515<sup>00</sup>

### Club Pack:

**STUDENTS:** up to 30

The Club Pack comes with five (5) individual kits, each of which is suitable for 1-6 students. This bundle is perfect for small classrooms with up to 30 students, after-school programs, homeschool groups and more.

Complete Program (5 kits) ..... \$2,445<sup>00</sup>

### Classroom Set:

**STUDENTS:** up to 48

The Classroom Pack includes eight (8) individual kits, which are stored in rolling storage carts.

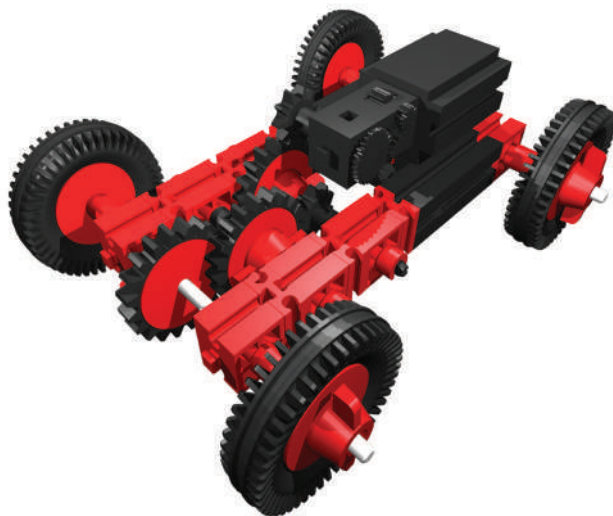
Complete Program (8 kits + rolling storage carts) ..... \$4,295<sup>00</sup>



Club Pack



Classroom Set







PLUS



OR



## Discover Digital Video LAB

This fresh-take on film focuses the camera on learners as they star in their own multimedia productions. Flip the switch with **application-based, collaborative** curriculum and survey digital documentaries, historical recreations and original films as **intrinsic motivation** guides **creative thinking**. With a simple startup, step-by-step **scaffolded** activities and built-in **reflections**, this series easily introduces challenging video production skills into any learning environment. With two curriculum sets available for grades 1-5 and 6-12, *Discover Digital Video LAB* puts the power in the hands of your students as they embark on a personal film journey. The full kit includes Android tablets that can be used for both filming and editing, but the curriculum is also written for easy compatibility with other filming and editing technologies available to your learners. ♻️ 100% reusable

Grades: 1-5 or 6-12 • Students: 30 per LAB • Contact Hours: 60+

Complete Program 1-5 or 6-12 .....	\$2,600 <sup>00</sup>
Duo (1-5 & 6-12) .....	\$4,875 <sup>00</sup>

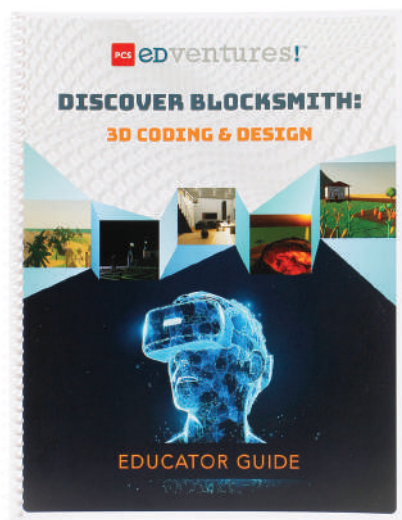
## Discover Blocksmith: 3D Coding & Design

Enter virtual reality in style! Offering a unique opportunity to learn and explore **3D coding for virtual reality**, *Discover Blocksmith* includes multiple curriculum track options with **application-based** lessons in programming and video game design. Using the Blocksmith Builder software and **creative thinking**, learners create 3D games and scenarios through step-by-step **scaffolded** lessons, bringing their creations to life through Virtual or Augmented Reality viewing devices. With **differentiated instruction** and the **reusable** Blocksmith Education license, instructors have full domain control to create a secure and distraction-free environment. A fun and exciting journey for students and educators alike, Blocksmith allows learning environments of all sizes to create, share and experience virtual reality through **intrinsic** and **iterative** creativity. ♻️ 100% reusable 📅 annual subscription

**Tech requirements:** 1 device per student recommended. *BlocksmithXR Builder* software is compatible with Windows, Mac OS and Chrome OS devices. While VR devices are not required, files created in Blocksmith can be viewed on common headsets, such as Cardboard, Daydream, Windows MR, HTC Vive and Oculus Rift.

Grades: 4-12 • Students: Groups of 30, 75, or 150  
Contact Hours: 50+

Complete VR LAB (75-Group, 1-Year License + 3 Oculus Headsets) .....	\$3,250 <sup>00</sup>
1-Year 30 Group License .....	\$400 <sup>00</sup>
1-Year 75 Group License .....	\$850 <sup>00</sup>
1-Year 150 Group License .....	\$1,500 <sup>00</sup>
10 Group Add-On .....	\$120 <sup>00</sup>



*Don't miss our other popular catalog!*



### 2023 STEAM Enrichment Catalog

There, you will find all-inclusive STEAM solutions for any STEAM-conscious instructor looking to electrify a classroom! Designed for educators to invigorate their program with fun, interactive learning through authentic, hands-on activities proven to engage learners of all levels in any setting.

### Need a Custom Solution?

(800) 429-3110 • [sales@edventures.com](mailto:sales@edventures.com) • [edventures.com](https://edventures.com)

Disclaimer: refer to the website for the most current pricing and materials list.

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