



# **Out-of-the-box STEM/STEAM Programming Part 2**

A look at easy-to-implement, reusable programs  
with valuable student takeaways

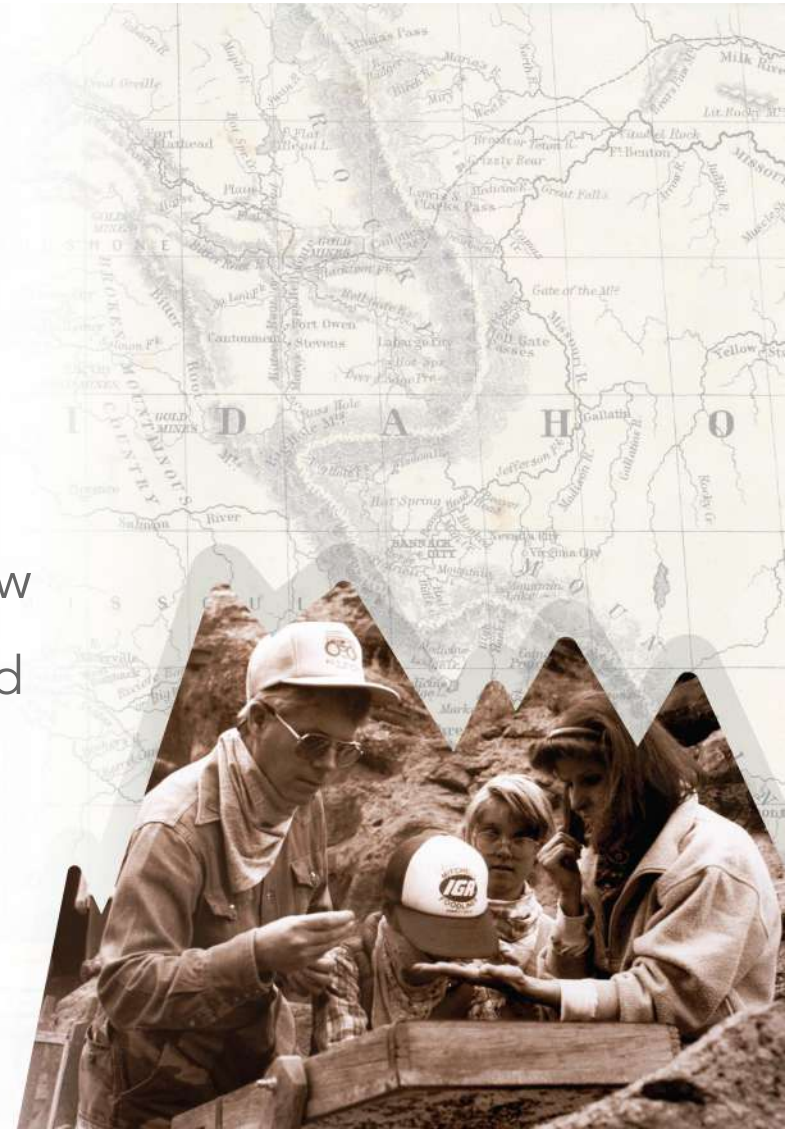
## Agenda

1. About PCS Edventures
2. Why Enrichment Programs?
  - a. Who they were developed for
  - b. Program organization
  - c. Standards & Practices
3. Enrichment Program Pyramid
  - a. Understanding the tiers
  - b. Program Spotlight
4. Wrap-Up & Closing



## About PCS Edventures

- Started as **P**at's **C**omputer **S**chool in 1988
- Grew to network of experiential learning centers in Idaho, Washington and California
- **PCS Edventures** learning solutions are now in more than 7000 sites in all 50 states and over 17 other countries
- Philosophy of hands-on projects that fuel a passion for learning and a lifelong love of STEM



## Our Products



- Turn-key kits
- Makerspace materials
- Drones for STEM education and career exploration
- Curriculum to spark interest in STEAM
- Training and support for educators

# Out-of-the-box Programs

## Our Customers



K-12 classrooms

Summer schools

After-school programs

Libraries and makerspaces





# Why Enrichment Programs?

## Why Enrichment Programs?

- Program Organization
  - All included materials
  - 12, 1-hour lessons
- Standards & Best Practices
  - Habits of Mind
  - 21st Century Skills
  - Common Core State Standards
  - Next Generation Science Standards





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EXPERTS IN  
HANDS-ON  
STEM EDUCATION

# Lesson Structure



## Lesson Structure



### The Prince Frog



#### STEM CONNECTIONS

Technology: Creative Communication  
Engineering: Defining Problems and Developing Solutions  
Math: Counting & Cardinality



#### DURATION

60 Minutes Lesson



#### MATERIALS

- 12 Fabulously Funny Folktale Plays by Justin McCory Martin
- Build Books
- BrickLAB Bricks

#### SCHEDULE

- Folktale Theater (20 min)
- Frog Build (15 min)
- Engineering Challenge (20 min)
- Extensions - optional
- Wrap Up (5 min)

#### OBJECTIVE

Discover the magic of pursuing your interests through a table reading of *The Prince Frog!*

- STEAM Connections
- Duration
- Materials
- Schedule
- Objective
- Aligned Standards
- Key Terms & Background Info
- Overview
- Check for Understanding
- Extensions



# Enrichment Program Pyramid

# Out-of-the-box Programming

Complex



## Tier 3

State-of-the-art extendable equipment, career exploration, high level of instructor involvement

## Tier 2

Some restocking of materials required, activities require a mix of instructor facilitation & student independence



Easy



## Tier 1

Materials are reusable and extendable, primarily independent, student-led activities



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# Tier 1 Programs

## BrickLAB Magic Beans

Grades: 1-3



- Engineering Design
- Arts/STEAM
- English Language Arts Connections

## Program Highlights

- Full STEAM experience as students put on theatrical productions of favorite folktales with characters and props made from Bricks
- Boost skills in reading fluency, vocabulary comprehension, spatial visualization and engineering design.



# Out-of-the-box Programming







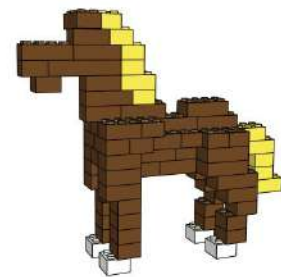
## Example of Student Build



DAY 11  
**HORSE**  
Build Plans


Materials



- 29  2x2 bricks
- 29  2x3 bricks
- 20  2x4 bricks
- 1  2x6 brick




DAY 11: Thaddeus Thumb




1



1 10  
   
2x4 brick 2x3 bricks

2



4 3 1  
    
2x4 bricks 2x3 bricks 2x2 brick



## BrickLAB Brain Builders

Grades: 1-3



- Life Science
- Engineering Design
- Math Connections
- English Language Arts Connections
- Social Studies & History Connections

## Program Highlights

- Intentionally developed to get both boys AND girls excited about building and STEM
- Cultivates logical thinking, building a strong foundation for future scientists, engineers and programmers.

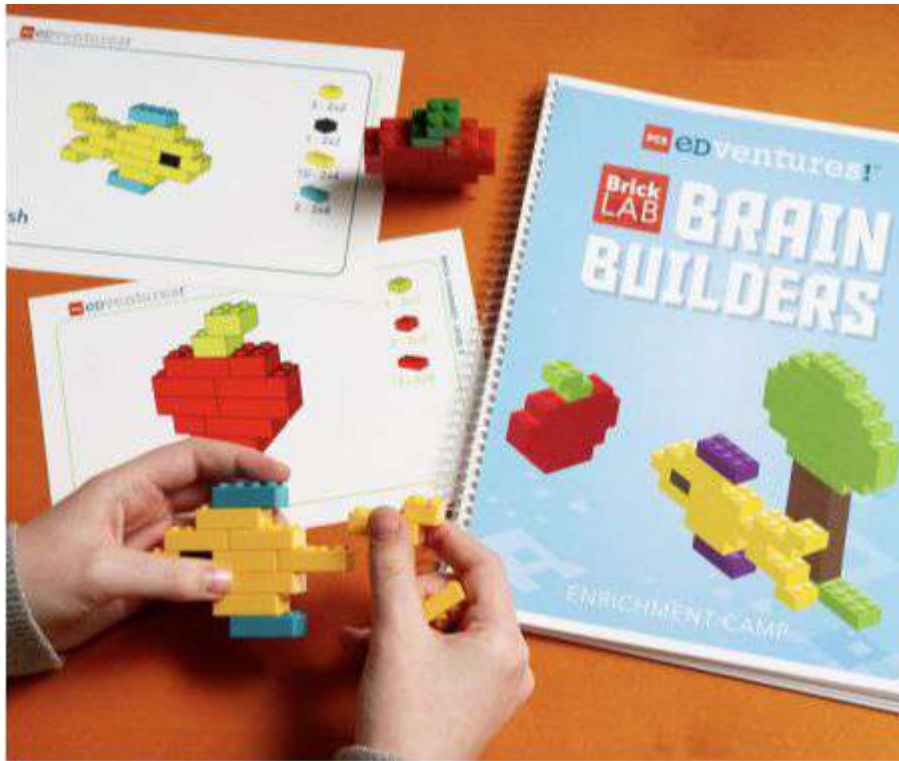


# Out-of-the-box Programming



# Out-of-the-box Programming

## Example of Student Build



PCS edventures!

- 3 - 2x2
- 1 - 2x2
- 10 - 2x4
- 2 - 2x4

**Fish**

BRICK CHARADES - LEVEL 2

## Simple Machines

Grades: 4-6



- Technology
- Engineering Design

## Program Highlights

- Hands-on introduction to mechanical engineering
- Includes both step-by-step builds and open-ended engineering challenges to scaffold students experimentation
- fishertechnik parts that last for generations



# Out-of-the-box Programming



# Out-of-the-box Programming

## Example of Student Build







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# Tier 2 Programs

## The Science of Superpowers

Grades: 1-3



- Physical Science
- Life Science
- Engineering Design
- Math Connections

## Program Highlights

- Uncover the science behind the powers of favorite superheroes.
- Practice the critical thinking, creativity and community awareness that make all superheroes great.



# Out-of-the-box Programming






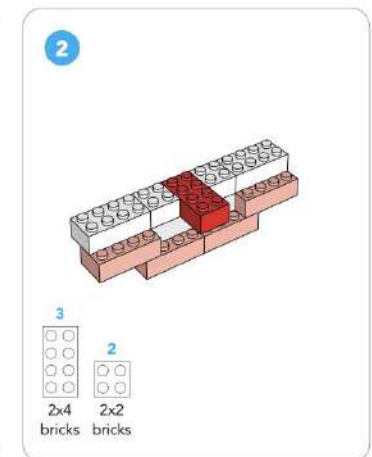
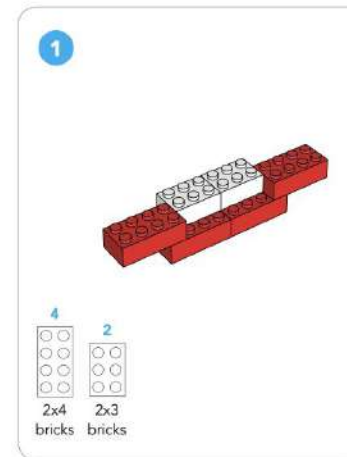
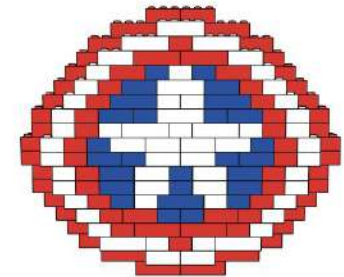
## Example of Student Build



### DAY 7 THE SCIENCE OF SUPERPOWERS Super Shield Build Plan

Materials

- 95  2x2 bricks
- 41  2x3 bricks
- 29  2x4 bricks



## Summer Camp Classics

Grades: 6-8



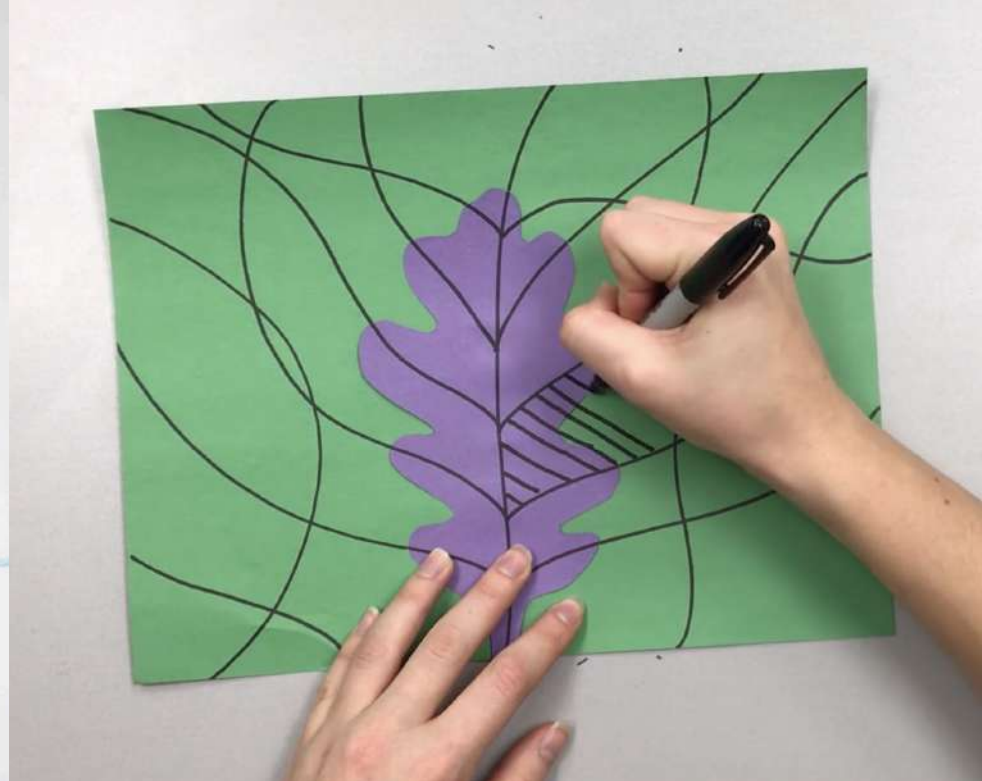
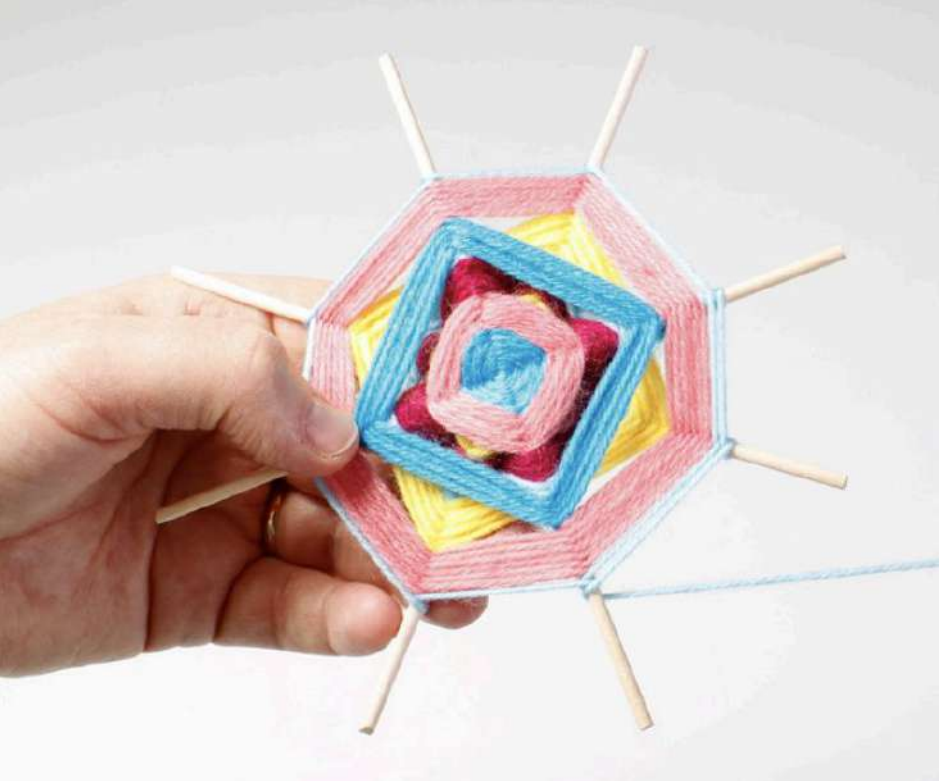
- Physical Science
- Engineering Design
- Art/STEAM

## Program Highlights

- Relive the joys of summer camp in a refreshed take on the classics
- Students get creative, work together and discover their strengths with this STEAM-filled camp of arts and crafts



# Out-of-the-box Programming







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# Tier 3 Programs

## Ready, Set, Drone! Second Edition

Grades: 4-8



- Physical Science
- Technology
- Engineering Design
- English Language Arts Connections

## Program Highlights

- Students learn to pilot a drone and capture aerial photos and videos
- Collaborative, inquiry-based lessons explore the physics of flight and real-world applications of drone technology



# Out-of-the-box Programming



**Choose One or Combine all Three for the  
Ultimate STEAM-Venture!**



**It's all about the  
basics with  
*Ready, Set, Drone!*  
2nd Edition**

**Dive into computer  
science with  
*Ready, Set, Code!*  
*Programming with  
Drones***

**Look to the future with  
*Drone Designers:*  
*Exploring STEAM  
Careers***

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## Tier 1

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## Looking for more STEM/STEAM programming?

### Tier 3 Programs

- Drone Designers: Exploring STEAM Careers
- Ready, Set, Drone! 2nd Edition
- Cubelets BOT Builder

### Tier 2 Programs

- BrickLAB Genetics
- Scratch
- CAD camp
- Survivor
- Oceanic Exploration
- Flight of Aerodynamics
- Build a Better World
- The Science of Superpowers
- Science of the Human Body
- Traveling Artist
- Summer Camp Classics
- Pirate Camp
- Video Production
- Plants and Seeds: Exploring Life Cycles Through Art

### Tier 1 Programs

- Sports Science
- Flying Disc
- Simple Machines
- Structural Design
- BrickLAB Magic Beans
- BrickLAB Brain Builders

Contact a

**PCS STEMBassador**

For customized solutions  
tailored for your learning  
environment

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