

## Delivering 4-H SET PROGRAMMING FOR AT-RISK YOUTH

In 2008, a team of urban 4-H professionals from Camden, Hackensack, Newark, Paterson, and Trenton, New Jersey collaborated with the EDC's Center for Science Education to provide science programming for afterschool youth. With training from Charles Hutchison, 4-H implemented the *Design It!* and *Explore it!* curricula in multiple afterschool sites across the state, including Boys and Girls Clubs, YMCA, 21<sup>st</sup> Century Community Learning Centers, and local Parks & Recreation programs.

### CURRICULA

- *Design It! Design Engineering in After School Programs* (2002)  
(reviewed, approved for use by 4-H programs)
- *Explore It! Science Investigations in Out-of-School Programs* (2006)

### CURRICULUM HIGHLIGHTS

- Directions for children
- Step-by-step teaching strategies
- Rationale and scientific background
- Materials are easily found, everyday items
- Compliments formal, school-based learning
- Provides context & basic skill development
- Connects to the National Science Education Standards
- Hands-on, experiential learning projects



### PROGRAM OVERVIEW

- Intended for after school program environments
- Focused on guided exploration
- Designed for ages 8 through 12
- Grounded in cooperative learning
- Series of engaging projects through which children develop basic skills, learn general investigative strategies and grow socially
- Builds on children's natural curiosity to explore phenomena
- Structured to provide sustained engagement
- Exploratory in nature and doesn't require extensive scientific experience from educators

## BENEFITS TO AT-RISK YOUTH

- All children have the opportunity to experience success
- Informal learning is non-threatening, freeing children to explore
- Hand-on learning activities encourage intellectual expression and diverse thinking
- Addresses the needs of underserved urban youth, particularly African Americans and Spanish-speakers who are under-represented in the science professions

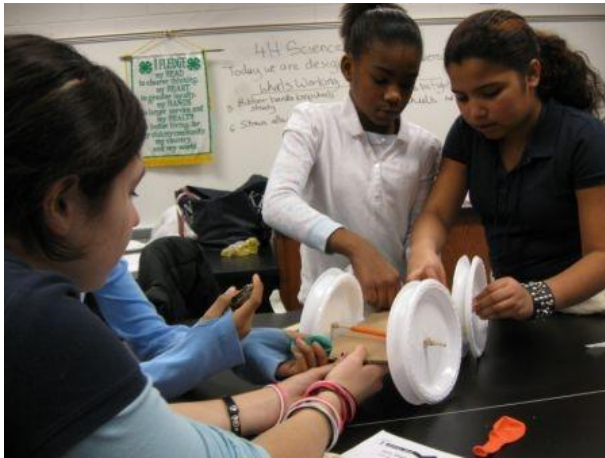
## PROGRAM PROJECTS

### DESIGN IT!

Balloon-Powered Cars  
Balls and Tracks  
Blinking Lights  
Cardboard Constructions  
Cranes  
Gliders  
Paper Bridges  
Pinballs: Designing a Game  
Rubber Band Powered Cars  
Sand and Water Clocks  
Spinning Toys  
Straw Rockets  
String Telephones  
Trebuchets

### EXPLORE IT!

Balancing Toys  
Balloons  
Bubbles  
Cake Chemistry  
Colliding Balls  
Exploring Food  
Heating a House and an Oven  
Measuring Ourselves  
Permanent Magnets and Electromagnets  
Sinking and Floating  
Siphon Systems  
Soda Science  
Wiring a House



## RESOURCES/WEBSITES

- Design It! Curriculum - <http://cse.edc.org/curriculum/designit/>
- Explore It! Curriculum - <http://cse.edc.org/products/ProductView.asp?PID=1778>
- Kelvin - Science program materials - <http://www.kelvin.com/>

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