

Plug into Science and Technology

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LearnScienceEverywhere

BOOST 2010

The Inquiry Process

- Making observations/ Being curious
- Developing questions based on current knowledge
- Propose preliminary explanations or hypotheses
- Investigate and gather evidence
- Explain based on evidence
- Consider other explanations
- Communicate explanation
- Test and revise explanations

BEWARE:
The Myth of the “Scientific
Method”

BUBBLES!

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Building a Science Program

1. Existing programs and partners
2. Curriculum and materials
3. Staff recruitment and development
4. Make “Science Club” an equitable environment
5. Evaluation and improvement

Existing Programs and Partners

Train or Be Trained!

- CalSAC/NPASS: <http://npass2.edc.org>
- Afterschool Universe: <http://universe.nasa.gov/au/>
- Great Science for Girls: <http://www.edequity.org/gsg/>

Other Potential Partners

- Universities/Colleges/Community colleges
- Professional associations
- Businesses
- Parents
- Hospitals
- Foundations
- Federal agencies
- Scientists
- Museums

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Curriculum and Materials

“There are lots of activities on Google. Why should I look elsewhere?”

“There are lots of free resources on the web. Why should I pay for curriculum?”

“I don’t use curriculum because I want the freedom to plan my own activities. Plus, the kids get bored if we stay on the same topic for too long.”

Activity Sources Better than Google



<http://www.sedl.org/afterschool/guide/science/>



www.howtosmile.org



Learn Science Everywhere

When to Pay for Curriculum

- Factor in **all** of the costs
 - Your time and focus
 - Materials – Reusable and Consumable
- Consider the benefits
 - Curriculum may come with free training
 - Curriculum is aligned with standards
 - Curriculum is based on what the kids need



Curriculum Units vs. Unconnected Activities

- Curriculum is based on what the kids need.
- Linking and sequencing activities is hard.
- Kids benefit from and prefer programs with structure and sequence. (Structured, Active, Focused, Explicit)
- Feeling of accomplishment increases with full units and projects .



The Design Process

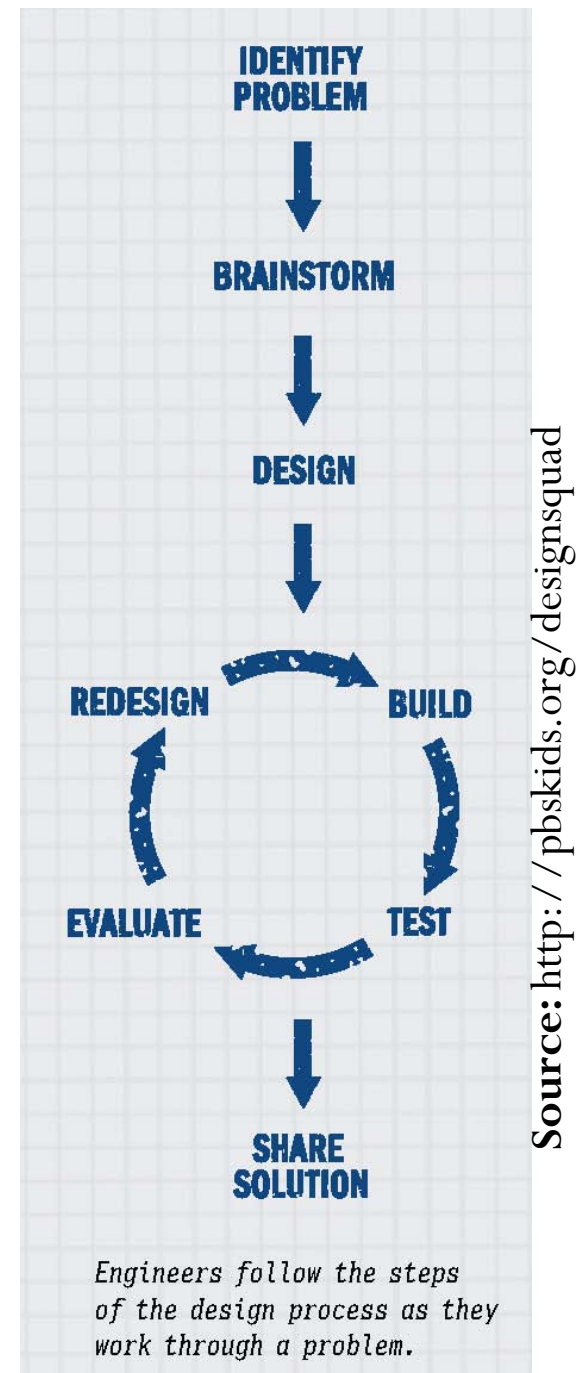
Build a paper bridge

- 4 sheets of paper
- A little tape
- 8.5” gap

CHALLENGE:

Build a bridge that will hold
as much weight as possible.

Source: EDC’s Design-It; <http://npass2.edc.org>



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Staff Recruitment and Development

- Work with partners
- Use materials tied to training
- Free online training tools:
 - YouTube: Afterschool KidzScience
 - www.greatscienceforgirls.org
 - www.sedl.org/afterschool
 - www.afterschoolscience.org
- Link science to pathways to future careers for group leaders

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Make “Science Club” Equitable

- Scheduling
- Cross-curricular connections
- Instructors: Who teaches science?
- Role models/ Career connections
- Materials
 - Familiar
 - Accessible to parents/families

Equitable Scheduling

	1 (Outside)	2 (Inside)
3 – 4 PM	Jump Rope	Science
4 – 5 PM	Basketball	Art

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3 – 4 PM	Basketball	Science
4 – 5 PM	Jump Rope	Art

Making Connections

- Outdoor explorations
- Art
- Drama
- Sports
- Cooking

- **JOURNALING**

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Evaluation and Improvement

- What you measure is what you get
- Work with the school day staff for best results
- ...

Review

Think PROCESS not CONTENT

- Inquiry and Exploration
- Innovation and Design

Build an exemplary program!

- Existing programs and partners
- Curriculum and materials
- Staff recruitment and development
- Make “Science Club” an equitable environment
- Evaluation and improvement

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