

Connections to School —


Children gain hands-on experience with important ideas contained in K-8 National Science Standards. In Siphon Systems children explore how air pressure, water pressure, force and gravity can make water move.

All NPASS2 after school projects are relaxed, informal and fun. They stress five common process skills that are mentioned in state and national science standards: observing, investigating, questioning, explaining and problem-solving. We call these the *Master Scientist Skills*.

NPASS₂
National Partnerships for After School Science

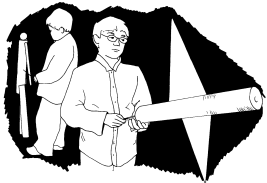
MASTER QUESTIONER

- Asks for Information
- Follows the Trail
- Speculates from Evidence



Ask for information if you need it. Then follow the trail. Base each question on something you already know or suspect. Look for rules or patterns based on what you observed.

Have you seen this other *Explore It!* project?



Balancing Toys

Students explore the concept of balance by building models of a human body, airplane, and sailboat and by designing creative mobiles.



NPASS2 is a project of
Education Development Center
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Waltham, MA 02453

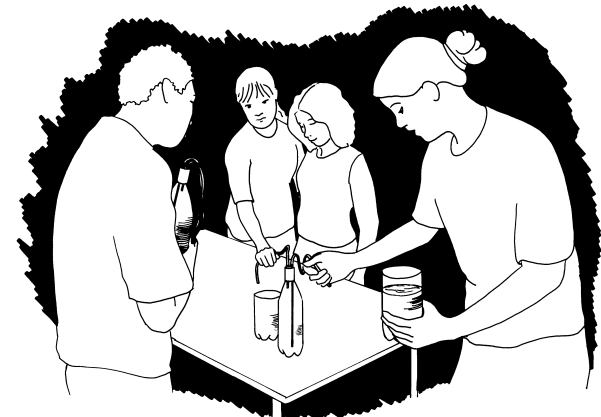
NPASS2 on the Web
<http://npass2.edc.org>

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MAKING SCIENCE FUN

Siphon Systems: an after school science and engineering project from the *Explore It!* Curriculum Series



▶ Students explore how water moves in simple and complex siphon systems.



The National Partnerships for After School
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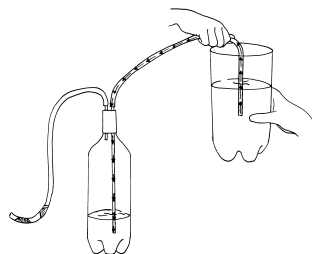
FOR PARENTS*

Summary

Children explore how water moves through progressively more complex configurations of bottles and tubing. With each challenge, they make predictions and observe results.

Explore It! Siphons Explorations

- One Bottle System
- Two Bottle System
- Three Bottle System
- Filling a Balloon
- Cartesian Divers



Suggested Materials

- 1-liter and 2-liter bottles
- Flexible tubing 5/16" inside diameter
- Hero's Fountain connector set (optional)
- Glitter — only a few (to see the water moving)

Questioning

Ask these types of questions as your child explores the activities at home:

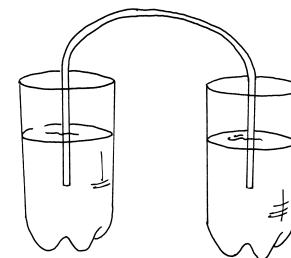
- How did you get the water started flowing through the tube? What makes it stop flowing?
- How can you make the water flow faster or slower, and how can you make the flow change direction? (Hint: Look at the pictures)
- What is the highest you can make water go up and over using a siphon? Try a garden hose and a kiddie pool, or water tank.

* For more information about this project go to:
<http://npass2.edc.org/resources/curriculum-guides/siphon-systems>

FOR KIDS

Ideas to try at home.

Use the materials suggested to make a siphon system. Cut off the tops of two bottles. Fill one bottle half full. Try to make the water flow from this bottle to the other one through the tubing. How could you make the water move back to the first bottle again? If the water stops moving, what do you have to do to make it start again?



If you have access to one or more Hero's Fountain sets, try setting up a one or two-bottle siphon system. How many ways can you arrange this system to get water to move? Can you fill both bottles with water from the reservoir? (Hint, you may need a bigger reservoir—a bucket of water perhaps.) What happens to the system if you turn one bottle upside down?

