



# Ohio 4-H Cloverbud Connections



Summer 2009 Issue

For 4-H Cloverbud Volunteers working with grades K-2

## Using Teens to Help Lead Science & Engineering Experiments with Cloverbuds

Science and Engineering experiments often require more hands than a single advisor has. If you would like to lead a science or engineering experiment with your Cloverbuds, but need more hands-on help, consider using teen volunteers. Teens are an excellent option for extra help, provided they are trained and supervised in their new role.

### Finding Teens

If your Cloverbud Club is part of a larger project-based club with older members, you may already have teens available. However, if those teens are busy with their own club work during your meetings, or if your club doesn't have many older members, ask your Extension Office if there are other teen groups which may be available to help, such as:

- Junior Leadership Club members
- County Camp Counselor Teams

### Training Teen Volunteers

Every volunteer should receive at least some basic instruction, so that they understand what is expected of them. Be specific about your expectations:

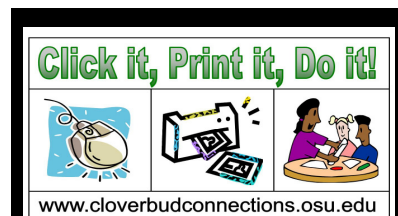
- When do they need to be there and how long will it take?
- Where is the meeting? (Send a map if needed.)
- What will they be doing?

Give them written instructions for the science or engineering experiments ahead of time so they may practice them on their own before they get there, or set up a time to go through the experiment with them. This will help them become more comfortable with what the Cloverbuds will be doing and where the young members may need extra help.

### Supervision

Someone who understands the experiments should be nearby to help if something unexpected happens and the teens need help with what to do next. This also allows you to make some observations about how well each teen works with the younger members. So, next time you see an interesting science or engineering experiment you'd like to try, consider asking some teen members for help. They can be the extra hands you need to try something new and exciting with your Cloverbuds!

*Gwen Soule, Extension Educator  
4-H Youth Development  
OSU Extension, Sandusky County, Ohio.*



Are you looking for an activity to teach your Cloverbuds engineering concepts? Check out the resource provided in the Click it, Print it, Do it! activity. Instructions are included for an experiment to teach kids about how hydrogels can help the environment. More resources available at [www.4-H.org](http://www.4-H.org)

## Engineering Ideas for Cloverbud Meetings

For many Cloverbud Volunteers, the idea of teaching about engineering sounds much too complicated for young minds. However, engineering is simply applying science and mathematics principles to design and create things more useful to people. Here are a few activities to try with your Cloverbuds that you can connect to engineering.

### Do Different Colors Absorb Heat Better?

#### Materials

4 sheets of colored paper (white, yellow, red, black)

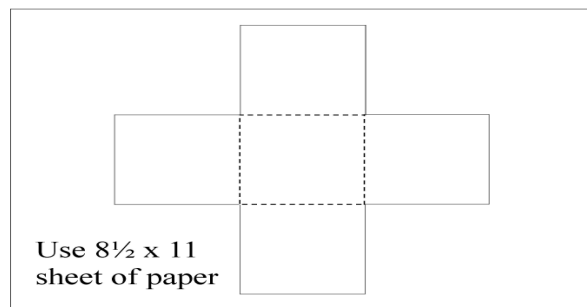
Newspaper

Scissors

4 Ice cubes

Sunny day or heat lamp

Notebook to record observations



Pre-stenciled 5 sided box

#### Directions

1. Ask youth to imagine that it is 100° outside. What kinds of thing will they do to stay cool? What kinds of clothing will they wear? What about the color of the clothing?
2. Have pre-stenciled 5 sided boxes ready to cut out and assemble. You will need one per color for a total of 4 colored boxes. See example above.
3. Lay newspaper down under the sunlight and place color boxes side by side with the opening facing away from the sunlight so the youth can see inside.
4. Place 1 ice cube in each of the colored cubes.
5. Have the youth check the ice cubes every few minutes and record on a notebook which melted first, second, third and fourth.

Discuss with the class their observations. Why do ice cubes melt? How does the sun affect ice? Which color absorbs heat the quickest in the sun? What kinds of clothes do people wear outside in winter/summer?

### Engineering Connection

The study of light and its behavior is a major component in design of optical instruments such as cameras, microscopes, CD players and medical systems. Different sources of light carry different quantities of energy. For example, lasers are very powerful and can cut through stone or even metal. Using this information, engineers can improve existing equipment designs.



Source: *Do Different Colors Absorb Heat Better?* Retrieved May 19, 2009 from [http://teachengineering.com/view\\_activity.php?url=http://www.teachengineering.org/collection/wpi/\\_activities/wpi\\_colors\\_absorb\\_heat\\_better\\_colors\\_absorb\\_heat\\_better.xml](http://teachengineering.com/view_activity.php?url=http://www.teachengineering.org/collection/wpi/_activities/wpi_colors_absorb_heat_better_colors_absorb_heat_better.xml)

*Michelle Fehr, Program Coordinator,  
4-H Youth Development,  
OSU Extension, Belmont County, Ohio.*

## Building a Ski Jump

### Background & Preparation

Gather the materials for this activity. Slit the insulation tubing down the middle to make two half-round troughs from each. You will see that there is already a slit down one side. Open this up with your fingers and use sharp scissors or a craft knife to cut the other side. Try to make the halves as even as possible. Make your own ski jump before doing the activity with the children. See what works and what problems arise. By doing a test run you can anticipate any problems the children may experience.

Before the children begin, think about how to arrange the teams within the space you have available. Each team will work with 6 feet of track. The marble may jump almost 3 feet beyond that, so you need about 10 feet of floor space for each team to be comfortable. Each team should attach the high end of their track to a table or chair and use other furniture or books to support the rest of the track.

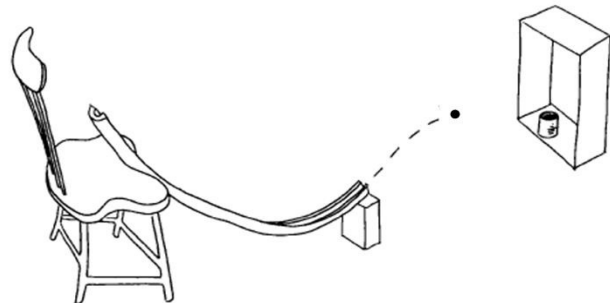
### Introduction of Activity

Ask the children if they have ever seen a real ski jump in the Winter Olympics, either on TV or in person. If you have you know that ski jumpers become airborne if they get enough speed. (If you can, find a picture in a magazine or on the Internet of a skier flying through the air.) Ask the children, “What’s pushing this person through the air?” and “How does he or she get going so fast?”

Your challenge is to see if you can make a marble do the same as a ski jumper with the track and materials provided. The challenge is to design a ski jump that makes your marble jump into a can without bouncing on the floor.

### Material Needed

- ★ Foam insulation tubing (6 feet total length)
- ★ Glass marbles
- ★ Empty coffee cans (or similar) to use as targets
- ★ Yardstick or measuring tape
- ★ Masking tape and string
- ★ 1 large, empty cardboard box



### Processing Questions

- ❖ After children have had sufficient time to build and test their ski jumps, have them look at the other team’s ski jumps. Have them list one thing they really like about their own team’s design and one thing they really like about another team’s design.
- ❖ How did you stop the track from wobbling?
- ❖ How did you aim the marble for the can?
- ❖ What makes the marble go faster or slower?
- ❖ What will happen if you make the track steeper?
- ❖ Where is the best place to start the marble rolling?

Source: Adapted from Center for Science Education. <http://cse.edc.org/curriculum/designit/pdfs/ballstracksact1.pdf>

*Bruce Zimmer*  
Extension Educator, 4-H Youth Development  
OSU Extension, Monroe County, Ohio.

## Campus Connections

Hello Ohio 4-H Cloverbud volunteers! It feels good to make another 4-H Cloverbud Connection with you!

We will be in the dog days of summer soon and 4-H Cloverbud children are heating up! You might be hearing things like, "I am so bored!" or "What can I do?" Well, this is a great time to get children involved with 4-H Cloverbud activities, field trips, or community service, to name a few!

Even though the first thing in your mind is: how can we keep our kids busy and occupied; we don't want to forget our main objective of 4-H Cloverbuds is to promote life skills: thinking critically, communicating, choosing healthy lifestyles, etc. One way to help ensure the enhancement of life skills is to ask children questions based on the experiential learning model (the experience - sharing, process, generalize, apply).

Try using some of these questions the next time you or your volunteers are working with 4-H Cloverbud children. (Adopted from Nebraska's Clover Kids)

### ≈ Sharing Questions

1. What did you do?
2. What happened?
3. Why is it hard or easy to do?

### ≈ Processing Questions

1. What happened in this activity that is like things you have seen or done before?
2. Why did that happen?
3. What if you had...?

### ≈ Generalizing Questions

1. What did you learn through this activity?
2. Why is that important?
3. How does this relate to other things you do? At home? In school or your neighborhood?

### ≈ Applying Questions

1. What did you learn today that will be helpful in the future?
2. How can you use what you learned today in other situations?
3. What will you do next?

By using such questions, we can stimulate children's brain to make life skill achievement a reality. Thank you for all that you do as a 4-H Cloverbud volunteer to improve the lives of children throughout Ohio!!

*Scott D. Scheer, Ph.D.  
State Extension Specialist, Preadolescent Education  
4-H Youth Development, The Ohio State University*

## Graham Cracker Creation

### Supplies Needed:

Graham crackers  
Creamy peanut butter and/or cake frosting  
Assorted foods for decorations: marshmallows, pretzel sticks, animal crackers, cereal, candy, etc.  
Plastic Knives  
Disposable Plates

Show and tell your Cloverbuds that you have brought some materials that they can use to create a snack. Brainstorm about some of the things they could build with the ingredients - a house, truck, animal, book, etc. Ask what they could use to hold the parts of their creation together. Let them use their imagination to create their snack. Invite them to talk about their creation before they enjoy it. Consider serving ice cold milk as the beverage.



*Joyce Shriner, Extension Educator,  
FCS/County Extension Director,  
OSU Extension, Hocking County, Ohio.*



**Cloverbud Connections** is published four times annually by OSU Extension in Monroe and Hocking Counties, providing volunteers and teachers working with kindergarten through second grade access to unbiased, research-based information.

**Editors:** Bruce P. Zimmer, Extension Educator, 4-H Youth Development, Monroe County, 101 North Main Street, Room 17, Woodsfield, Ohio 43793, Phone - (740) 472-0810, E-mail - zimmer.2@osu.edu; Joyce A. Shriner, Extension Educator, Family & Consumer Sciences, Hocking County, 150 North Homer Avenue, Logan, Ohio, 43138-1730, Phone - (740)385-3222, E-mail - shriner.3@osu.edu.

**Design & Production:** Jennie Shaw, Extension Office Associate, OSU Extension, Monroe County.

OSU Extension embraces human diversity and is committed to ensuring that all educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, age, gender identity or expression, disability, religion, sexual orientation, national origin, or veteran status.

Keith L. Smith, Associate Vice President for Agricultural Administration and Director, OSU Extension TDD No. 800-589-8292 (Ohio only) or 614-292-1868. For those with physical disabilities, special arrangements for participating in educational programs can be made by contacting your local Extension Office.

