

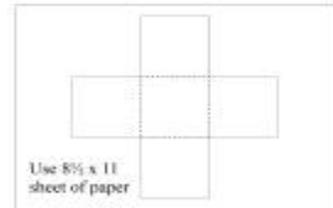
## Engineering Idea for Cloverbud Meetings

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



#### **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)

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