Date: Wednesday, June 17, 2020
Time: 11:00 a.m. (45-60 minutes)

Materials:
LEGO® base plate
2x2 LEGO® bricks, 4x2 LEGO® bricks
Plastic tray or shallow bin (not included)
Reusable water bottle
water

BPI Activity Agenda

Water – Controlling Water With Building Blocks

I. **Welcome**
Be sure to have your materials ready before the video session starts and make sure to ask an adult for help or permission when needed.

II. **Activity Overview**

- **Dams play an important role in the energy landscape. Either simple or detailed, the purpose of the dam is to control the flow of water.**

III. **Patch/Badge name and requirements**

- **BPI: CPS Energy Environmental Awareness**
  - **To earn this patch, you must complete all 4 activities presented in the virtual session this week.**

IV. **Grade Levels – K-12 (D, B, J, C, S, A)**

V. **Activity/BPI Link**

- **https://www.girlscouts-swtx.org/content/dam/girlscouts-girlscouts-swtx/2020-documents/council-patch-programs/cps/1.7%20-%202019-20CPS%20Booklet%20BROWNIE-JR-2.pdf**

- **This activity can be found on page 13 of the booklet**

VI. Activity

- **Why are Dams Important? Texas has many dams, which create reservoirs (a large natural or artificial lake used as a source of water supply) for sources of drinking water and water for irrigation (supplying water to land or crops to help them grow).**
- **The difference between reservoirs, channels, and canals.**
    - **Reservoirs: a large natural or artificial lake used as a source of water supply**
    - **Channels: a wide strait or waterway between two landmasses that lie close to each other**
    - **Canals: a long, man-made strip of water used for irrigation or boat access to a larger body of water**
- **Now using the items you received in your virtual camp care package:**
    - **Campers students will use LEGO® bricks to design spaces and create reservoirs, channels, canals, and other structures to control the flow of water between them.**
    - **They may build a channel to steer water around a "building" or build a dam with an "irrigation channel" to direct water toward a particular area.**
    - **Campers will work to build their creations on the base plate--thinking about how to visualize the flow of the water through their creation. Campers can build with more blocks vertically so that there is height to their structure.**
    - **Once the structures are complete, incline (lift) the base plate; this will allow the water to flow through it. When the plate is inclined, campers should pour water from the water bottle over the plate.**
- **Think about the following questions:**
    - **Describe what kind of landscape they have created. Would they like to live in such a place? Why or why not?**

- Does the water behave as they imagined it would? Is it more or less effective for what they are trying to accomplish? Were they trying for the water to move quickly or slowly? Did they expect the water to pool at a certain space?
- What happens if they increase the flow by pouring more water?
- What happens if they decrease the flow by pouring less water?
- For older campers, describe what environmental conditions would create conditions similar to those they created by pouring water.

• Campers will be allowed to share with the group. What are three items that they use most often that they throw away, but can be recycled or reused?

- When instructed by staff member you will be to share your thoughts, this will be done in the chat box

• Extension activity for Cadettes, Seniors and Ambassadors only

- At home, talk with your family about the difference between a reservoir, channel, and canal. How would you explain it to them? Ask the adults to help you explore the following questions:
  - Are there any dams in San Antonio? Where? When was it built?
  - Is the San Antonio River man-made? How long is it?
  - What irrigation ditches, or acequias, did the Spanish construct in San Antonio in 1778? Where does it pass by?

VII. Clean Up

A Girl Scout always leaves a place cleaner than she found it.

VIII. Closing

Be sure to tune into our next activity – Lunchtime Table Talk at 12:15 p.m.

See you soon, Girl Scout!