



## STEM Activity Idea:

### **BUILDING A BRIDGE**

**Suggested Program Level: Junior**

Use your creativity to build a bridge that is strong and stable.

#### **Supplies (1 set for each group):**

- 5 sheets of 8 ½" x 11" paper
- 100 pennies
- 6 books (same width, like textbooks)
- ruler

#### **Instructions:**

1. Let the girls divide themselves into groups of 3-4 and take their supplies to an area of the room where they have some space to sit. They can work on a table or on the floor depending on your space.
2. Show each group how to make 2 stacks of books that are 6 inches apart.
3. Let the girls design a bridge with the paper – they may manipulate the paper however they like.
4. Have the girls test the strength of their bridge with pennies.
5. After the girls try one method, let them try another design. Suggest that they think about how they put the pennies on the bridge.
6. Challenge the girls to keep testing their bridge until the bridge can hold all 100 pennies.

#### **Why?**

Engineers build structures all over the world to help get people places. Those structures are tested carefully and designed with safety and purpose in mind. As the girls build their bridges, the designs should become stronger as they learn how to work with the materials given. To expand on this activity, you could ask girls to brainstorm what other materials they would like to use, and you can change the distance between the stacks of books to make the challenge more difficult. This is a great activity to get girls solving problems by using their creativity.