



## Engineering Institutes:

### **Cup Phones!**

#### **Ohio Standards:**

PS.5.2.2: Sound is produced by vibrating objects and requires a medium through which to travel. The rate of vibration is related to pitch of the sound.

#### **PA Standards**

3.2.5. B5: Compare the characteristics of sound as it is transmitted through different materials.



**Objective:** SWBAT use tools and materials to design a device that Uses sound to communicate.

#### **Materials:**

- **Two cups**
- **String, thread, fishing line**
- **Pencil**

#### **Procedure:**

1. To create the cup phone, you poke a hole in the bottom of each cup using a pencil.
2. Thread each end of the string through each hole.
3. Tie each end of the string in a knot to prevent the string from detaching from the cups.
4. Pull the string tightly and have one person speak into one of the cups while the other person listens through the other side.

#### **The science behind it:**

Using the paper cup phones, it shows how well it illustrates the mechanics of sound transmission. The bottom of each cup serves as a

combination “microphone” and “speaker” picking up sound vibrations on one and reproducing sound at the other.