



## COFFEE SLEEVE ARCS

### SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything while doing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a CHOKING HAZARD. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

### INGREDIENTS

- 2 Identical Coffee Sleeves

### INSTRUCTIONS

**STEP 1:** Unfold and open the coffee sleeves. Hold one of the coffee sleeves above the other, lining up the two left ends, and observe.

**STEP 2:** Switch the coffee sleeves and observe. Is one longer than the other? Construct an argument on how your eyes, an external structure, works with your brain, an internal structure, to support survival, growth, behavior, and reproduction.

### EXPLANATION

The bottom coffee sleeve looks longer when compared to the top coffee sleeve. Although each coffee sleeve is exactly the same size, your eyes compare the bottom arc of the top coffee sleeve to the top arc of the bottom coffee sleeve, which is longer. This tricks your brain into believing the bottom coffee sleeve is longer.

## WATCH NOW



### SCIENCE BACKGROUND

An object can be seen when light reflected from its surface enters the eyes. Animals have internal and external body parts, such as eyes, ears, a brain, a heart, and many others, which capture and convey different kinds of information. These internal and external structures function to support survival, growth, behavior, and reproduction. Animals receive information through their senses, process the information in their brain, and respond to the information in different ways. In humans, the optic nerve sends signals from the eye to the brain, which then interprets what we see.

### I CAN STATEMENT

- ✓ I can construct an argument that animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

### NEXT GENERATION SCIENCE STANDARDS CONNECTION

4 - Structure, Function, and Information Processing | System and System Models