

Air can be a big brain bender for first grade scientists. After all, you can't see it, you can't taste it, and if you try to reach out and touch it, people might think you're a little nuts. So how can your child tell it's real?

Some very, very smart people have wondered the same thing for centuries. And one way we can tell that air exists is by observing some of the things it does. Air can fill a balloon, for example, and when it's in the form of wind, it can move leaves and blow your hair around. Here's a quick, fun experiment that your child can do with just a few things from around the house.

What You Need:

- Glass Jar
- Lit candle

What to Do:

1. Have your child place the jar on a tabletop.
2. About ten inches behind the jar, place a short (4" or so) candle upright, and light it. The flame should be entirely centered behind the jar—not over to the side, and not taller than the jar.
3. Invite your child to make a scientific guess—a hypothesis—about this candle. If your child blows hard on the jar, not the candle, will anything happen? Will the candle flame stay the same?
4. Now ask your child to blow hard on the jar on the opposite side of the candle—so that the jar is directly in front of her with the candle directly behind it.
5. What happens when she blows on the jar? The candle should go out immediately! (If it doesn't, move it a little bit forward so it's closer to the back of the jar). How did this happen? Did the air travel through the jar? Ask your child what she thinks. What happened was that the air separated when it hit the sides of the jar and flowed around its curves to come together again and form a stream that hit the candle. Sure, you couldn't see it, but it happened!

When air comes into contact with objects, it flows around the contours of the object it hits, creating forces that can lift kites and blow out candles. This property is what make flying a plane possible! This experiment will not only amaze your child, but it will also get her interested in learning some basic concepts in physics regarding the important properties of air.