

## EXPERIMENT 2

# Uniquely Yours

## SUPPLIES

- Medium onion
- Meat tenderizer
- Salt
- Dishwashing liquid
- 90% Rubbing alcohol (isopropyl)
- Cutting board and knife
- Bamboo skewer
- Blender
- Strainer
- Mixing bowl
- Spoon
- Clear glass (12 oz. or larger)
- Laws of God cards, 1 per child (Law of planetary motion)

## CLASS TIME DIRECTIONS

Depending on time constraints, you may want to begin the experiment now as you're talking.

**Today, during your time at the International Spy Academy Headquarters, you examined (will examine) your fingerprints and found out each of us has a unique set of fingerprints! Although we are all similar in many ways (we have two eyes, one nose, two ears, two arms, etc.), God created each of us fearfully and wonderfully and uniquely in His image. There is no one else like us in the world. In addition to our unique fingerprints, each of us has a different tongue print and ear print.**

**And, there's something inside us that makes each of us who we are that is unique, too (unless you're an identical twin!). It's called "deoxyribonucleic acid"—or DNA, for short. DNA is a special molecule that stores information about who we are and what we look like inside and out.**

**Scientists have found that information—like the information in DNA—can only come from another, greater source of information. It can't just organize itself from**

**a pile of stuff by itself. Where do you think the information in our DNA came from?** Allow responses: our parents. **That's right! And where do you think their information came from?** Allow responses: grandparents, their parents. **You got it!**

**So, if we keep going back farther and farther, to the very first people, where do you think the information in their DNA came from?** Allow responses: from the one true Creator God, who is the source of all information!

**In the beginning, God created all plants and animals after their kinds and each with its own unique DNA that has recombined and been passed on to their descendants over the years, bringing about the amazing variety we have today. DNA is inside of everything living thing and all plants.**

**Now DNA is very small inside our bodies, and we can't see it without a very powerful microscope. But we're going to do an experiment that will let us see the DNA from an onion!**

1. Chop the onion into chunks and place them in the blender.
2. Add one teaspoon of salt and 1½ cups of water to the onion. Blend for ten seconds to make a mushy onion mixture.
3. Pour onion mixture through a strainer into a mixing bowl.
4. Fill the clear glass with ¾ cup of the onion juice.
5. Add 2 tablespoons of dishwashing liquid and ½ teaspoon of meat tenderizer to the glass.
6. Stir gently with the spoon and wait ten minutes. Don't stir too hard or the fragile DNA molecules will break.
7. Very slowly pour ¾ cup alcohol into the glass. Don't stir.
8. Alcohol will float on top of your onion mixture. After a few minutes, white, stringy, small globs will appear in it. That's the DNA!
9. Slowly swirl the bamboo skewer through the alcohol. DNA clumps should stick to it. You can

lift them out and touch the DNA, but wash your hands afterward!

**It's pretty amazing, isn't it, to think about how creative our one true God is in creating each of us as unique. The one true God is unique, too—and one of the things that sets Him apart from the false gods is that He is one God in three persons, as we're learning about today.**

**Our one true God exists as God the Father, God the Son, and God the Holy Spirit. He is the Trinity. There is no other god like Him.**

Another set of laws that God set in place when He created the other planets and stars on Day 4 of Creation Week are the laws of planetary motion. Pass out the Laws of Planetary Motion cards, one per child.