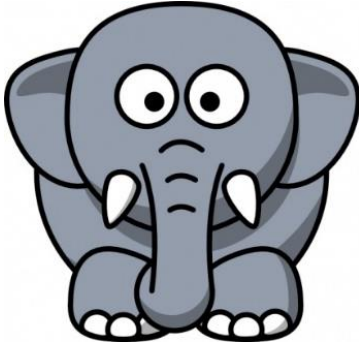


Rotation.org's @Home Lessons on the Lord's Prayer

Science experiments can be used as object lessons to teach a biblical principal in a vivid way. Here, an eye-popping demonstration is used as an avenue to lead to discussion of how God's presence is something we cannot see but it has a huge impact on our lives. And learning to pray in quiet and private is a practice that will help your children find peace in this chaotic and distracting world.



The Lord's Prayer: Elephant Toothpaste Science Demonstration



Summary of Activity

Prayer is an important spiritual practice. It is also a God-given way to relieve stress, increase empathy, improve togetherness, and live in hope instead of fear. Your family will participate in a science experiment making "Elephant Toothpaste," which will demonstrate how God's presence is the most important ingredient in our prayers.

Your children MAY be familiar with this experiment, but you can guarantee that they have never heard it explained in terms of the presence of God in prayer.

Scripture for the Lesson

[Matthew 6:5-13](#) (NRSV)

For additional reading, see the [Bible background](#) at Rotation.org.

Items You Need:

- 1-liter plastic bottle (empty)
- Food coloring (if you want to get fancy, use two or more colors; see instructions [at this website](#) for how to make striped toothpaste)
- Two pourable measuring cups
- 1 Tablespoon measuring spoon
- Warm water
- Baker's yeast
- A spoon for stirring
- A funnel
- Liquid dish soap
- Hydrogen peroxide - use a stronger 6% solution, also known as "20 Volume" or V20, available at beauty supply stores (be sure to use "clear developer" NOT cream)
- Safety goggles, an apron, and gloves for the experiment leader
- A table covered in a plastic tablecloth
- A 13 x 9" baking pan or tray
- An emergency bottle of water (just in case) to wash any splashes from skin

“Elephant Toothpaste” is the fun name for a popular science experiment demonstration that uses yeast to release the oxygen in a soapy solution of hydrogen peroxide, causing an impressive but safe fountain of foam. It looks like toothpaste! Enough toothpaste for an elephant! It's so much fun to do and watch that you might want to do it twice (so plan your ingredients accordingly).

There is a video here, if you want to see it first: <https://youtu.be/cvm9UUaY-sE>

More about the science here: <https://babbledabbledo.com/amazing-science-how-to-make-elephant-toothpaste/>.

Start your lesson!

1) Introduce the lesson

Say: Let's do an experiment that involves a hidden ingredient. This is the same hidden ingredient that is in bread and pizza dough—something which makes bread dough rise and turn fluffy. Do you know what that hidden ingredient is? (yeast)

Say: Yeast helps the dough rise. And in our experiment, yeast plays a role. We will see the yeast, but there is another hidden ingredient involved. I wonder if you'll be able to tell me what that hidden ingredient is?

2) Create Elephant Toothpaste:

The experiment leader should don safety goggles, an apron, and gloves. (The hydrogen peroxide can irritate/burn the skin and cause bleached spots, plus it looks cool to get decked out!)

Name each ingredient as you mix it in this order:

- Into a pourable measuring cup, mix 1 Tablespoon of yeast in 3 Tablespoons of warm water. Stir until yeast dissolves. Set aside.
- Place the empty bottle in the center of the tray on the covered table.
- Using the funnel, pour 1/2 cup of "20 Volume" 6% hydrogen peroxide into the bottle.
- Add a generous squirt of dish soap and several drops of food coloring to the bottle. Swirl the mixture a little bit.
- Instruct everyone to stand back.
- Pour the yeast mixture through the funnel into the bottle. Give it a quick swirl, then step back to watch!

Caution: The foam could be hot. Wait a bit for it to cool before cleaning up. Keep gloves and goggles on. Disposal down the drain is okay.

3) Explore

Ask: What was the hidden ingredient in our experiment which created all this foam?

Say: The "hidden" ingredient is oxygen in the hydrogen peroxide. When yeast is added to the hydrogen peroxide it creates a chemical reaction that releases the oxygen into the soapy solution, which erupts as foam.

Ask: What if I told you there was a hidden ingredient in prayer? What do you suppose that hidden ingredient is? (allow a few replies)

Say: The "hidden" ingredient in prayer is God's presence, God's Spirit. When we pray we can't see God, but God is with us. In prayer, we are sharing with the unseen presence of God.

Ask: What are ways we can "feel" God's presence in prayer?

Say: Some people talk about "feeling close to God" in prayer. Often it's a feeling of comfort or release from stress. Talking to God can feel like "hope" that things are going to be all right, a sense of "trust" or lack of "fear" that comes over our thoughts. Some people do experience the presence of God as a strange "warmth" or soothing feeling that goes through their bodies. All of these sensations may come from being in God's presence, or they may simply be our body reacting to the knowledge that God is with us. To become aware of God's voice and presence in prayer can take preparation and practice. It can mean spending time in silence and searching your thoughts. It can take sharing your prayers with others to learn from them and receive guidance.

4) Read Scripture:

If you have multiple Bibles, have everyone find Matthew 6:5-13; or have everyone take turns finding it. Read verses 5-13.

Ask: What instructions did Jesus give his friends about how and when to pray? (Don't show off by praying big loud prayers in public; go in a private place to pray.)

I wonder why Jesus gave them those instructions. How do those instructions fit with what we said about feeling close to God when we pray?

5) Close by praying the Lord's Prayer together.

Say: Being quiet is a great way to begin to feel the special holy presence of God around you. And sometimes, that's all you need in your prayer—that moment of rest and feeling present with God. That's probably why Jesus told us to go into our rooms and pray in private: to remove distractions and loud sounds and relax in God's presence. Let's think about that as we finish our Bible time with a moment of quiet after we say the Lord's Prayer together.

Adapted from [this lesson](#) by the Rotation.org Writing Team

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