

Rotation.org Writing Team

Adam and Eve

Science Workshop



Summary of Lesson Activity

Use science experiments and demonstrations to help students explore concepts in the story of Adam and Eve in the Garden, including temptation, consequences, separation and grace.

Note: *Do not be dismayed by the long list of set up items for this lesson! Yes, this workshop takes a lot of time to set up, however, believe me, it's value is to be measured in it's wow-learning factor! It is worth it.*

Scripture

Passage: Genesis 2:4-3:24

Key/Memory Verse: "Since all have sinned and fall short of the glory of God; they are now justified by his grace as a gift, through the redemption that is in Christ Jesus." (NRSV)

Objectives for the Rotation

See [Bible Background](#).

Objectives for Science Workshop

After completing this workshop, participants will be able to:

- Recognize that is a story about God and about each of us, and choices we make.
- For those in 4th grade and above: Recognize that this story calls us to move past the debate about historical nature of this story to focus on the meanings.

Note: It is a Rotation Model principle that each church is responsible for adapting materials, including theological interpretations. This is an important understanding for your church and teachers: we are not a traditional curriculum publisher with a "take it or leave it" product. It's there for you to put your final touches on however you see fit.

Preparation

- Read [Bible Background](#) and scripture.
- Gather materials.
- Write on the easel "What can we learn about God?" "What can we learn about ourselves?"
- Set out ingredients for the milk experiment.
- Set up the stations (be sure to include station instruction cards):

Station One – Candle Jar

1. Add a drop of food coloring to about 1/8 cup of water.
2. Place a coin on outer edge of plate.
3. Pour water on plate until coin is covered.
4. Place a candle and holder in the middle of the plate.
5. Test placing jar over candle to ensure coin is not covered. Remove jar.
6. Test out this process. Refer to the instruction card.

Station Two – Oobleck

1. Measure 1/2 cup cornstarch into mixing bowl.
2. Add a drop of food coloring to 1/4 cup water. Mix.
3. Add water to cornstarch and stir. [Will be difficult to stir. Can be prepared at home. Adjust amounts of water and cornstarch until the Oobleck flows when you tip the bowl and feels solid when you hit it.]

Station Three – Crayons & Dominoes

1. Label the envelope "God's eyes." Place the value filter inside the envelope.
2. Set out the crayons, paper and dominoes.

Station Four – Pepper

1. Set out supplies.
2. Have trashcan near this station.

Materials List

- An easel; appropriate marker
- Bibles
- Story paraphrase
- Bell (or other noise-making device)
- Instruction cards for each experiment station (see attached)
- Experiment Supplies as listed below

Items for Milk Experiment:

- Milk
- 1/4 cup Vinegar
- Clear cups, 3
- Plastic spoon
- a Measuring cup and a Tablespoon measure
- Coffee filter
- Baking Soda
- Paper scraps

Items for Station One: Candle Jar

- Medium plate (not paper)
- Quart glass jar
- Candle holder
- Paper towel
- One Penny
- Food coloring
- Water
- Matches
- Candles, short (max length of 2/3 height of the jar)

Items for Station Two: Oobleck

- Measuring cup
- Mixing bowl
- Cornstarch
- Water
- Mixing spoon
- Food coloring
- Wet wipes (or access to a sink for hand-washing)

Items for Station Three: Crayons & Dominoes

- White paper, 1/4 sheets, 1 per child
- Envelope
- "Red" Value filter (a quilter's tool) or a red report cover
- Crayons - Red & Green
- Dominoes

Items for Station Four: Pepper

- Paper plates, 4

- Small pitcher of water
- Liquid dish soap
- Pepper shaker
- Bucket for water disposal
- Paper towle

Lesson Plan

Open

Welcome your students and then introduce today's story by doing the following . . .

Say: We are going to be using some examples from the science lab to help us understand our Bible story – Adam and Eve in the Garden of Eden. Before we get started, let's begin with prayer.

Ask for any prayer requests. Be prepared to say a prayer yourself, working in prayer requests. A suggestion: "Lord there are so many choices we face. Yet we are thankful that you created us as people who have the freedom to make choices. We admit we don't always make the right choice. We are thankful that when we do wrong and feel like hiding, you come looking for us, ready to forgive us. Help us learn how to do the right thing the next time. (End with the Lord's Prayer.) Amen."

Dig

Say: Today we will consider a Bible story about two people, Adam and Eve, who disobeyed God. God created us and gave us the ability to make choices. We'll be talking about a choice that Adam and Eve made, and the consequences of their choice.

Ask: Do you know someone who is making bad choices in their life? (allow a few answers) What are the consequences of their choices?

Do: *It would be really great if you could tell a personal story of a time when you made a not so good choice. Include the consequences!*

Say: Our story has been told for thousands of years. Our ancestors would have told this story around campfires. It's a story that Jesus would have learned when he was your age, and Jesus lived two thousand years ago!

Ask: Why do you suppose we should learn about such an *old* story?

Do: Refer to the easel.

Say: This story can teach us about God and about ourselves. Let's see what we can learn.

Ask: Where in the Bible would we find the story of Adam and Eve? (in the Old Testament)

In what book of the Bible do we find our ancient story?

Say: Our story today is from the Old Testament in Genesis, the first book in the Bible. Genesis is the first book in a section of the Bible called Pentateuch (pronounced PEN-tuh-took), which means “five books.” There are appropriately, five books in the section of the Bible known as Pentateuch.

Ask: Can anyone tell me the names of the first five books of the Bible?

For readers:

Do: Distribute Bibles. Have everyone find Genesis 2:4.

Say: The book of Genesis starts off with the story of God’s creation of the heavens and the earth. In this story Adam and Eve are the first people on earth.

For 4th grade and up:

Some people believe that Adam and Eve were two real people and that this story actually happened in history. Some people believe that it’s not history, that it didn’t really take place, but is a story that God gave us to learn from. It would be good to ask your family what they believe about it. Whether it is history or not, in this story Adam and Eve are the first people on earth.

Say: God has given Adam and Eve a beautiful garden in which to live.

Do: Read Genesis 2:8-9.

Ask: Do you suppose this would be like living in paradise – a place of beauty, trees pleasing to the eye, and plenty to eat?

Do: Refer to the white board.

Ask: So far in the story we have learned about the beautiful garden God created. What do you suppose that teaches us about God? (allow all answers; guide towards: God’s desire to provide good for us)

Do: Have someone read Genesis 2:15-17.

Ask: Why do you suppose God would create a tree and then say, “don’t eat from it?” (allow a few replies)

What does this teach us about God? (allow all answers, including – God is hard to understand; guide towards: God let’s us choose whether or not we obey)

Do: Pour ¼ cup skim milk into a clear, clean glass.

Say: Here we have some skim milk – a food that’s good for you and tastes good. For the purpose of demonstration, this skim milk will represent the good life Adam and Eve had in the Garden of Eden. But then Adam and Eve chose to disobey God. Let’s add in some disobedience.

Ask: Has anyone ever tasted vinegar?

Do: Allow everyone to smell the vinegar, and anyone who wants to, to try a drop.

Say: Let’s have vinegar represent disobedience. Let’s introduce some disobedience into our good-life glass of milk.

Do: Add 1 T. of vinegar to the glass. Stir.

Say: I wonder what the consequences of this disobedience will be? Sometimes the consequences don't appear right away. We'll take a look at our results in a few minutes.

Do: Set the glass down. Finish the story by reading the story paraphrase. If possible, hold a copy of the paraphrase inside a Bible to indicate that you are telling a Bible story.

In later weeks of the Rotation:

Instead of reading the paraphrase, ask questions in with some reading to get the students to help you tell the story. For example: "What happened next?" or "Then what did Adam say?"

Another option would be for you to tell the story with incorrect facts and have the students correct you.

Story Paraphrase – Genesis 3

God created many different animals. The sneakiest of God's creatures was the serpent or the snake. One day the snake came up to the woman and asked, "Did God tell you not to eat fruit from any tree in the garden?"

The woman answered, "We can eat from any tree except the one in the middle. If we touch it, we will die."

"No you won't!" the snake said. "If you eat from that tree, you will be like God and know the difference between right and wrong."

The woman looked at the fruit. It was tempting. It looked delicious, and she wanted the wisdom it would give her. So she ate some of it. Adam was with her and she gave some to him, and he ate it too. All of a sudden they realized they weren't wearing any clothes! So they sewed some fig leaves together to cover themselves.

Later in the afternoon, the man and woman felt a breeze and heard God walking in the garden. They were scared, and hid behind some trees.

God called out to the man saying, "Where are you?"

The man answered, "I was naked, and when I heard you I was frightened and hid."

"How did you know you were naked?" God asked. "Did you eat fruit from the tree in the middle of the garden?"

"It's the woman's fault," the man said. "She gave me the fruit and I ate it."

"It's the snake's fault," the woman said. "It tricked me, so I ate the fruit."

God was angry. So God told the snake, "From now on, you will crawl on your belly in the dust. You and humans will be enemies." God told the man and woman, "From now on you will have to struggle and work hard." Then God made clothes out of animal skins for Adam and Eve, and sent them out of the garden.

Initial Discussion:

Ask: What did Adam and Eve do to disobey God? (ate forbidden fruit)

Say: We describe what Adam and Eve did as “sin.”

Ask: What does the word “sin” mean to you? (allow all answers)

What were the consequences of Adam and Eve’s sin?

Say: One consequence of Adam and Eve’s sin is that they were separated from God. They had to leave the Garden of Eden. Let’s check on our good-life glass of milk. I wonder what happened to our good-life when we added disobedience?

Do: Have the students notice the change in smell and appearance. (It has separated.) Set the coffee filter into another cup. Pour the mixture into the coffee filter.

Say: The vinegar we added to the milk represented disobedience. Now the milk has separated in to clear liquid and white clumps. It doesn’t look useful to us anymore. Disobedience sure changes things. [Set the cup with coffee filter aside.] Let’s use a few other science lab examples to help us better understand this story.

Do: Break the class into 4 groups.

Say: Each group will visit a station for about 2 minutes. There is a card of instructions to follow. When you hear this bell [ring the bell] move to the next station.

Do the experiments/demonstrations:

Do: Ring the bell at the appropriate times - every 2 minutes. The workshop leader will stay at Station One. (See Station instruction card.) When everyone has completed the stations, gather in a circle on the rug and start the “Final Discussion” portion of the lesson.

Final Discussion

Say: Science helps us understand the world in which we live. Let’s talk about how these science demonstrations related to our Bible story. [If time is running short, leave off the “scientific” explanations for each station.]

Oobleck station:

Say: This is a strange substance. It acts like a liquid and yet it when compressed it seems like a solid. It’s a case where looks can be deceiving.

Ask: What are some temptations in your life that might look harmless but they really aren’t?

What tempts you the most?

What can you start doing to stay away from wrongdoing?

Scientific Explanation: Scientists do not agree on why this material acts the way it does. One theory is that it has to do with the shape of the starch molecules and how they fit together.

Crayon & Domino station:

Ask: What do you suppose dominoes can teach us about sin and consequences?

Have you ever experienced a situation where one sin led to another?

With the crayons, what happened when you tried to cover up your "sins"?

Why do you suppose we hide from God rather than admit we sinned?

Pepper station:

Say: There are consequences to our choices. Adam and Eve's sin separated them from God. They had to leave the Garden of Eden. The Bible says that God placed angels and a flaming sword to keep them out of the garden.

Ask: In spite of all that, how did God show Adam and Eve mercy and grace? (have those of reading-age, check Genesis 3:21 - gave them clothing)

How has God shown that he loves and cares for us? (sent his son Jesus)

Scientific Explanation: Water molecules cling together creating forming a sort of "skin" that we call surface tension. The surface tension allows the pepper to float. Soap breaks the surface tension causing that skin to break up, and the pepper to scatter.

Candle station:

Ask: How did you feel about the candle station?

How will God deal with us if we admit our sin?

What can we do for each other as companions to help each other obey God

Close

Ask: I suppose you are wondering about the milk and vinegar combination?

Say: Recall how the tasty cup of milk represented the paradise in the Garden of Eden. And the vinegar we added was sin. Separation resulted.

Do: Take the coffee filter and scrape off the solid curds into a clean cup.

Say: Let's say that this substance is Jesus. Now Jesus comes into our lives, wanting us to be a part of God's family.

Do: Add 2 pinches (about 1/8 tsp) of baking soda. Stir.

Say: We can admit our sin saying, "God, I sinned. I messed up. I'm sorry. Please forgive me." If we say this and mean it, God forgives us. And what happens?... our milk has become something useful – glue!

Do: Demonstrate by scraping a thin layer on a piece of paper. Stick another piece to it.

Scientific explanation (share if time): The protein in cow's milk is called casein. The vinegar (acetic acid) denatures or changes the protein. The casein turns into a solid called curds. (The liquid part is called whey. Just like in Little Miss Muffet!) Adding baking soda (which is a base) to the vinegar neutralizes the acidic vinegar. What is left is glue!

Say: Go now in peace. Stay glued to the hope that Jesus offers you - a second chance at a relationship with God!

Clean up

Store Oobleck in a covered, labeled container in the refrigerator. If Oobleck gets on the carpet, when dry it will vacuum up easily. When disposing of Oobleck **do not** pour it down the drain!

Additional Suggestions

Adaptations - Younger Children: Reduce the number of stations and/or increase the number of helpers.

Adaptations - Intergenerational: Form groups so that a variety of ages are present. Keep groups fairly small; create duplicate stations so as to allow everyone time to participate in activities.

Sources

"Adam and Eve: Antioch Arcade." Faith Quest Lesson Set from Kirk of Kildaire, Presbyterian Church. 2002. [Web](#). (for story paraphrase)

Patton, Linda. "Science: General Glop Gloop." 1995-2002. [Web](#). (Oobleck recipe & info)

"Pepper Scatter." TryScience/New York Hall of Science. 1999. Site defunct - link removed.(pepper experiment)

Rice, George F. "Dr. George's Science Web: Uncovering a Perfect Life." 1998. Site defunct - link removed.. (candle jar experiment)

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