

The Newtons' WORKSHOP STUDY GUIDES

The Name Game

Episode 3 Animal Classification

Welcome to the unique world of Grandpa Newton's workshop, where kids can experience exciting new adventures in God's world. Each episode is power packed with science learning and exploration...the world as you've never seen it before. The quirky and lovable Newtons are certainly not your ordinary set of grandparents. In each adventure, the Newtons show their devotion to God and unusual ways to uncover more about God's incredible world. And you are invited along!

**How many are your works, O LORD!
In wisdom you made them all; the earth is full of your creatures.
(Psalm 104:24) (NIV)**

Exploring with the Newtons

Why are tools scattered all around Grandma and Grandpa's backyard? Just what is that big stair-stepped thing Mom made in fifth grade? And how will hanging pictures of animals on trees help the kids learn about the way God made living things?

Cleaning Grandpa's garage ends up being more work than Trisha, Megan, Tim, and Max expected. They can't agree how they should sort the tools. Should it be by color, by size, or by some other method? Grandpa uses the opportunity to show them the way scientists sort animals and plants. As you watch the video, look for answers to the following questions:

- Carolus Linnaeus is known as the "father of _____."

(What does that mean?)

- What does the Bible say about the seeds of plants?
(Hint: See Genesis 1:11-12.)
- What are the two main kingdoms of living things?
- What language did Linnaeus use to classify living things?

Why did he choose this language?

- What are two examples of animals called crustaceans?

More to Explore

"The heart of the discerning acquires knowledge, the ears of the wise seek it out." (Proverbs 18:15)

Trisha, Tim, Megan, and Max's efforts to organize Grandpa's garage resulted in more than they expected. They were overwhelmed with a garage full of every sort of junk. Just imagine the task of organizing all living creatures! Many scientists have spent their lifetimes in the careful examination of God's Word and the world around them. They chose to commit the gifts God had given them to better understand His creation. Linnaeus was only one of many scientists throughout history who acknowledged God as the great creator. You might want to do further study on Carolus Linnaeus. You may also enjoy researching the life and work of Jean Henri Fabre or Jonathan Edwards.

If you are hungry to learn more about God's remarkable creation, you will be blessed by these Moody videos: "The Wonders of God's Creation-Animal Kingdom," "Moody Science Classics-City of Bees; Dust or Destiny; and Prior Claim," "Moody Science Adventures-Treasure Hunt; and The Clown-Faced Carpenter."

Eagle Eye

Were you viewing with a watchful eye? Test your knowledge!

When Grandpa led his group into the backyard, everyone received a pouch. Mom's was a bit different. After all the items were neatly hung, why did Mom's tree stand out as being out of place? How did Grandpa explain Mom's tree to Megan, Trisha, Tim, and Max? What other area of science did Grandpa mention in relation to the problem with Mom's tree?

If you miss it the first time...rewind, watch it again. See what new facts you discover the second time around!

Devotional Reflection

“ ‘Has not my hand made all these things, and so they came into being?’ declares the Lord.” (Isaiah 66:2)

God, the creator of all things, deserves to be honored for His creation. Many in the world choose not to give Him the credit; as believers we know better. God's artful design of all living things is apparent everywhere we look. It's a great reminder to know that the same loving creator who skillfully designed millions of species of living things also knows how many hairs are on our heads. “And even the very hairs of your head are all numbered” (Matthew 10:30).

For Thought—and Action

Trisha and Tim's mom said that most living things fall into the plant or animal kingdoms. What do you think other kingdoms might be like? Do some research, and find out about other kingdoms that God created.

Featured Scripture Passage

Genesis 1:20-26

Words/People to Know

(Pre-Viewing Information)

Classification

The arrangement or organization of items (such as plants and animals) into classes or categories.

Exoskeleton

The hard, crusty covering found on crustaceans and other arthropods. This shell covering is normally segmented and is made of chitin. According to Grandpa, “It's like wearing your bones on the outside.”

Carolus Linnaeus (1707-1778)

A Swedish Scientist known as the “Father of Taxonomy.” In the 1700's Linnaeus began His observations to better understand God's creation of plants. Later he extended his work to classify and identify plant and animal life according to related groups (what the Bible calls “kinds”). Though he was Swedish, Linnaeus used Greek and Latin names to classify plants and animals because these languages were understood by scientists all over the world. These scientific names are still in use today.

Taxonomy

The science dealing with the classification of plants and animals. Scientists use seven major categories to organize and name all plant and animal life. Kingdom, Phylum, Class, Order, Family, Genus, and Species are the categories to name specific plants, animals, and every living thing.

After Thoughts

(Post-Viewing Suggestions)

Diversity in animal species is the perfect reflection of our intelligent designer. Take the time to marvel at all the “kinds” of animal life God has brought into being. Plan a photographic safari to your local zoo or even your neighborhood pet store. Select several animals to sketch or photograph. Research their scientific names through the library or the internet. You may enjoy using discarded nature magazines to create a “Creation Collage” that highlights the Genesis passage.

NOTES:

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As The World Spins

*Episode 4
The Solar System*

Welcome to the unique world of Grandpa Newton's workshop, where kids can experience exciting new adventures in God's world. Each episode is power packed with science learning and exploration...the world as you've never seen it before. The quirky and lovable Newtons are certainly not your ordinary set of grandparents. In each adventure, the Newtons show their devotion to God and unusual ways to uncover more about God's incredible world. And you are invited along!

"And God said, Let there be lights in the expanse of the sky to separate the day from the night, and let them serve as signs to mark the seasons and days and years, and let them be lights in the expanse of the sky to give light on the earth." And it was so. God made two great lights — the greater light to govern the day and the lesser light to govern the night. He also made the stars. God set them in the expanse of the sky to give light on the earth, to govern the day and the night, and to separate light from darkness. And God saw that it was good.

Genesis 1:14–18 (NIV)

Exploring with the Newtons

Is that a real astronaut talking to Trisha and Megan's class? What do beach balls, golf balls, and marbles have to do with science? What's it like to travel to the edge of the solar system? And what will it take for Trisha to learn to appreciate her little brother, Tim?

Trisha's class has a new assignment. She needs to explore the solar system—and to defend why she believes God made everything in it. Grandpa shows her how scientists have answered some hard questions they had. (Why does Mars sometimes seem to move backward?) He also gets to show Tim and Max just how big the universe really is. And in the process of all her other discoveries, Trisha finds out she really would miss her pesky little brother if he wasn't around. As you watch the video, look for answers to the following questions:

- What did Colonel Ortnier say he was glad scientists had discovered?
- What is Copernicus known for?
- What does "geocentric" (jee-o-sen-tric) mean?
- What do the heavens tell us about God? (Hint: See Psalm 19.)
- What planet is sometimes called Earth's "twin planet"? Why?

- What is some evidence that the universe was not an accident?
- How is gravity necessary for planets to orbit?

For Thought—and Action:

Look up the following verses, and write down what they tell you about the universe: Genesis 15:5 • Job 26:7 • Isaiah 40:22

Did you find anything that scientists didn't discover until a long time after the Bible was written? If you didn't, look again.

Featured Scripture Passage: Genesis 1:14-19

Eagle Eye

Were you viewing with a watchful eye? Test your knowledge!

Grandpa used balls of various sizes to explain the sizes of different planets and the sun and the moon. If the sun is the size of a beach ball, then Earth is the size of _____.

If you miss it the first time...rewind, watch it again. See what new facts you discover the second time around!

More to Explore

“The heavens declare the glory of God; the skies proclaim the work of his hands.” (Psalm 19:1)

Our solar system is indeed incredible. For centuries mankind has been fascinated with what lies beyond the stars. Writers, scholars, and scientists have spent hours pondering the awesome heavens. As Trisha discovered, not all these thinkers gave credit where credit was due... to God. But many did. The research of Copernicus and Kepler in their quest to confirm what they knew was true about their great Creator is worthy of further study. Galileo's development of the telescope revolutionized the science of astronomy and afforded more people the opportunity to gaze into the heavens created by God. His life and research is quite worthy of further exploration.

For some, space exploration has become commonplace. Yet every day another scientific discovery redirects us to the majesty of the heavens. In the Moody Video Series "Journeys to the Edge of Creation-Our Solar System; and The Milky Way & Beyond," you will be swept away by the powerful images of the world outside our own.

Devotional Thoughts

“When I consider your heavens, the work of your fingers, the moon and the stars, which you have set in place, what is man that you are mindful of him, the son of man that you care for him? You have made him a little lower than the heavenly beings and crowned him with glory and honor.” (Psalm 8:3-5)

Glad to be found and overwhelmed with the vastness of the universe, Tim tells Dad that he didn't like being just a dot in the universe. Dad's response to encourage his son is a great reminder for all Earth dwellers: God is quite mindful of His people. He demonstrated His great love not only through His work in creating our world, but He also chose to give His Son, Jesus, to testify once again about His love for the human race.

People/Words to Know

Nicolaus Copernicus (1473-1543)

A Polish Astronomer lived and worked during the 1500's. Copernicus did not accept the theories that were developed by Ptolemy. He worked to explain the motion of the planets. Copernicus is known for his theory that Earth itself is a planet and day and night are produced by the Earth's rotation. He developed the "sun-centered" model of the solar system. His model was not readily accepted by scholars of his time.

Galileo Galilei (1564-1642)

An astronomer who pioneered the use of the telescope. Through observation he discovered that current theories about the surface of the moon were inaccurate. He observed the moon as full of craters and not as perfect as had been believed.

Geocentric

The theory of an Earth-centered universe presented by the ancient Greek philosopher, Ptolemy. Since the common man was not able to feel the movement of the Earth, this theory was held as truth for more than 1,400 years.

Gravity

The force of attraction by which things are pulled toward a planet.

Heliocentric

The theory that explained the sun as being the center of the solar system.

Sir Isaac Newton (1642-1727)

The scientist who invented the reflecting telescope and formulated the three laws of motion. Newton's greatest scientific contribution was his discovery of gravity.

After Thoughts

(Post-Viewing Suggestions)

**“In the beginning you laid the foundations of the earth, and the heavens are the work of your hands.”
(Psalm 102:25)**

Read Genesis 1:14-19 once again. After exploring that incredible passage, what could be better than an evening of star gazing? If weather conditions allow, plan an evening to appreciate the design of His hands. A visit to an observatory would also be the perfect outing to give praise to God. A field trip to the regional Air & Space Museum would be another opportunity to acknowledge God's creation.

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