

Christian Kids Explore

Creation Science



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Christian Kids Explore Creation Science

By Robert W. Ridlon, Jr., and Elizabeth J. Ridlon

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HOW TO USE THIS BOOK

This book is divided into two parts consisting of a total of 28 lessons. Each lesson is designed to be completed in one week. If you teach science twice weekly, allow for about 60 to 90 minutes each day. Some of the lessons may seem a little more challenging than others. Less-advanced students may have some difficulty with fully comprehending all the material in these few challenging lessons. Don't worry! It is quite satisfactory if the student can learn just the foundational concepts that are represented by the *Review It* questions at the end of the lesson. Don't rush! You may have to read the lesson slowly and more than once. If some words are too difficult, use a dictionary or other source to help clarify meanings. This work will pay off when it's time for the upper-level classes or when other challenges come along that require perseverance.

Part I, entitled "Discovering Creation Science," contains lessons 1 through 16. These lessons present a comprehensive coverage of the essentials of creationism. Some of these lessons may seem elementary (in level of difficulty), but much of this content will be relatively new to most students—and parents. At the end of each unit in Part I, some "For Further Study" questions are provided for the more advanced student. These questions are located at the end of the Unit Wrap-Up section.

Part II, entitled "Advanced Topics in Creation Science," contains lessons 17 through 28. These lessons explore additional creation-related topics that include the age of the earth, the evolution model in depth, and intelligent design. Part II is definitely more abstract and a little more difficult.

Step by Step

Lesson Activities

The following are the activities for completing each lesson and unit:

Preparation

Each unit begins with a short introduction about the material covered in the unit lessons and also provides a list of unit objectives, vocabulary words, and materials needed for that unit. You may want to write the unit objectives on a piece of paper and keep it handy. Referring to the objectives will help give you confidence that the student is getting something from the material.

Teaching Time

Each lesson presents a topic that builds an understanding of some aspect of creation science. The older or more-advanced students can read the lesson material themselves. For very young or less-advanced students, it is a good idea to read the lesson in advance and then explain it at their level. The student should be on the lookout for the vocabulary words that were identified in the unit introduction. Also, encourage the student to take notes as an aid to remembering important ideas.

Review It

Do the review exercises. After the teaching time, each lesson has five *Review It* fill-in-the-blank questions. These are almost always exact quotes from the lesson and, therefore, the answers will be unambiguous. Once these are filled in, they should be an encouragement that some very important principles of creation science have been learned. The answer key for these *Review It* questions is in an appendix.

Hands-On Time

This is the fun stuff. Each lesson ends with a *Hands-On Time* activity. These activities have a twofold purpose: (1) In many cases, they reinforce some of the concepts from the lessons, and (2) they make learning fun.

Coloring Pages

There is one coloring page per unit and all of these, plus a coloring version of the cover and some of the additional illustrations, are found after the Glossary. These coloring pages may be photocopied. Children of all ages will enjoy these beautiful drawings.

Think About It

This is a critical-thinking exercise regarding the results of the *Hands-On Time* activity. It isn't absolutely necessary to do this exercise, but its questions offer students the opportunity to give responses that require some creative thought. This also might be an alternative to the coloring page for the older student.

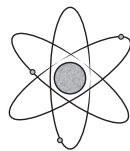
Unit Wrap-Up

At the end of each unit, there is an opportunity for students to show what they have learned. The questions are in a multiple-choice format and are taken from the lesson review exercises. So, a great way to prepare is to go over each *Review It* exercise for the lessons in that unit. The answer key for these *Unit Wrap-Ups* is in an appendix.

What's Important?

Building a Foundation

The important thing to keep in mind is that God is at the center of everything. The more-advanced or older student may get more from the book than a younger or less-advanced student. It might be good to repeat this course every other year. Build a foundation. Things learned early will last a lifetime, so do your best. Have fun and learn!





Part I

Discovering Creation Science

Unit One

Creation Science and the Creation Model

The case for creation is strong and consistent with what is observed in nature and what the Bible says. When the biblical account of the origin and diversity of life is used as the model, the things we observe scientifically make sense. It is easy to see the science within the boundaries of the scripture—everything fits together. There is not only meaning to life, there is an understandable relationship between the components of nature. The facts we can observe in nature all point to the biblical model and a God who loves us and created us for a purpose.

Additional Notes**Upon completing Unit One, the student should understand:**

- The meaning and goal of creation science
- The general expectations of the creation model
- The creation view of the beginning of life
- The creation view of the origin of species
- The place dinosaurs had in creation

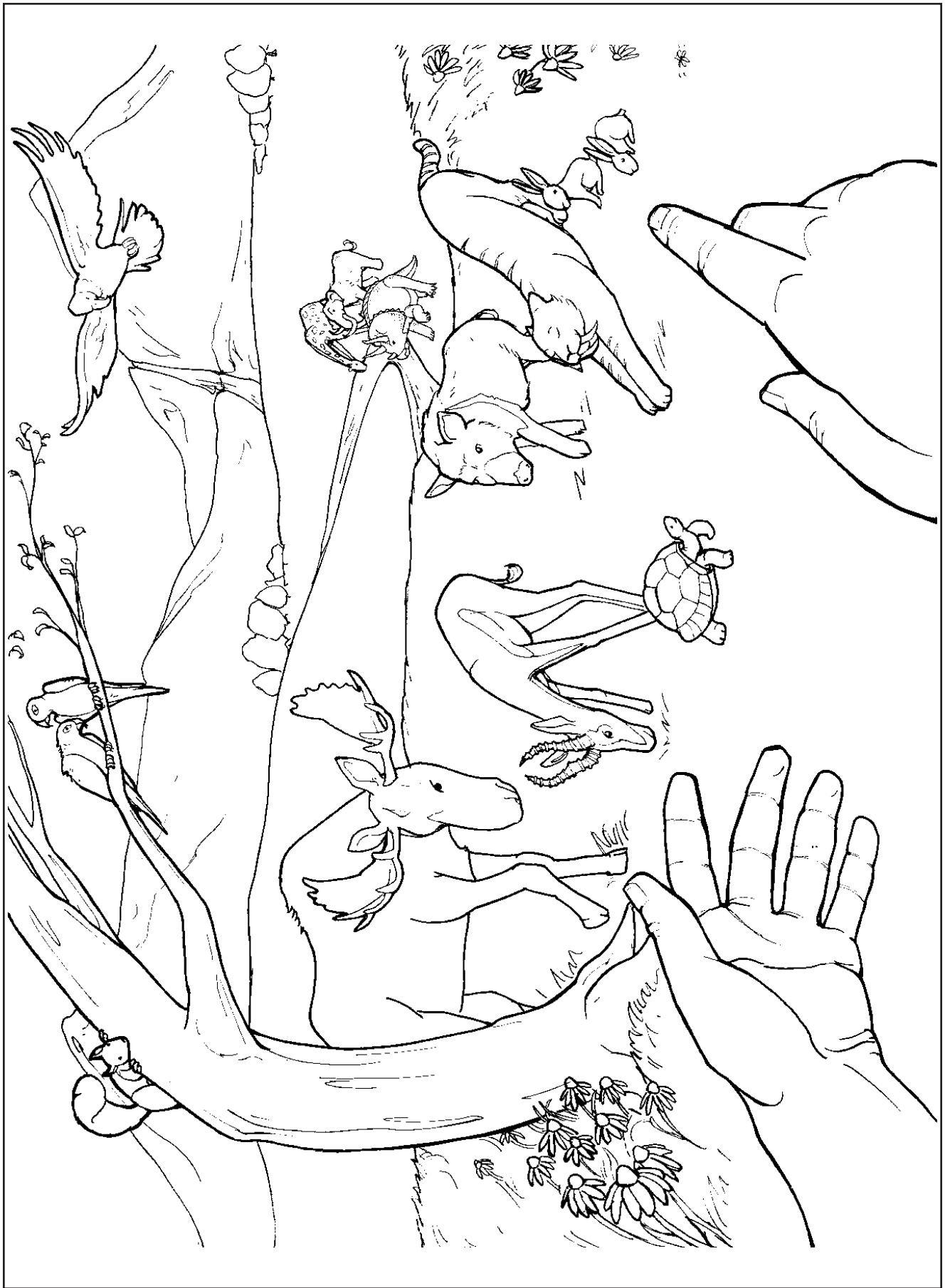
Unit One Vocabulary Words

- artificial selection
- biologist
- biology
- creation
- creation model
- creation science
- creationist view
- diversity
- evolutionist view
- extinction
- genes
- kind
- model
- natural processes
- natural selection
- observation
- offspring
- population
- science
- species
- sustain
- variation
- vertebrates

Materials Needed for This Unit

- 1 apple
- 1 pear
- 1 peach
- 1 tomato
- 1 avocado
- 1 green pepper
- 1 cucumber
- 2 plastic or Styrofoam cups (about 8 ounces)
- 2 to 3 cups of potting soil
- 4 dried lima beans
- access to a library, the Internet, or biology books
- access to a library, the Internet, or books about dinosaurs
- access to a library, the Internet, or books about dogs
- access to a photocopier (recommended)
- binoculars (optional)
- glue stick
- modeling clay (gray or white; Crayola Air-Dry Clay recommended)
- paper
- pencil
- scissors
- three-ring binder
- three-hole-punched notebook paper
- 15 divider tabs for three-ring binder

Additional Notes



Lesson 3

THE CREATION MODEL EXPLAINS THE BEGINNING OF LIFE



Teaching Time:

Life Gets a Smart Start

Remember from our previous lesson that a model should be able to explain observations and also make predictions about future events as well. In this lesson, we will see how the creation model can be used to understand how life began on Earth.

Beginning of Life

We know that there is life on this planet—Earth. Besides the people we see, there are actually millions of living things all around us. Think about all the insects that are crawling and birds that are singing. How about those pet cats and dogs? Depending on where you live, there are usually some squirrels

† Scripture

When they heard this, they raised their voices to God unanimously and said, “Master, You are the One who made the heaven, the earth, and the sea, and everything in them.”

(Acts 4:24)

Additional Notes

or chipmunks running around. Sometimes we see snakes, too. Of course, at the zoo we can see hundreds of different animals. For a variety of reasons, we know that life has been around for a long time. The question is, how did life get started here on Earth in the first place? We didn't see the first life that was created because that was thousands of years ago. Remember, to make a model, we first need to make an observation. Since we weren't present when any living thing came into existence, there are a couple of options for meeting our requirement for making an observation: (1) rely on another observer (someone else who saw how life got started), if there was anyone around, or (2) try to re-create the events that occurred when the first life got started and then make our observations. Let's examine these two options more closely.

Option 1: Rely on Another Observer. If we accept the Bible as true, we do have someone who saw the creation of life—God. The book of Genesis, the first book in the Bible, records the events that took place in creating life. All life we see on the earth (for example, bugs, plants, animals, and people) can be explained as being a result of the creative work of God. The Bible account is true and can be trusted. We can predict that no life will ever be created in a laboratory experiment.

Option 2: Try to Re-create the Events That Occurred When the First Life Got Started. Evolutionists reject Option 1 and believe that life got its start as a result of chemical reactions when the earth was newly formed billions of years ago. So, they are left with Option 2. This means they must re-create the conditions of the newly formed earth, determine what chemicals were present, develop a reaction that could have occurred, and then attempt to observe life being formed.

Conclusion

The creation model explains the beginning of life as an intentional act of God. In other words, God created all life, as it says

in the Bible. The creation model predicts that no life will be created in a laboratory. In fact, evolutionists have been trying to create life for over 50 years without success. We can conclude that the creation model is valid for explaining the beginning of life. Although the beginning of life is not directly observable today, we have an eyewitness account from God in the Bible. There are many scientists who have a different model, called the evolution model, to explain the beginning of life. When we look closely at evolution and the evolution model in Unit Five, we will understand more about it and why it is not a valid model.

In our next lesson, we will explore how the creation model explains why there are different kinds (or species) of living things.

Additional Notes

Additional Notes

Review It: Lesson 3

1. Besides the people we see, there are actually millions of _____ all around us.
2. If we accept the _____ as true, we do have someone who saw the creation of life—God.
3. The book of _____, the first book in the Bible, records the events that took place in creating life.
4. All _____ we see on the earth is a result of the creative work of God.
5. Evolutionists think that life might have started as a result of _____ reactions.



Hands-On Time:

Animal Scavenger Hunt

When God created life, He created all the types of animals that we have today. We will be learning in upcoming lessons that scientists have put the animals into categories, called *classes*, as a way of organizing them for study. For example, snakes and lizards are in the class called reptiles. Animals with fur are generally in the class called mammals. In this Hands-On Time, you will go on a scavenger hunt, looking for examples of six classes of animals.

Materials Needed

- pencil
- paper
- access to a library, the Internet, or biology books (optional)
- binoculars (optional)

Activity

Use the table provided in Figure 3-1 to keep track of the animals you have located. You should first photocopy the figure (or print it out from the Resource CD) and put it in your Creation Science Notebook, then complete the activity.

1. The first column of the table lists six classes of animals.

Additional Notes

Figure 3-1.

Animal Scavenger Hunt Tracking			
Class	Animal (Common Name)	✓	Where Observed
Mammal	Cat		
	Squirrel		
	Cow		
	Horse		
	Deer		
	Other Example		
Reptile	Snake		
	Lizard		
	Turtle		
	Alligator		
Fish	Goldfish		
	Catfish		
	Other Example		
Bird	Robin		
	Cardinal		
	Sparrow		
	Chickadee		
	Pigeon		
	Other Example		
Amphibian	Frog		
	Toad		
	Salamander		
Insect	Fly		
	Honey Bee		
	Mosquito		
	Grasshopper		
	Cricket		
	Ladybug		
	Other Example		

2. In the second column, there are examples for each class. Where it says *Other Example*, you can write in an animal that is not on the list.
3. In the third column, you will find a place to make a check mark indicating that you have spotted the animal.
4. In the fourth column, write in where you observed the animal.
5. You may need to go to a zoo or science center. See how many animals you can observe. You might not be able to see them all, or you may want to come back to this Hands-On activity later as you locate and observe the animals on the list.

Additional Notes

Alternative Activity: Invent an Animal

1. Invent your own special animal. Be creative. For example, it can have 12 legs and three eyes, if you want.
2. Decide if your special animal is a mammal, reptile, bird, etc.
3. Give your special animal a unique name, such as a *snerk* or a *wimmel*.
4. Draw a picture of your special animal or make it out of clay.
5. Have fun describing how your special animal behaves.

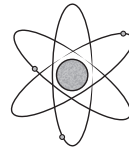
Remember that only God created life. He took special care to make living things just right.

Discovery Zone

A baby panda bear weighs about 3.5 ounces at birth. Compare this to a full-grown panda that weighs 250 pounds.

Think About It

1. Do you think it was a good idea for scientists to classify animals into the different classes? Why?
2. Were any animals in each class similar to each other in any way? In which class did you see more similarity among the animals?



Lesson 17

THE AGE OF THE EARTH: RELATIVE TIME MEASUREMENT



Teaching Time:

A Stack of Newspapers

The age of the earth is measured in two ways. One way, called **relative time measurement**, is based on the time it takes for layers of material to be deposited on the earth's surface. The second way, called **radiometric measurement**, is based on the special properties of certain types of rocks. We will be learning more about radiometric time in the next lesson.

From a creation science perspective, the earth is not very old—probably less than 10,000 years old. However, evolutionists believe the earth is possibly more than 4.5 billion years old. Why the difference? Let's explore the reasons.

✚ Scripture

“For the LORD made the heavens and the earth, the sea, and everything in them in six days; then He rested on the seventh day. Therefore the LORD blessed the Sabbath day and declared it holy.”
(Exodus 20:11)

➡ Name It!

relative time measurement

A way to measure the age of the earth based mainly on the assumption that rock and sediment layers in the earth were laid down in sequence at a known rate.

➡ Name It!

radiometric measurement

A way to measure the age of the earth based on the rate at which particles inside atoms leave an object over time.

Relative Time Measurement

The main idea for relative time measurement is actually quite simple. It is based on rock and sediment layers in the earth. If you have ever taken a trip in the car and seen places where the road has been cut through a hill or mountain, you may have seen layers of rock. This layering consists of slightly different shades of rock that form lines we can see. Relative time means that the rock layer on the bottom is older than the rock layer nearer the top. It also means that fossils found in the lower layers of rock are older than the ones in the higher layers.

For example, if after reading the day's newspaper, a homeowner placed it on top of a stack of newspapers in the garage, it makes sense to think that the papers on the bottom would be the oldest papers, since they were likely laid down first—perhaps several months ago. The papers nearer the top would be the most recent papers, laid there in the most recent days.



Stacking the newspapers

When it comes to the age of the earth, the evolutionists' view is that it took billions of years to form all those deep layers. This is based on the idea that dust, debris, and sediment accumulate at a very slow rate and that for a single inch of rock to form, it may have taken 10,000 years. However, from the creationists' point of view, the explanation for the layers is that they were a result of the Flood of Noah. The flood was responsible for the rapid deposits of sand, soil, and other material. It wouldn't have taken billions of years—only one year.

➔ Name It!

gradualism

Comes from the word gradual, which means happening slowly over time.

Gradualism

The reason evolutionists believe it took billions of years to form the layers of the earth is based on the concept of gradualism. **Gradualism** is a word formed from the word *gradual*, which means happening slowly over time. Using our newspaper example, we assume that each day one newspaper was placed on the stack in the garage. We also assume that this stacking has been done every day since the house was built. So, if we count the number of newspapers, we could determine how old the house is. Let's say we count 400 newspapers. This means the house is just over one year old—one year and 35 days to be exact. You can figure this out because you assumed gradualism at the rate of one newspaper being deposited per day. You assume that this hasn't ever changed. However, that is a big assumption and you could be wrong. There are at least two things that could have affected your assumptions:

- There may have been two newspapers being delivered each day instead of one. This would mean that two newspapers per day were placed on the stack in the garage instead of one. As a result, 400 newspapers were deposited in just 200 days, not 400 days. So your estimated age of the house was too high; it should have been 200 days old, not 400.

Additional Notes

- Someone might have taken newspapers out for some reason. It may be that the newspapers were being stacked for years, but periodically some were taken out and burned or recycled. This means that perhaps thousands of papers may have been collected, but only 400 remained. This means your estimated age of the house is too low. It could be thousands of days old.

The same potential problems that we had with the newspaper example can be applied to the gradualism theory for the age of the earth. The reason the earth is thought to be so old by some people is that they think the changes in the earth's layers took place at a slow, steady rate and that, on average, the rate didn't change. They understand that there could be fluctuations due to floods and other natural events. However, they believe that these were only local events (not affecting the entire earth) and that, overall, the rate of sediment deposit was about the same over the last four to five billion years. However, a catastrophic flood (the Flood of Noah) could stack sediment at a much faster rate than normal.

Conclusion

The evolutionists' estimates that the earth is 4.5 billion years old cannot be supported by any accurate means of measurement. This is because their assumptions concerning the rate of sediment deposit and erosion may be wrong. In the next lesson, we will learn about another way of measuring time called radiometric measurement.

Review It: Lesson 17

1. The age of the earth is measured in two ways. One way, called _____ measurement, is based on the time it takes for layers of material to be deposited on the earth's surface.
2. From a creation science perspective, the earth is not very old—probably less than _____ years old.
3. _____ believe the earth is possibly more than 4.5 billion years old.
4. The reason the earth seems so old to some people is that they think the changes in the layers took place at a _____ rate.
5. The _____ was responsible for the rapid deposits of sand, soil, and other material that form the layers of the earth.

Additional Notes

Additional Notes

**Hands-On Time:****Become a
Zoology Expert**

In Lesson 3, you were introduced to six classes of animals: mammals, reptiles, fish, birds, amphibians, and insects. Within each of these classes, there are many different examples of animals. In this Hands-On Time, you will have the opportunity to become an “expert” on one animal.

Materials Needed

- pencil
- paper
- access to a library, the Internet, or biology books

Activity

1. Think about the class of animal you might be most interested in. For example, you might like birds. You might want to refer back to Figure 3-1 in Lesson 3, which lists the six classes of animals and examples of each.
2. Once you’ve settled on a class, choose a specific animal in the class. For example, if you are interested in birds, you might choose the robin as your animal. Of course, there are thousands of possible animals that you could choose, so take your time and pick one that you will enjoy studying.

3. Once you've chosen your animal, you will begin to become an expert by finding material about it. The library is a good place to start. Also, the Internet has several sites that provide information about every known species. As you do your research, fill in the table in Figure 17-1 on the next page with your findings. You should first photocopy the figure (or print it out from the Resource CD) and put it in your Creation Science Notebook, then complete the activity.

 **Discovery Zone**

Did you know that the hippopotamus eats over 100 pounds of plants by eating continuously for five hours?

Think About It

1. What was the most interesting thing you learned about the animal you chose?
2. Would this animal make a good pet? Why or why not?

Figure 17-1.

Zoology Expert: Animal Characteristics	
Animal (Common Name) _____	
Genus and species name	
Habitat (forest, desert, ponds, etc.)	
Range (parts of the world where found)	
Description (color, distinguishing features)	
Size (height, weight, length, etc.)	
Diet (what it eats)	
How many babies does it have every year?	
How long does it take for babies to become adults?	
Where does it go in winter?	
Is it an endangered species?	
What interesting behaviors does it have?	
Other Notes	

appendix **B**

“REVIEW IT” ANSWER KEY

Unit One — Creation Science and the Creation Model

Lesson 1

1. The word *science* really means having **knowledge**.
2. The creation is the entire **universe** and the structures that make it up.
3. A good definition of **creation science** is: study done in order to obtain knowledge about the things that have been created.
4. The **creationist** view says that everything was intentionally created by God.
5. The **evolutionist** view says that everything we see can be explained by natural processes.

Lesson 2

1. Observations reflect what is **seen**.
2. The events that were observed and the explanation for what was observed become part of what is called a **model**.
3. A model is a way to explain the observations and also a way to **predict** what will happen in similar situations.
4. The creation model says that God **created** everything for a purpose.
5. **People (or humans)** are the most important part of the creation and are special to God.

Lesson 3

1. Besides the people we see, there are actually millions of **living things** all around us.
2. If we accept the **Bible** as true, we do have someone who saw the creation of life—God.
3. The book of **Genesis**, the first book in the Bible, records the events that took place in creating life.
4. All **life** we see on the earth is a result of the creative work of God.
5. Evolutionists think that life might have started as a result of **chemical** reactions.

Lesson 4

1. **Biology** is a science for learning about living things.
2. A **species** can reproduce (produce offspring) according to its kind.
3. All plants and animals are given a special two-part name to identify their species. The first part is the **genus** name and the second part is the **species** name.
4. The Linnaean system is still the standard **classification** system used today.
5. There is actually a great amount of **variation** within every species.

Lesson 5

1. *Diversity* is a word that means **differences**.
2. The reason for the **differences** in species is that God created each of the species to be distinct and different.
3. Variation means that a species can have a **range** or variety of characteristics.
4. **Artificial** selection means that plants or animals with certain characteristics are selected by someone (like a farmer) for breeding in order to get a type of plant or animal that meets a particular specification.
5. **Natural** selection means that a plant or animal with certain characteristics may be better suited for a particular environment and therefore be able to live, reproduce, and survive as a species.

Lesson 6

1. Dinosaurs were large **reptiles**, and many of them probably looked like a big lizard.
2. The dinosaur is a member of the group of animals called **vertebrates**. (Hint: This group consists of animals that have backbones.)
3. Dinosaurs were **created** by God, along with the other animals, on Day 6 of creation.
4. **Noah** took representatives of dinosaurs on the ark.
5. All dinosaurs are classified as belonging to one of two extinct **reptile** orders: the order Saurischia and the order Ornithischia.

4. It would take roughly a **year** from the beginning of the rain until the complete end of the flood.
5. Besides the falling rain, there was **water** beneath the earth that had burst forth.

Lesson 15

1. It is possible that all the water from the flood formed tidal waves in the ocean and raging rivers. This caused a great amount of **erosion**.
2. The draining water could have been powerful enough to form **canyons**, such as the Grand Canyon, and also riverbeds.
3. An environmental **niche** is a place where an animal lives and spends most of its time.
4. The rapid **silting** over of the remains of the dead animals produced a great many fossils around the world.
5. A **fossil** is an organism, or living thing, that has died and been preserved.

Lesson 16

1. When a flood occurs, **sediment** is formed and deposited.
2. The sediment produced in the flood would have covered the **plants** and **animals**, and the fossilization process would then have taken place.
3. The study of fossils is called **paleontology**.
4. Paleontology is focused on things that were once living but are now dead and are, for the most part, **fossilized**.
5. Petrification occurs when the original material of a dead organism is replaced by **mineral** material.

Unit Four — The Age of the Earth

Lesson 17

1. The age of the earth is measured in two ways. One way, called **relative time** measurement, is based on the time it takes for layers of material to be deposited on the earth’s surface.
2. From a creation science perspective, the earth is not very old—probably less than **10,000** years old.
3. **Evolutionists** believe the earth is possibly more than 4.5 billion years old.
4. The reason the earth seems so old to some people is that they think the changes in the layers took place at a **slow** rate.
5. The **flood** was responsible for the rapid deposits of sand, soil, and other material that form the layers of the earth.

ABOUT THE AUTHORS

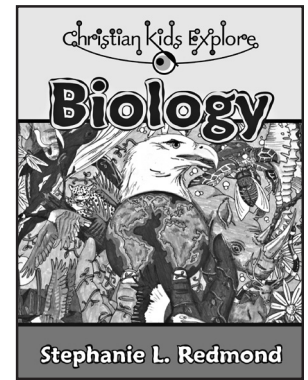
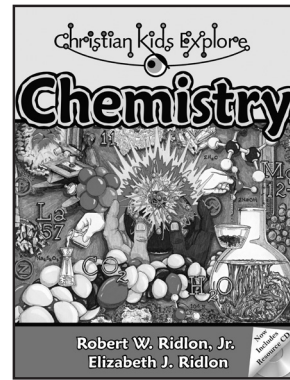
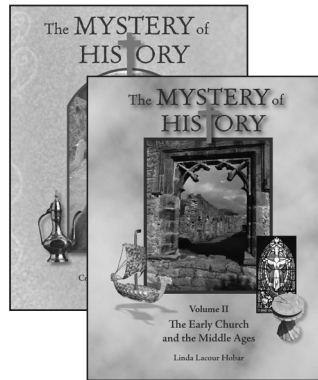
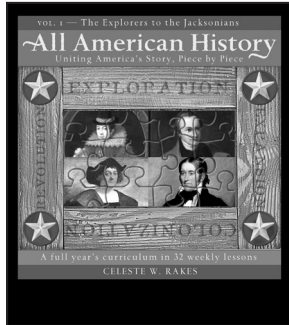


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The Ridlons are involved members of their church and are committed to God's message of Truth. They have one son, Robert; a daughter-in-law, Crystal; three grandsons and a granddaughter. The Ridlons have visited and explored 24 countries on four continents and have written two creation science books, as well as *Christian Kids Explore Chemistry* and *Christian Kids Explore Physics*.

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