

Chapter 2

GOD'S AMAZING CREATIVE POWER

Thus says the Lord who made it, the Lord who formed it to establish it (the Lord is His name): "Call to Me, and I will answer you, and show you great and mighty things, which you do not know." (Jeremiah 33:2-3)

Look around you and ask yourself, "Who made all of this? Where did all of this come from?"

Worldly scientists do not believe that God created the world and everything in it. They think that it appeared by accident. Have you ever created anything useful by accident? If you kicked dirt into the air would it turn into a duck that walks around, eats, and give birth to little ducklings? If you spilled milk on the floor, do you think it would turn into a bicycle? Of course, it is silly to think that useful things were created by accident. Some scientists have come up with silly ideas similar to this because they do not want to believe in

God. They do not want to believe that God created the world.

How can we know for certain the truth about the beginning of the world? How did all of this get here in the first place? Of course, the best way to learn about this is to get the story from somebody who was there when the world began. God was there at the beginning, and He tells us how the world started in His Word. It is the first verse in the Bible:

In the beginning God created the heavens and the earth. (Genesis 1:1)

The Days of Creation

The first chapter in Genesis lays out the six days in which God created the world and everything in it.

Creation Day 1 (Genesis 1:1-5)

God created light and He made the heavens and the earth. The heavens mean space outside of the material earth. The earth is the globe with some sort of matter.

Creation Day 2 (Genesis 1:6-8)

God created the sky with clouds and moisture in the air.

Creation Day 3 (Genesis 1:9-13)

God created dry land and the oceans. God made all plant life.

Creation Day 4 (Genesis 1:14-19)

God created the moon, the sun, and the stars in the sky.

Creation Day 5 (Genesis 1:20-23)

God made fish and birds. He also made flying insects, and he gave these animals the ability to reproduce (or have babies).

Creation Day 6 (Genesis 1:24-31)

God created all the animals that live on dry land. And finally, God made man in His own image.



The Twelve Apostles formation
in Victoria, Australia



Planet Earth

Creation Out of Nothing

The first thing you need to realize about creation is that God made the world out of nothing. Where there was no water, suddenly water appeared. Where there were no fish, suddenly there were fish swimming around in the water.

Humans make houses out of wood. They make cars out of iron ore which they dig out of the ground. They make highways out of rocks, sand, and limestone. No human being can make something out of nothing. We need raw materials to put together the things



Clownfish

we make. So how did God make the world out of nothing? The Bible tells us that he did it by the Word of His power. He spoke, and it came into being.

By the word of the Lord the heavens were made:

And all the host of them by the breath of His mouth. (Psalm 33:6)

Now that is power. If you could speak and create something out of nothing, what a powerful voice that would be! God's Word is powerful. When Jesus spoke to Lazarus who was dead in the tomb for four days, what did He say? "Lazarus, come forth!" Then, what happened?

And he who had died came out bound hand and foot with graveclothes, and his face was wrapped with a cloth. Jesus said to them, "Loose him, and let him go." (John 11:44)

When God speaks, His has a very powerful voice. The Son of God speaks and dead people rise up and walk out of the graves. He spoke at the beginning and created the sun, the moon, the stars, the animals, and man himself. This is how the world came into being.

God created all things out of nothing with one exception. He created Adam

out of the dust of the ground. This was a tremendous miracle too! It was still an act of creation. When the Lord Jesus was at the wedding in Cana about 2,000 years ago, He made wine out of water. This was a miracle as well. Imagine what it would take to turn a book into a stone! That would be supernatural. . .or something that is not natural. . .something that is not in accord with normal natural laws. You would have to rearrange the atoms (or the basic building blocks of matter) that make up the book to turn it into a stone. You would have to create a certain kind of matter that did not exist before. That is what it took to create man. When Jesus turned the water into wine, He performed an act of creation (John 2:1-11). When Jesus made hundreds of loaves and fish out of one little boy's lunch, He performed an act of creation. He added to the matter that existed in the world already, and thereby created more bread and more fish out of nothing (John 6:1-14). These were small miracles conducted about 2,000 years ago, which helped to prove that Jesus really was the Son of God who had created the whole world out of nothing 4,000 years earlier.

Let them praise the name of the LORD,

For He commanded and they were created. (Psalm 148:5)

The Appearance of Age

Then God said, "Let the waters abound with an abundance of living creatures, and let birds fly above the earth across the face of the firmament of the heavens." So God created great sea creatures and every living thing that moves, with which the waters abounded, according to their kind, and every winged bird according to its kind. And God saw that it was good. (Genesis 1:20-21)

When you cut down a tree, you can count the growth rings and figure out the age of the tree. Usually, each ring on the inside of the tree represents one year. When you look at a man, you know that he is over twelve years old. It took awhile for him to grow tall like that. What if you saw a tree appear before you on the third day of creation? Would you say the tree was one day old? Of course not. The trees were already bearing fruit on the day God made them. The trees had growth rings, which gives the tree a strength and sturdiness so it can stand tall. The trees looked like they had been growing



Tree rings

for a long time, but God made them with an appearance of age. They looked like they had been there for a long time, but God made the trees to appear that way.

When Adam was created, he was a grown man. He looked like he was more than twelve years old. He most definitely did not look like a 1-year-old baby boy. Eve looked like she was more than twelve years old also. We do not know if they had belly buttons. The belly button is the port for the umbilical tube, which carries food to the baby from the mother when he is in his mother's womb. Adam and Eve were never carried in their mother's womb. They were created by God as adults.

Some people ask the question—which came first, the chicken or the egg? Did the

chicken come out of the egg? Or did the chicken exist first and then produce an egg? The answer to this question is easy. God created the chicken as a grown animal ready to lay eggs at the beginning. The chicken came first!

Even the stars in the sky appeared all of the sudden. And although they were so very far away and their light would take a long time to reach the earth, it was already there visible on the earth!

This all goes to show that God can do things which we cannot do. His power and wisdom are amazing. Our only response must be to praise and worship Him!



Chicken sitting on a nest

Pray

Take a moment and pray a prayer of praise to God for:

1. His powerful voice which brings about such powerful things.
2. His amazing creation.
3. His wisdom and goodness.

Sing

I Sing the Mighty Power of God

I sing the mighty pow'r of God, that made the mountains rise,
That spread the flowing seas abroad, and built the lofty skies.
I sing the wisdom that ordained the sun to rule the day;
The moon shines full at His command, and all the stars obey.

I sing the goodness of the Lord, that filled the earth with food,
He formed the creatures through the Word, and then pronounced them good.
Lord, how Thy wonders are displayed, where'er I turn my eye,
If I survey the ground I tread, or gaze upon the sky.

There's not a plant or flow'r below, but makes Thy glories known,
And clouds arise, and tempests blow, by order from Thy throne;
While all that borrows life from Thee is ever in Thy care;
And everywhere that man can be, Thou, God, art present there.

(If you do not know the hymn, you may listen to a version of the hymn on the Internet with supervision and sing along with it.)

Watch

The following are recommended videos provided by a URL link. Our editors have been careful to avoid films with references to evolution. However, we would still encourage parents or teachers to provide oversight for all Internet usage. These videos may not give God the glory for His amazing creative work, so the student and parent/teacher should respond to these insights with prayer and praise.



Chapter 3

GOD MADE ANIMALS

Then God said, "Let the earth bring forth the living creature according to its kind: cattle and creeping thing and beast of the earth, each according to its kind"; and it was so. And God made the beast of the earth according to its kind, cattle according to its kind, and everything that creeps on the earth according to its kind. And God saw that it was good. (Genesis 1:24-25)

In this course, we will study God's marvelous creation of the animal kingdom. Animals are amazing. Humans cannot create anything so complicated as an animal. Some scientists have created a robot dog, but it is nothing like a real dog.

A number of companies are making robotic dogs today, but they are far more boring than real dogs. These creations of man are not alive. If little children had a choice between playing with a real dog and a robot dog, which do you think they would choose?

On February 23, 2019, a dog named Eurie broke the record for catching a frisbee.



Robotic Dog

He grabbed the frisbee out of the air at 83 yards. No robotic dog can perform such an amazing feat!

Robotic dogs do not have a reproductive system. That means that they cannot give birth to little robotic dog babies. When they break down, somebody has to fix them. When a real dog gets sick, however, its body heals itself because of the system God has designed for that purpose. God’s creation is more amazing than man’s creation!

When an ant crawls across a great work of art, do you think it is impressed by the art? Does the little ant tell his friends about this great work of art? Of course, he doesn’t recognize the great beauty and the creative skill behind it. We humans, however, have the ability to recognize wisdom and beauty. When we are bored at God’s amazing creative work, it is because we are not thinking. We are not thinking about God, and we are not thinking clearly about His creation. When we do not wonder at God’s work, we are acting like ants crawling across a great work of art. Every time you watch a dog or some

Prayer: Take a moment and pray that the Holy Spirit would open your eyes to see the beauty and glory of God’s creation, especially when it comes to the animal creation.

other animal, think of the wisdom and the power of God to create such a thing. Ask yourself, “Could I make an animal like this?” Think about the Creator when you look at the creation. Ask the Holy Spirit to help you to wonder at God’s stunning creation.

What Is an Animal?

Out of the ground the Lord God formed every beast of the field and every bird of the air, and brought them to Adam to see what he would call them. And whatever Adam called each living creature, that was its name. So Adam gave names to all cattle, to the birds of the air, and to every beast of the field. But for Adam there was not found a helper comparable to him. (Genesis 2:19-20)

When God created Adam, He gave him the responsibility to name the animals. This is basic science, and our Creator and God calls us to this task. We are to observe the creation and distinguish one thing from another. God wants us to notice the difference between a dog and a cat. These are two kinds of animals, and they cannot mate to produce a cat-dog. The Lord doesn’t want us to mix up the different kinds of animals in our minds.

It is difficult to know exactly how many different kinds of animals are in the world,

animals that are incapable of cross breeding. What modern scientists refer to as “species” can often cross breed with each other. So far, researchers have found about 1.2 million different species of animals in the world. Some believe there are as many as 8 million total. So we still have some work to do if we are going to find all of these animals and give them names. This course will begin to describe various kinds of animals.

But before we get to defining an animal, we should break down all of God’s creation of living things into categories. There are six main categories of God’s living creation.

1. Category Monera

These are very small, single-cell life forms (sometimes forming in colonies). They do not have membranes around the nuclei of the cells. Examples of these include streptococcus and staphylococcus. These guys cause terrible infections in the human body. Blue-green algae also make up this group. God made the living Monera.

2. Category Protista

These are very small, single-cell life forms (sometimes forming in colonies). Examples include Algae and Protozoans (like amoebas). The amoeba reproduces by dividing itself in half. God made these living Protista.

3. Category Fungi

These are single-cell life forms, but they combine in large colonies, forming

mushrooms and molds. They typically get their food from dead plants and animals. Some fungi live off of living things (humans and animals). God made the living Fungi.



Amanita muscaria, a toxic mushroom

4. Category Plantae

These are usually called plants (which include trees). These living growing things are made up of tissue (a bunch of cells that interlock and function together in teamwork). Plants make their own food using chlorophyll. The



Venus flytrap

cells in plants are surrounded by stiff cell walls, and the cell walls in trees are very thick. Most plants do not move, with the exception of the Venus flytrap and a few others. God made all the plants in the world.

5. Category Animalia

Animals are made of tissue as well. Unlike plants, animal cells do not have the stiff walls surrounding them. They do not manufacture their own food, and so they have to hunt for food. Most animals move, except for sponges. Kingdom Animalia is broken up into two varieties. There are those animals in whom exists the breath of life (Genesis

7:15). And then there are those animals that do not have lungs (in which does not exist the breath of life). Here are examples of animals from the simpler to the more complex:

- a. Sponges
- b. Jellyfish
- c. Tapeworms
- d. Roundworms
- e. Earthworms
- f. Squids and octopi
- g. Clams and oysters
- h. Snails and slugs
- i. Starfish
- j. Crabs and shrimp
- k. Dragonflies, cockroaches, grasshoppers, moths, butterflies, fleas, beetles, flies, ants, and bees
- l. Centipedes
- m. Spiders, scorpions, and ticks
- n. Sharks and rays
- o. Salmon, pike, perch, trout, eels, and minnows
- p. Amphibians like toads, frogs, and salamanders
- q. Reptiles like lizards, snakes, turtles, and alligators
- r. Birds
- s. Mammals like whales, seals, horses, rats, dogs, cats, bats, monkeys, beavers, elephants, and deer

God designed and created all of the animals in the world.

6. Category Man

Man is not an animal. His body consists of tissue made of interconnected cells like animals. He also has the breath of life like certain animals with hearts and lungs. But man is uniquely different from animals in that he is made in the image of God.

The worldly scientists and even many Christian scientists do not want to separate the category of humans from the category of animals. However, the Bible does separate these two categories. Man is very different from animals.

Man is capable of a relationship with God. He is created with a sense of righteousness and morality. He can know a million times what an animal knows. Also, he was created with the responsibility to rule over the creation and take care of the earth. Animals don't do this kind of thing. If you left your dogs in the house all by



North American Beaver

themselves for three months, what would it look like when you came home? Imagine the mess you would find!

Man can speak. He can communicate on a very complex level using many forms



Burgundy Snail

of communication. Man is also capable of emotion. He is capable of appreciating God and appreciating God’s creation. He can appreciate art. He creates art. Animals cannot do any of this.

Then God said, “Let Us make man in Our image, according to Our likeness; let them have dominion over the fish of the sea, over the birds of the air, and over the cattle, over all the earth and over every creeping thing that creeps on the earth.” So God created man in His own image; in the image of God He created him; male and female He created them. (Genesis 1:26-27)

Man is created with honor, such that he can walk upright. Animals cannot walk upright on two feet for very long. Psalm 8 explains how God has placed an honor upon humans:

When I consider Your heavens, the work of Your fingers,
The moon and the stars, which You have ordained,
What is man that You are mindful of him,
And the son of man that You visit him?
For You have made him a little lower than the angels,
And You have crowned him with glory and honor.
You have made him to have dominion over the works of Your hands;

You have put all things under his feet,
All sheep and oxen—
Even the beasts of the field,
The birds of the air,
And the fish of the sea
That pass through the paths of the seas.
(Psalm 8:3-8)

God Made Animals After Their Kind

Then God said, “Let the earth bring forth the living creature according to its kind: cattle and creeping thing and beast of the earth, each according to its kind”; and it was so. And God made the beast of the earth according to its kind, cattle according to its kind, and everything that creeps on the earth according to its kind. And God saw that it was good. (Genesis 1:24-25)

God made animals after their kind, and He made some animals to reproduce *after their kind*. This is basic to understanding God’s creation. As already mentioned, a dog and a cat cannot produce little baby dog-cats. However, various breeds of dogs can interbreed and produce puppies. There are over 300 official breeds of dogs in the world today, and each of these different breeds can interbreed with the others. For example, a **cocker spaniel** can breed with a **poodle**, and produce little **cockapoos**. **Wolves**, **foxes**, and **coyotes** can breed with dogs and produce

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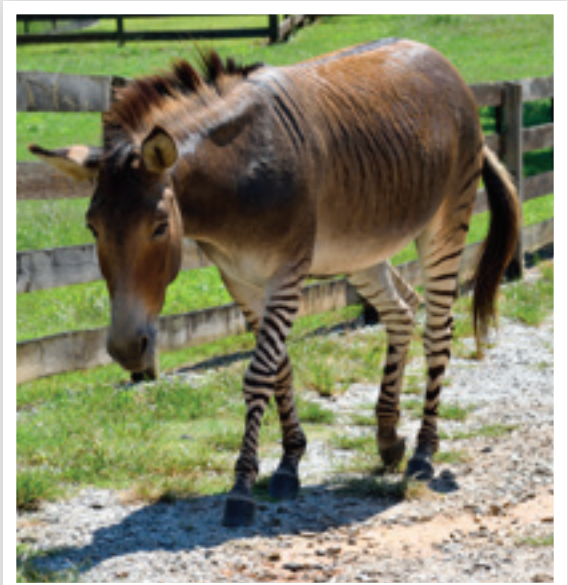


Cockapoo

or cat. That is because God has limited the genetic information in the dog. The genetic code is like a collection of instructions that comes from the dad dog and the mom dog which determines what the dog is going to look like. So when a cocker spaniel and a poodle come together to produce puppies, the instructions that come from the cells of these two dad and mom dogs describe what the puppy dogs are going to look like. And sure enough, the puppies look kind of like a cocker spaniel and kind of like a poodle! The puppies sure don’t look like pigs or cats. They look like dogs. And the dogs that are produced do not have the ability to breed with another kind of animal.

wolf-dogs, fox-dogs, and coy-dogs. We don’t do this much, but **zebras** and **donkeys** can breed to produce a “zonkey.” Nevertheless, God has ordered the animal creation such that there are limits to this interbreeding. A dog cannot breed with a cat.

Non-Christian evolutionists do not believe that God created animals after their kind, as He told us in His Word. Evolutionists think that when different animals within a certain species (or kind) breed many times over, they will eventually produce a brand new kind of animal. Christians, however, disagree. Dogs can breed for 100,000 years, and they will always produce dogs. They could never produce some other creature—like some weird looking pig



Zonkey

Definitions

A **Species** is a certain variety of animal that may be described by its features, but may be capable of reproducing with another species.

A **Kind** of animal is that category of animal created by God which is incapable of reproducing with another kind.

A **Cell** is the smallest living thing. It is alive. Some cells have a nucleus and some do not. All cells have a cytoplasm that is held inside of a membrane of some kind. Cells were named after the place where Christian monks would gather to pray. It is where life abides.

Cytoplasm is the gooey stuff inside of the cell which makes it alive. It is the most creative, most complicated, and most amazing stuff of life. Scientists will never be able to explain the complicated stuff, which includes proteins, DNA, RNA, Amino Acids, and so forth.

God Made Some Animals with the Breath of Life

The waters prevailed fifteen cubits upward, and the mountains were covered. And all flesh died that moved on the earth: birds and cattle and beasts and every creeping thing that creeps on the earth, and every man. All in whose nostrils was the breath of the spirit of life, all that was on the dry land, died. So He destroyed all living things which were on the face of the ground: both man and cattle, creeping thing and bird of the air. They were destroyed from the earth. (Genesis 7:20-23)

After creation, Adam, the first man, disobeyed God and ate the forbidden fruit. Adam and Eve’s son, Cain, killed his brother Abel. Later generations of men and women became very evil and continued in the pattern of Cain. Finally, after about 1,600 years, God was tired of the evil in the world. He sent a worldwide flood which destroyed all the people except Noah and his family. Also, all of the land animals were destroyed except those which Noah kept with him on the ark.

Here in Genesis chapter 7 the Lord provides a category of animals which he refers to as animals “in whose nostrils was the breath of the spirit of life.” These are probably animals which have a heart

and lungs. This is an important difference between two varieties of animals. Bugs and fish do not have lungs into which they take in oxygen from the air. However, birds and land mammals do breathe in the air.

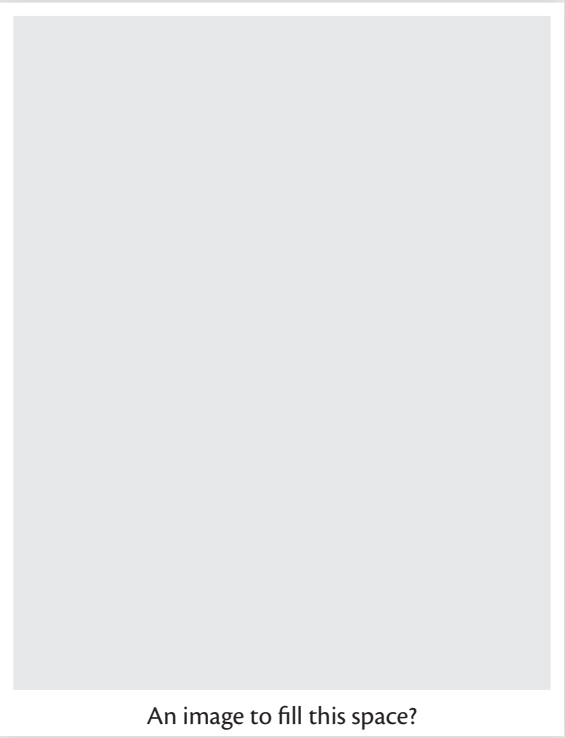
No Death Before the Fall

According to Genesis 1:29-30, animals did not feed on each other before the Fall. They were created to eat vegetation. Even the dinosaurs, the lions, and the bears would eat vegetation. Of course, bears still eat vegetation along with some animal meat. Those animals in whom was the breath of life did not die before Adam ate the forbidden fruit.

When man fell into sin, everything changed. Animals began to eat other animals, and even humans came to eat meat later on, after the flood (Gen. 9:2-3). Thus, the animal creation bears the burden of Adam’s fall into sin. With the Fall, death came into the world. Romans 8 reminds us that the creation is groaning under this curse that man brought on the world. The whole creation can hardly wait for the new heavens and the new earth where all death will be done away with.

When your pet dog or cat dies, most likely you will be very sad. That is because this death and dying comes as part of the curse that visited the world when Adam disobeyed God. One day, this curse will be gone and Jesus will make everything like new.

For the creation was subjected to futility, not willingly, but because of Him who subjected it in hope; because the creation itself also will be delivered from the bondage of corruption into the glorious liberty of the children of God. For we know that the whole creation groans and labors with birth pangs together until now. Not only that, but we also who have the firstfruits of the Spirit, even we ourselves groan within ourselves, eagerly waiting for the adoption, the redemption of our body. (Romans 8:20-23)



Pray

Take a moment to praise God for 1.2 million varieties of animals that He has created, all reproducing around the world after their kind. This is amazing. Every animal is very complex, and no human could ever make an animal. God made 1.2 million different kinds of these animals. As you praise God, try to list as many animals as you can think of.

Sing

All Things Bright and Beautiful

[Refrain]
All things bright and beautiful,
All creatures great and small,
All things wise and wonderful:
The Lord God made them all.

Each little flow’r that opens,
Each little bird that sings,
He made their glowing colors,
He made their tiny wings.

The purple-headed mountains,
The river running by,
The sunset and the morning
That brightens up the sky.

The cold wind in the winter,
The pleasant summer sun,
The ripe fruits in the garden,
He made them every one.

The tall trees in the greenwood,
The meadows where we play,
The rushes by the water,
To gather every day.

He gave us eyes to see them,
And lips that we might tell
How great is God Almighty,
Who has made all things well.

(If you do not know the hymn, you may listen to a version of the hymn on the Internet with supervision and sing along with it.)

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A Real Dog — a Beagle - <https://www.youtube.com/watch?v=J6nhSDAKRj8>



Chrysaora melanaster jellyfish

Chapter 4

ANIMALS WITHOUT BACKBONES

Have you not known? Have you not heard? The everlasting God, the Lord, the Creator of the ends of the earth, neither faints nor is weary. His understanding is unsearchable. He gives power to the weak, and to those who have no might He increases strength. (Isaiah 40:28-29)

God's wisdom is far beyond anything that we can know. Indications of His genius are all around us in His creation for us to witness. Chief among the animal creation are the **invertebrates**. These are animals without backbones.

Our Lord has made some sea animals out of a jelly-like substance (wrapped in a tissue of skin). These are called **jellyfish**, **sea anemones**, or **coral**. By God's design, there are now 9,400 different species of these animals living in the sea. Compare that to car manufacturing, where men have produced about 600 different models of cars in countries around the world. It takes a lot



Sea Anemone

God Controls the Coral Population

Coral is very sensitive to water temperatures. If the waters get too hot or too cold, the coral will die out. As it turns out, over thousands of years, ocean water temperatures rise and fall and the coral will come and go. Lately, there has been a decrease of the amount of coral in the oceans. However, we must be sure that the Lord of creation knows when to warm up and cool down His ocean waters. Of course, the sun has the greatest influence on the warmth of the oceans, and only God knows how to control these gigantic influences.

Lately, world governments and scientists have got it into their heads that man is in control of the temperatures of the oceans. Of course, this is just human pride showing itself. The fear of God and the recognition of His control over this world is basic to our understanding of science. Only God can control the temperature of the earth.

of work to design a new car and produce it. Yet God produces 9,400 different species of this invertebrate sea life! This is another

dimension of His wisdom and creativity. We should praise God above all others for His creation of this wide array of animals without backbones!

Oh, the depth of the riches both of the wisdom and knowledge of God! How unsearchable are His judgments and His ways past finding out! (Romans 11:33)

When you are swimming around jellyfish or sea anemones, you need to remember these creatures don't have backbones and they don't have brains. They can't see you and they can't hear anything. However, God has made them so they can defend themselves using stingers located on their tentacles. As soon as something brushes up against these tentacles a little thread triggers a filament that shoots into the victim. The tentacle then clings on to the victim, while he gets the injection of venom. If the victim is small enough, the jellyfish will use its tentacles to drag it into his mouth where it is digested in the stomach.

These creatures are very much able to defend themselves and feed themselves even though they have no eyes or ears. Surely, God made them with sufficient capabilities to survive.

Praise the Lord from the earth,
You great sea creatures and all the depths;
Fire and hail, snow and clouds;

Stormy wind, fulfilling His word;
Mountains and all hills;
Fruitful trees and all cedars;
Beasts and all cattle;
Creeping things and flying fowl;
Kings of the earth and all peoples;
Princes and all judges of the earth;
Both young men and maidens;
Old men and children.
Let them praise the name of the Lord,
For His name alone is exalted;
His glory is above the earth and heaven.
(Psalm 148:7-13)

Are These Really Animals?

Many underwater invertebrates do not appear to be animals at first glance. This

also may be another defense mechanism for those creatures that do not move or cannot move very fast.

Some of God's creation is meant to provide beauty and decoration to the undersea world. For instance, the coral creates a magnificent, beautiful background for the oceans. It is for man to enjoy and to appreciate as he swims through the seas. Why would the Lord create such beauty, but that He might enjoy it and that we might enjoy it, and give Him the glory for it!

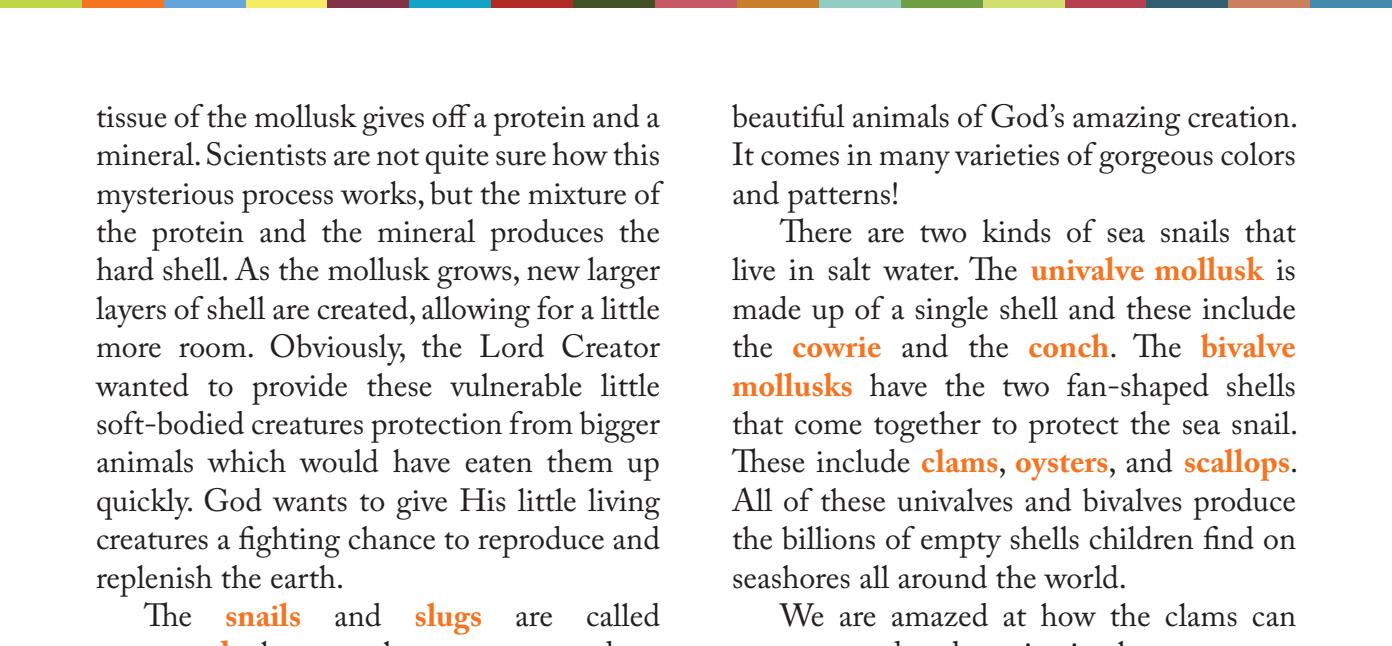
Star fish (or "sea stars") and sea urchins such as sand dollars, sea cucumbers, and feather stars also populate the bottom of the sea floor. What looks like a harmless sea star will come alive, jump on a clam, and pull it apart just enough to gets it tongue-



Star Fish



Nudibranch Sea Slug



Hermit Crab

The Harmful and Hurtful Use of God’s Creation

In the 1960s, a boy from Miami, Florida smuggled three giant African snails into the United States. The boy’s grandmother eventually released the giant five inch (12.5 cm) snails into her yard. This terrible mistake resulted in a ten-year, \$1 million effort to get rid of the pests. Since 2011, another infestation of these animals has been identified by the U.S. Department of Agriculture in Florida. The snails are known to tear up plants and eat the stucco on the outside of homes.⁷

like stomach in there to slurp out and digest the contents. These make up more of the wondrous manifestations of God’s designs.

God Made Worms and Mollusks

Then God said, “Let the waters abound with an abundance of living creatures. . . And God blessed them, saying, “Be fruitful and multiply, and fill the waters in the seas, and let birds multiply on the earth.” (Genesis 1:20,22)

Worms and **mollusks** are also invertebrates without any external skeletons. Mollusks are soft-bodied, jelly-like creatures that live in shells made of calcium carbonate. The mantle

tissue of the mollusk gives off a protein and a mineral. Scientists are not quite sure how this mysterious process works, but the mixture of the protein and the mineral produces the hard shell. As the mollusk grows, new larger layers of shell are created, allowing for a little more room. Obviously, the Lord Creator wanted to provide these vulnerable little soft-bodied creatures protection from bigger animals which would have eaten them up quickly. God wants to give His little living creatures a fighting chance to reproduce and replenish the earth.

The **snails** and **slugs** are called **gastropods**, because they move around on one foot which also contains its stomach. The snail has its mouth, eyes, and antennae located at the front of its foot. For most farmers, snails are a pest that destroys young plants. However, some farmers raise certain kinds of snails for useful purposes like cosmetics (and as a delicacy known as “escargot”).

The slug has no shell and moves about by contracting the foot muscle and then relaxing it. He secretes a slimy mucus along the way, which helps him gain traction especially when he is climbing up a wall.

While most slugs look pretty plain and ugly, the sea slug may be one of the most

beautiful animals of God’s amazing creation. It comes in many varieties of gorgeous colors and patterns!

There are two kinds of sea snails that live in salt water. The **univalve mollusk** is made up of a single shell and these include the **cowrie** and the **conch**. The **bivalve mollusks** have the two fan-shaped shells that come together to protect the sea snail. These include **clams**, **oysters**, and **scallops**. All of these univalves and bivalves produce the billions of empty shells children find on seashores all around the world.

We are amazed at how the clams can move around and survive in the sea waters. Indeed, the Lord Creator has provided a means for these clams to bury themselves under the sand. They can push their muscular foot into the sand. The animal then expands its little foot by pushing blood into it, and then the foot pulls the rest of its body and shell under the sand.

The hermit crab is an amazing little creature. Although he is not a mollusk, by God’s design this little creature likes to find empty shells and use them temporarily for his own protection from predators.

God Made Squid and Octopi

The **cephalopod** is another type of mollusk. This animal's head and foot is combined in one. Coming out of its head are tentacles—eight for the **octopus** and ten for the **squid**. These animals move through the water by sucking water into a chamber and the forcing it out using a system called “jet propulsion.”

There is much to investigate in God's creation. A scientist could spend a lifetime studying just one of God's amazing creatures, and still he would not understand all of the intricate design of that animal. For example, the **octopus** is among the most intelligent animals in the sea—at least as intelligent as a dog. About 75% of the octopus's neurons (or brain cells) are in its eight legs. Thus, each leg appears to move independently and the octopus can multi-task, doing various unrelated things at the same time. Octopi have been known to open jars to get their

food. Also, an untrained octopus can simply watch another octopus open the jar and repeat the same routine.

The octopus can grow to 30 feet in length. It can camouflage its skin to match its surroundings. This creature's skin can sense light and respond to light in a similar way in which our eyes function. It is as if the octopus's skin is made up of a million eyes. God has also equipped the animal with special cells under the skin that can adjust the pigment color to blend in with its surroundings.

Some octopi defend themselves by poisoning their victims. A bite from a blue-ringed octopus could paralyze a grown adult human. And of course, the octopus is well known for releasing a black fluid that confuses his predators. He can also escape quickly from some predator by a jet propulsion system which the Lord has given to him. By this means, the octopus can reach top speeds of 25 miles per hour, faster than most fish in the sea.

You can see how God pours out His goodness on these creatures as He equips them with all of these different defense mechanisms. Truly, our Creator thinks through His designs carefully. He demonstrates His care for His creatures to enable them to eat, to live, to solve problems, and to defend themselves, even after death came upon the world by Adams' sin. He wants them to live as long as possible despite the inevitability of death.



Octopus

The Lord is gracious and full of compassion,
Slow to anger and great in mercy.
The Lord is good to all,
And His tender mercies are over all His works.
(Psalm 145:8-9)

Sustaining Life in the Most Difficult Environments

The thief does not come except to steal, and to kill, and to destroy. I have come that they may have life, and that they may have it more abundantly. (John 10:10)

Our Creator God and Father loves life. He is the very source of all life. When death fell upon man because of his sin, God sent His Son to give us new life, abundant life, and eternal life. We should praise God for every sign of life in us and around us!

In fact, God so loves life that He provides for it in the most difficult of environments. Later, we will consider the **emperor penguin**, waddling about in -40 °F (-40 °C) weather in Antarctica. Amazingly, the Lord also provides life in 750°F (400°C) waters surrounding underwater volcanoes. A thick carpet of bacteria forms around the volcano vents, and this feeds other animals in the ecosystem. The giant **tube worm** grows 3 feet (.9m) per year on this bacteria, and it can reach lengths of 7 feet (3.1m). These invertebrates cannot digest food, but their insides fill up with bacteria that help them process the nutrition. The **eelpout fish** and the **hydrothermal octopus** also hang out in this super-hot environment. Once the volcano dies down, these unique creatures die out with it, and wait for the next volcano.

The **giant squid** and the **colossal squid** live miles under the ocean where no human could ever swim. If you were to ride in an underwater submarine one mile (1.6 km) under the sea, the atmosphere would turn pitch black. You couldn't see your hand in front of your face. The pressures are also very great down there, between 10 and 100 times the pressure we experience at sea level. That pressure would cause our bodies to crush in

Strange Exceptions in God's Creation

In God's infinite wisdom, He designs strange little exceptional creatures. For example, the female argonaut octopus makes a shell for herself where she lives most of the time and lays her eggs.

on themselves, and we would die instantly under these conditions. Yet, our God of life has provided this whole ecosystem that thrives under the ocean where man seldom goes (except in submarines). Chief among these animals are the giant squid and the colossal squid. The largest giant squid ever discovered was 43 feet (13 m) in length. Scientists guess that these animals could grow to 66 feet (20 m)¹—the size of a six-story building. The colossal squid grows to about the same length and dwells in the deep waters around Antarctica. These animals eat a ton of food and grow rapidly. Their foot-long eyes take in what little light is present. Two extremely long tentacles are equipped with a vacuum that can suck in their prey. Eight arms then grab the food and feed it into the mouth. A tongue-like organ covered with teeth called a “radula” grinds up the food. From there the food is sent down the esophagus, through the squid’s brain and then into the stomach. These are unique designs fitted perfectly for various difficult environments around the globe, all of which the Lord our God has incorporated into His animal creation!

O Lord, how manifold are Your works!
In wisdom You have made them all.
The earth is full of Your possessions—
This great and wide sea,
In which are innumerable teeming things,
Living things both small and great.

There the ships sail about;
There is that Leviathan
Which You have made to play there.
These all wait for You,
That You may give them their food in due season.
(Psalm 104:24-27)

Helpful Invertebrates

The **earthworm** is especially useful in God’s wonderful ecosystem, plowing up the soil by crawling around and eating up the soil as he goes. His digestive system absorbs whatever dead plant or animal material he can get, and just passes the dirt right back out. This enriches the soil and keeps it loose and absorbent for rainfall, helping to water the plants.

Some earthworms can grow to ten feet long. When stressed, these worms can eject coelomic fluid out of their skin, sometimes squirting up to 12 inches (30 cm) off the ground.

God’s World of Insects

Invertebrates include living animals with exoskeletons as well. These are the bugs built with a skeleton around the outside of them. They also have segmented bodies, and this group of animals are called arthropods to include the insects, arachnids (spiders), myriapods (centipedes), and crustaceans (crabs, lobsters, and shrimp).



This world is filled with what God’s Word calls “crawling things.” In fact, there are an estimated 800,000 different kinds of insects in the world. The insect typically has three body segments—a head, a thorax, and an abdomen. The thorax is the tough segment between the head and abdomen which provides the structure and muscles needed to operate the legs and wings.

Our Creator provided insects with several key characteristic features:

- 1. Three pair of legs.
- 2. Antennae or feelers.
- 3. Breathing tubes attached to pores located on the abdomen.

The antennae are used by the insect to figure out what’s going on. It is in some cases sensitive to touch, air motion, heat, vibration, and sounds. Sometimes the antennae are used to smell or to taste. The migratory

butterflies, for instance, use their antennae to figure out the time of the year so they know when to start flying south.

Entomologists (people who study insects) break out the insect class into various orders. Here are some of the ways these orders are broken down:

- 1. Crickets, grasshoppers, locusts, and cockroaches
- 2. Beetles
- 3. True bugs like bedbugs, water striders, and stinkbugs
- 4. Aphids, leaf hoppers, cicadas, and lac insects
- 5. Dragonflies and damselflies
- 6. Social insects like ants, bees, and wasps
- 7. Butterflies and moths
- 8. Flies, gnats, and mosquitoes

There are . . . things which are little on the earth,
But they are exceedingly wise:
The ants are a people not strong,
Yet they prepare their food in

the summer;
(Proverbs 30:24-25)

Ants are also amazing little living creatures. They have an animal intelligence that is really quite astounding for their size. Ant colonies use division of labor; they communicate with each other; and they seem to be able to solve complex problems. They communicate with each other by excreting a chemical from their body, as well as by touch and by sounds. They leave a trail for their nest mates to follow by excreting the chemical. Their antenna works like a nose—that’s how they smell.

Ounce for ounce, the ant is the strongest creature of God. They can carry objects 10-50 times their body weight. That would be like a 100-pound boy hauling a 5,000 pound SUV car on his back. They are hardy little insects, surviving without food and water for weeks at a time.

Ants are also ranchers. They host colonies of aphids, which supply honey dew for the ants. Aphids will eat plants and then secrete a sugary

waste product called honey dew, which ants find nutritious. In exchange, ants will guard their little aphid herds by chasing away ladybugs and wasps. Some aphids cannot excrete the honeydew, until the ants milk them using their antennae. Some ants will even protect the aphid eggs in their nests during the winter months—so they will be sure to have a new herd producing sugary honeydew in the spring.

Ants are resilient. If their colony is flooded out, 100,000 ants will team up to form a life raft out of their own bodies, protecting the queen ant and the ant larvae from drowning. Most ants are worker ants and they are female. Only the queen ant reproduces, with help from the drones—the males. Drones live only long enough to reproduce, but the queen ant can live as long as thirty years. She continues reproducing thousands of ants to maintain the colony life.

Fire ants invaded the United States beginning in the 1930s, and they are slowly spreading across the country. They are also active in Australia, Taiwan, and China. These fierce ants prefer feasting on animals, mostly invertebrates. However, sometimes they will attack livestock and even humans. About eighty people have died from attacks from the fire ant. Most ants are able to bite and even spray acid over the wound. However, fire ants sting their victims with a poison which can be deadly. Since most people can outrun ant attacks, there isn’t much reason to be concerned about them (except for bed

bound elderly people and small babies). It is a good idea to exterminate all fire ant colonies anywhere near your house.

Army ants from South America and Africa are impressive in that the colonies can exceed 15,000,000 ants. You can find them traveling together in groups 10 meters wide and 100 meters long. These armies of ants will take down 3,000 prey in an hour, usually consisting of spiders, scorpions, worms, and other insects. Without question, it is the efficient teamwork and hard work that best characterizes the ant.

Army ants carrying away larvae from a wasp nest.

Go to the ant, you sluggard!
Consider her ways and be wise,
Which, having no captain,
Overseer or ruler,
Provides her supplies in the summer,
And gathers her food in the harvest.
(Proverbs 6:6-8)

Very smart scientists will work for a very long time to develop a robot that is instantly and continually aware of everything going on around it. This is a very tricky problem. But, all of our praise must go to God! For He has equipped the smallest little bugs and beetles with these astounding abilities; and they number by the quadrillions! Scientists have estimated that spiders alone consume 700 million tons of bugs every year, and there are

Leaf Cutter Ant



Army ants carrying away larvae from a wasp nest



280 million tons of ants in the world (which would amount to 84,000,000,000,000,000 or 84 quadrillion ants).²

Our God's Amazing Designs
I, wisdom, dwell with prudence,
And find out knowledge and discretion. . .
The Lord possessed me at the beginning of
His way,
Before His works of old.
I have been established from everlasting,
From the beginning, before there was ever
an earth. . .
Then I was beside Him as a master

craftsman;
And I was daily His delight,
Rejoicing always before Him,
Rejoicing in His inhabited world,
And my delight was with the sons of men.
(Proverbs 8:12, 22-23, 30-31)

We cannot possibly fathom the wisdom that it took to create the world. God was the master craftsman as He applied wisdom in all of His works. There are 280,000 different kinds of beetles in the world, and 120,000 varieties of **butterflies** and **moths**. What this tells us again is that God loves variety.

Even though man creates 600 models of cars, they all look pretty much alike. But God's designs are much more varied in appearance, function, and beauty.

Beetles are designed to fly. At creation, the Lord provided these little guys with sheath wings which provide a cover for the wings they use to fly. Beetles also have very strong mouth parts which they can use to chew wood, tree bark, branches, leaves, bone, fur, dead animals, and dung.

The **butterflies** are given wings made out of chitin, the same stuff your fingernails and hair are made out of. On the underside of the butterfly wings, you will find sheets of scales, interlocking like shingles on a roof.

They are easily removed if you rub your hand against them. These scales help the flow of air across the wings, and also provide insulation (like fur on a coat), which keeps their bodies warm enough to fly. It's a good idea not to touch a butterfly if you expect it to live.

The difference between butterflies and moths is discovered first in their antennae. The moth's antennae is feathery and fuzzy, while the butterfly's is smoother with a fat knob on the end of it. The butterfly likes to fold her wings up, while the mother looks a little more depressed. She folds her wings down over her abdomen. Also moths tend to be smaller and less colorful.



Small Emperor Moth

Metamorphosis

Many, O Lord my God, are Your wonderful works
Which You have done;
And Your thoughts toward us
Cannot be recounted to you in order,
If I would declare and speak of them,
They are more than can be numbered.
(Psalm 40:5)

The butterfly is utterly baffling to scientists in the world. First, it starts out as a fertilized egg which hatches into a caterpillar. This many-legged creature lives on leaves. Then in God’s infinite and mysterious wisdom, the caterpillar sheds its skin, leaving a hard shell-like covering called a “chrysalis.” The caterpillar digests itself by releasing enzymes, which reduces its tissues to a jelly-like substance. Out of this juice, body parts begin to form from what researchers have called “imaginal discs.” Again, the most intelligent



Monarch Butterfly Chrysalis

scientists are baffled by this very strange, wise, and creative forming of a creature out of this jelly. Very rapidly, cells begin to reproduce themselves, and new body parts begin to appear. Once it has formed by the power of God and the mysterious wisdom

of His design, the butterfly releases an enzyme juice to break out of the chrysalis shell. Immediately, the butterfly will begin to flit around, drinking nectar from plants and other fluids. Before it dies, the female butterfly will mate and lay more eggs, and the cycle continues all over again.

This is an awe-inspiring scene to witness. As you watch colorful butterfly wings, legs, and antennas form out of the jelly, what is this? It can only be called the miracle of life! That person who cannot be impressed by this wonder, this enchanting and unusual sight,



Monarch
Butterfly

must have a very hard and calloused heart indeed. It would be the height of ignorance and blindness to fail to see the glory of this God-ordained metamorphosis!

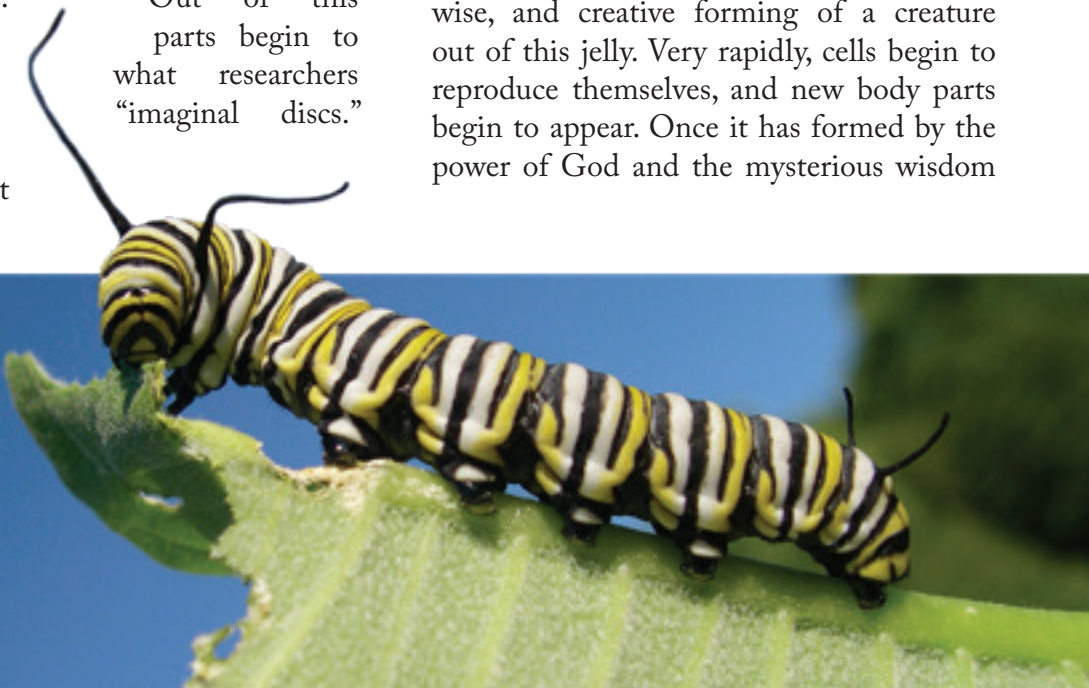
The metamorphosis of the caterpillar into the butterfly is a highly unusual process in nature. It is out of the ordinary. Undoubtedly, our God has placed this in

the world to surprise us with something of His creative wisdom. Here is another proof that none of this creation could have ever happened by chance.

It would be impossible for a caterpillar to turn into a butterfly by evolution, without God’s creative power. Think about this. Caterpillars cannot reproduce. They only eat leaves, they cannot fly, and they do not have a long tongue with which they could suck the nectar from flowers. The butterfly egg can only produce a caterpillar. How then does a creature that can only crawl turn into a creature that can

do much more than that? The only explanation for such mysteries is the wonderful creative work of an all-wise and powerful Creator God!

Ungodly evolutionists want to believe that this beautiful and functional order came about by chance. Essentially, this view of origins for the natural world takes away all consideration of the Creator. But it does more



than that. It also takes away any reason to be grateful and to praise. Suppose you were to drop a rock on the ground, and it turned into a beautiful picture in a frame or a bicycle. Who would you thank for producing the bicycle for you? Who would you praise for making such a beautiful picture? Of course, there would be nobody to thank and nobody to praise because it all happened by chance. There is nothing praiseworthy if there was no person to create the art and build the bicycle. There is nothing wonderful and nothing praiseworthy in the evolutionary view of the world.

There is still another important lesson to learn from the butterfly. When we become Christians, we turn into a new creature. We are still the same person in that we have the same name, the same personality, and the same body-soul creation. But, we are different. We begin to look at each other differently. We don't treat each other like caterpillars anymore. We treat each other like butterflies. This is what Paul teaches us in 2 Corinthians 5:

Therefore, from now on, we regard no one according to the flesh. Even though we have known Christ according to the flesh, yet now we know Him thus no longer. Therefore, if anyone is in Christ, he is a new creation; old things have passed away; behold, all things have become new. (2 Corinthians 5:16-17)

The Amazing Abilities God Has Assigned for Insects

All things were made by Him [Jesus] and without Him was not anything made that was made. (John 1:3 KJV)

The Lord Jesus Christ has created insects with some amazing abilities. For example, **locusts** have an uncanny ability to twist their wings while flying. This keeps their flight consistent, and controls the amount of lift they need to keep them off the ground. Using this amazing feature that God has hardwired into their systems, locusts can fly up to 48 miles (80 km) in one day without a rest. Compensating for the differences in size, that would be like a human walking 1,400 miles (2,400 km) in a single day!

Consider the **flea**, a tiny little insect that can jump 150 times its own height. Again, compensating for



Flea

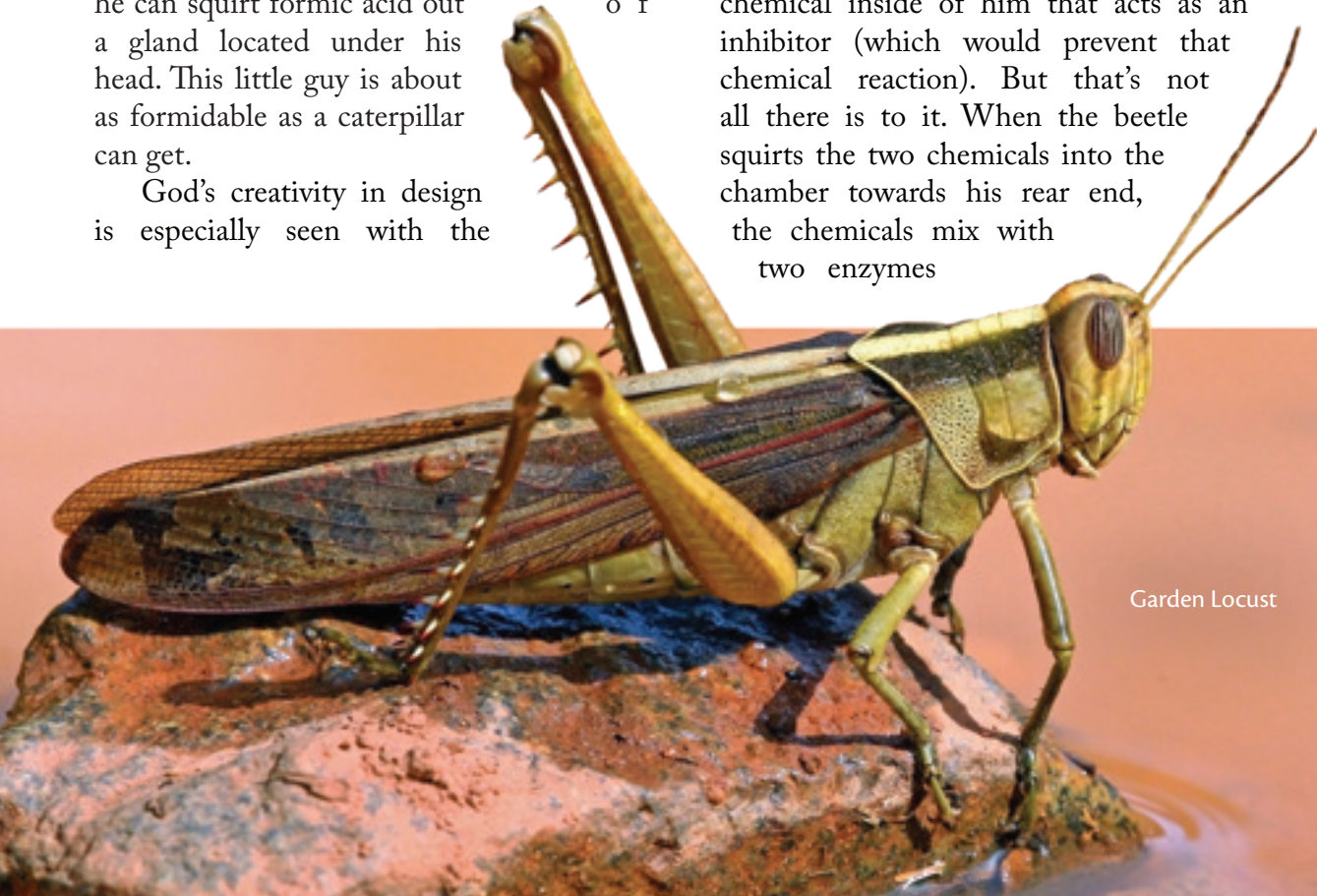
differences in size, that would be like a 5 foot (152 cm) human jumping 750 feet (227 m) into the air. That's almost like leaping to the top of the Empire State Building!

By His great mercy and kindness, the Lord provides a huge variety of defense mechanisms for His creatures. The **puss moth caterpillar** has a multi-faceted defense system. Like most caterpillars, he can draw his head back into his body. However, when the puss moth caterpillar does this, he reveals what looks like a gigantic red circle, resembling something of an ominous and scary mouth. He also sports two tails, both of which send out a thin red thread into the face of an attacker. If that doesn't work he can squirt formic acid out of a gland located under his head. This little guy is about as formidable as a caterpillar can get.

God's creativity in design is especially seen with the

Bombardier Beetle. This insect's defense system could be the most amazing and the most complicated in all of creation. Using a mix of chemicals this beetle keeps in his body, he lights up an explosion in a chamber contained in his body. This blows out his rear and fries any small animal that might be trying to attack him. Like a slow motion machine gun, this little guy can repeat the explosions 15-20 times in just a few minutes.

He keeps two chemicals in different sacs in his body—a watered-down (28%) hydrogen peroxide and hydroquinone. If these chemicals leaked out and mixed in his body, they might react and blow him up. So God provided the beetle with another chemical inside of him that acts as an inhibitor (which would prevent that chemical reaction). But that's not all there is to it. When the beetle squirts the two chemicals into the chamber towards his rear end, the chemicals mix with two enzymes



Garden Locust



Bombardier Beetle

(catalase and peroxidase). This reaction increases the pressure and temperature, resulting in a small explosion and the emission of toxic gases into the face of the beetle’s nemesis. Obviously, the combustion chamber within the beetle has to be able to sustain very high temperatures over 212 °F (or 100 °C).

All of this is very complicated, and a twelve-year-old might have a hard time understanding how these chemical reactions work. Scientists have had to study this process for a long time to figure out how the catalyst (the enzymes) create the toxic gases out of the mixture of the two chemicals. It should be obvious that a brilliant Designer, our awesomely wise God, came up with this idea. The important thing to remember about Mr. Bombardier’s defense system is

that *nothing works until everything works*. The beetle needs both active chemicals, the catalyst, and the inhibitor which would prevent him from mixing the chemicals in his own body and blowing himself up.

Unbelieving scientists try to tell us that all of this came by evolution, by trial and error conducted by unintelligent forces over a million years. Of course, that is ridiculous. Reasonable people could never believe such a theory. Human scientists have to work for many weeks and years in laboratories to design chemical systems that produce controlled reactions and explosions without producing destructive side effects. They have to be very careful not to blow themselves up while they are doing their experiments! The fact that God can design a system in the body of a little beetle that works thousands of times over, and continues to work well for six thousand years, is beyond incredible. It is amazing!

We really must give God the glory and praise for His glorious works!

*Stand still and consider the wondrous works of God. . .
Teach us what we should say to Him,
For we can prepare nothing because of the darkness.
Should He be told that I wish to speak?
If a man were to speak, surely he would be swallowed up.
(Job 37:14,19-20)*

**God Made the Spider
(Invertebrate-Arachnids)**

*There are. . . things which are little on the earth,
But they are exceedingly wise:. . .
The spider skillfully grasps with its hands,
And it is in kings’ palaces.
(Proverbs 30:24,28)*

The class of Insects (“Insecta”) are the arthropods with six legs. Those arthropods with eight legs make up the class known as Arachnids (“Arachnida”), more commonly called spiders. The Lord has developed 36,000 different species of these living spiders, to be found all over the world.

*He counts the number of the stars;
He calls them all by name.
Great is our Lord, and mighty in power;
His understanding is infinite.
(Psalm 147:4-5)*

The cobwebs found in the home, on the ceiling, or in the attic may be a little irritating. Yet from day to day, God’s spiders are more efficient at getting rid of insect pests than insect sprays used by humans.

The sheer variety and innovation in the designs our Creator has installed in 45,700 varieties of spiders on this earth is nothing short of mind blowing! For example, the **trap door spider** constructs an ingenious trap for his prey. First, he digs a hole in the



Trap Door Spider

ground and lines it with silky webbing. Then he builds a trap door on top of the hole and sprinkles dirt and leaves over it. To finish off his work, he lays a few telltale web threads around the hole to signal him when his prey is approaching the hole. Then the spider sits and waits under the door for the insect to trip his thread so he can lunge for a quick grab.

The **ogre-faced spider** is truly a wonder of God's amazing creativity! First, he constructs a little net out of its silk web. Then he hangs in the air by a several foot long strand of web. When he finds its insect prey, the spider tosses the web over the insect and pulls it tight. He then proceeds to spin a web around the insect, and feasts on his prey.

The **spitting spider**, spits out a few sticky webs at his victim. This holds the insect long enough for the spider to jump on him and administer a poisoned bite.

The **water spider** is another ingenious invention of the Creator. Found mainly in northern Asia and the European mainland, this spider can live under the water. Spiders cannot breathe in water, however, this spider builds a diving bell out of its web. Occasionally, she surfaces the water to trap bubbles in the hair on her posterior which she uses to oxygenate her diving bell under the water. She brings her prey into the bell to feed, she lays her eggs there, and raises her young—all under water. Praise God for His amazing diversity and ingenuity exhibited in the spider kingdom!

The largest spider web in the world is built by the **Darwin's Bark Spider** in Madagascar. These 0.7-0.9" (1.5 cm) spiders can spin a web across rivers 80 feet (25 m) wide. In the center of the river, they spin a large 10-foot (3 m) diameter web to catch dragonflies, mayflies, and an assortment of other insects. Apparently, they rely on air currents to carry them across the river while they spin out their very long, tough silk web.

All spiders are poisonous—some are more venomous than others. The most dangerous spiders in the world live in Australia. The **Sydney funnel-web** spider has killed 13 people. Since 1981, however, there has been no recorded deaths due the improved effectiveness of medical treatment for those bitten.³ All told, it is very rare for a person to die of a spider bite. In recent years, about ten deaths were attributed to the Australian **redback widow spider**, the brown recluse spider, and the American **black widow**. That's not very high considering that thousands are bitten by these spiders each year, and tens of thousands are killed by snake bites. You should seek medical help if you have been bitten by a spider. Widow spider bites can produce muscle spasms, nausea and vomiting, and abnormally severe pain. The poison from recluse spiders will kill the flesh. It will turn black and leave a deep scar after months of healing.

The largest spider in the world is the **Goliath birdeater** of South America. It is a tarantula. If it were to crawl onto your

Black Widow



dinner table, it would fill a 10" (25.4 cm) dinner plate.

But He said to them, "Why are you fearful, O you of little faith?" Then He arose and rebuked the winds and the sea, and there was a great calm. So the men marveled, saying, "Who can this be, that even the winds and the sea obey Him?" (Matthew 8:26-27)

Although spiders may appear ugly, that is no reason to fear them. How many times did Jesus tell His disciples not to be afraid



Goliath Birdeater

of the ocean waves or the material creation? Serious spider bites are extremely rare, and many spiders cannot penetrate human skin. Most of the time, our fears are not warranted. Ultimately, people fear serious spider bites because they are afraid to die. But, that is not the case for Christians. Our death will bring about our resurrection, because we believe that Jesus Christ has risen from the dead.

Wherever there is a large population of poisonous spiders, it would be a good idea to check your shoes or gloves before you put them on. Avoid throwing your clothes on the floor and wearing them the next day. If you store clothes in boxes, you might consider sealing them in plastic bags. Keep wood piles stacked away from the house, and use gloves when handling the wood. Spiders like to hang out in piles of wood and debris.

Doctors have developed something called an "anti-venom" to save the lives of those who have been bitten by deadly spiders and snakes. In this case, the animals must team up to help solve the problem. The first thing the doctors and technicians do is collect venom from the poisonous snake for which they are making anti-venom. They inject a small amount of the poison into a horse, a goat, or a sheep. The animal's body that receives the poison then produces antibodies to fight the poison. This is collected and purified, and then used as an anti-venom on those who are bitten by the poisonous snake or spider. These treatments probably save about 300,000 lives per year. Somewhere between 500,000 and

2,000,000 people around the world are bitten by poisonous snakes in any given year.

This is one example of how man takes dominion over animals. God has provided these wonderful cures for man in His animal kingdom. He wants us to discover these cures by studying animals and everything about them.

Satan is presented in the Bible as a serpent and a dragon. In Genesis 3, we find out that sin and death came into the world when the wily serpent (or Satan) tempted Eve in the garden of Eden. Then, God cursed the serpent and sentenced him to crawling on his belly, humbled down into the dust. In reference to the great salvation that would come, he told the serpent, "I will put enmity between you and the woman, and between your seed and her Seed; He shall bruise your head, and you shall bruise His heel." Satan bruised Jesus when the Romans and the Jews crucified Him on the cross. But, in the process, Jesus crushed the head of Satan and redeemed us from the curse of sin and Satan. Our Lord Jesus provides the ultimate anti-venom when He rescues us from Satan's poisonous nature.

Milking a snake for venom



The Scorpion—A Symbol of God’s Judgment

And they were not given authority to kill them, but to torment them for five months. Their torment was like the torment of a scorpion when it strikes a man. In those days men will seek death and will not find it; they will desire to die, and death will flee from them. (Revelation 9:5,6)



Scorpion

In Scripture, the **scorpion** is presented as a symbol of God’s judgment on man for his wicked behavior. When sin came into the world, God introduced death to man in various forms. That includes the sting of the scorpion and the spider.

The scorpion is another arachnid. The Creator has produced about 700 varieties of this formidable-looking creature. Many spiders and scorpions use what is known as a “book lung” to breathe. These are multiple tissues containing lots of blood vessels, all stacked like pages in a book. Air flows into the “book” from the front of the arachnid’s abdomen, and the oxygen in the air exchanges places with the carbon dioxide in the blood. Most formidable of all, the West African emperor scorpion can grow up to eight inches in length. However, the sting of this scorpion is not very toxic for humans. Some scorpions are more deadly though, with Brazil reporting over 180 deaths per year from this arachnid. The most deadly is the yellow scorpion, or the Tityus serrulatus. The Indian red scorpion (found in Nepal, Pakistan, and India) is the most lethal in the world. With this worst-case scorpion sting, the fatality rate has been reduced to less than 1% due to improved treatment (and the use of anti-venom).⁴

While these threats to life exist, let us remember that our Lord Jesus Christ has given us hope for salvation from spiritual and eternal death. He has also provided us with the power to tread on spiritual enemies (like the devil) who would spiritually kill us by his sting.

And He said to them, “I saw

Satan fall like lightning from heaven. Behold, I give you the authority to trample on serpents and scorpions, and over all the power of the enemy, and nothing shall by any means hurt you.” (Luke 10:18-19)

The Scourge of Ticks and Mites

Ticks and mites are the smallest arachnids, and they are much more dangerous and harmful to humans. **Ticks** are especially bad, mainly due to their diet. They bury their heads into the skin of another animal or a

human and feast on its blood. Because the life is in the blood and diseases are spread through blood, these little creatures can spread lyme disease, typhus, and Crimean-Congo hemorrhagic fever, among others. Lyme disease has become more common in America as of late, with about 300,000 cases diagnosed each year.⁵ The reported cases have tripled in about 20 years. Ticks fasten themselves to animals like deer and dogs (and humans) by first climbing up on to high bushes. There they wait for the host to brush up against the bush, branch, or leaf.



Tick

Thus, the best way to eliminate the distribution of ticks is to keep the grasses surrounding your house mowed down. Keep all branches cut back from paths where people walk and avoid walking off the pathways when walking through grasslands and forests. Also wearing long pants, socks, and shoes may be helpful to avoid ticks.

Mites are very small and can only be seen with a microscope. After walking through a

How to Pull a Tick out of Your Dog or Yourself

1. Soak a cotton ball in alcohol and rub the infected, tick-embedded area.
2. Using tweezers, grab the tick as close to his mouth as possible. Do not twist or squeeze the tick too hard. Gently, steadily, slowly remove the tick.
3. Be sure to get the tick's head. Pinch the skin with your fingers to squeeze the head more towards the surface of the skin. Using a sterilized knife or razor blade, scrape away the head of the tick.
4. Apply antiseptic to the affected area.

Definition: Host is the animal to which the tick fastens itself. If a tick has fastened itself to your skin and sucks your blood, you are the host.

field in bare feet or in shorts, you might find a series of red dots on your feet and legs. These are commonly called “**chiggers**,” which are baby mites still in the larvae stage. Like ticks, they feed on blood. Eventually they will drop off of the host and climb back into the soil. Some female mites will lay eggs under the skin of an animal or human, which of course produces quite an irritation. This can also produce a skin infection usually referred to as “mange.”

Treatment of a mite infestation under your skin includes using tea tree oil and pure aloe vera. Also, you will need to wash your clothes and bedding before each treatment.

You can avoid chiggers by wearing shoes and avoiding hot and wet areas where the little bugs like to hang out. Sit on a rock on a stump instead of sitting on the grass. Typically, chiggers don't bite when the ground is cool in the early morning hours. They are more active when the ground temperature is 77–86 °F (25–30 °C). Tuck your pants into your socks if you are hiking through the woods or pastures.

God Made Crustaceans

Thus far, we have considered the six-legged insects and the eight-legged arachnids. God has also made a third kind of arthropod—another kind of invertebrate—called the **crustaceans**. These are ten-legged sea creatures like the **shrimp**, the **lobster**, and the **crab**. They too have an external skeleton, a segmented body, and jointed appendages. These living creatures of God also possess four antennae—one long pair and one short pair. This is how they can touch, taste, and smell. Most of them have eyes that stick out on a stalk and pivot around so they can see what's going on all around them.

The Japanese spider crab can grow to 13 feet in diameter and weigh 40 pounds! These guys can live for over a century. They eat just about any dead body floating around the ocean, and thereby serve as God's cleanup crew in the sea.

These animals are sometimes known as “bottom feeders,” and they aren't always the cleanest of animals. Yet shrimp is the most commonly consumed seafood in some countries, making up 25% of the American seafood diet. Consumer reports indicate that shrimp is a larger risk for carrying antibiotic-resistant bacteria than chicken, turkey, and pork.⁶



The crustaceans breathe through gills, as the Lord has provided for fish. Unlike other animals, the crustaceans experience the miracle of regeneration or regrowth. Should they lose a leg or an antenna in battle, it grows back. Here is another spectacular act of God, which reminds us of His ability to regenerate us and provide us with a new body upon our death!

Our God Made Centipedes and Millipedes

Insects have six legs, arachnids have eight legs, crustaceans have ten legs; but God

wanted to create even more variety of life in the vertebrate world. He also created the centipedes with 20-50 legs and the millipede with as many as 750 legs. The centipedes will kill by injecting poison into insects, worms, and even lizards or mice. The South American centipede can grow to twelve inches in length. The millipede is a herbivore, and gets around much slower than the centipede. Coordinating 750 legs is a bit more of a challenge!



Pray

Acknowledge that God’s wisdom is so much greater than ours:

- 1. Praise God for the amazing variety found in His creation, so much more than what man has come up with through his inventions.
- 2. Praise God for stumping the unbelieving evolutionists by producing animals that are far too complex to be explained by their foolish theories.
- 3. Praise God for His mercy and kindness upon all His creation. He provides at least four defense mechanisms for the octopus, whereby this animal may escape his predators.
- 4. Praise God for His judgment on sin, and praise Him for His mercy on us to provide anti-venom, especially the anti-venom of the blood of Christ who cleanses us from our sin and delivers us from the serpent, the devil.

Sing

Great Is Thy Faithfulness

Great is Thy faithfulness, O God my Father;
There is no shadow of turning with Thee;
Thou changest not, Thy compassions, they fail not;
As Thou hast been thou forever wilt be.

Refrain

Great is Thy faithfulness!
Great is Thy faithfulness!
Morning by morning new mercies I see:
All I have needed Thy hand hath provided--
Great is Thy faithfulness, Lord, unto me!

Summer and winter and springtime and harvest,
Sun, moon, and stars in their courses above
Join with all nature in manifold witness
To Thy great faithfulness, mercy, and love.

Pardon for sin and a peace that endureth,
Thine own dear presence to cheer and to guide,
Strength for today and bright hope for tomorrow,
Blessings all mine, with ten thousand beside! [Refrain]

(If you do not know the hymn, you may listen to a version of the hymn on the Internet with supervision, and sing along with it.)

Watch

To watch the recommended videos for this chapter, go to Generations.org/GodMadeAnimals and find the videos for Chapter 4. Our editors have been careful to avoid films with references to evolution; however, we would still encourage parents or teachers to provide oversight for all Internet usage. These videos may not give God the glory for His amazing creative work, so the student and parent/teacher should respond to these insights with prayer and praise.

Do

1. Collect as many slugs and snails as you can from your yard. These are unhelpful to your garden and it would be best if you removed them. You will also want to wear gloves and wash your hands after handling these mollusks, as they can carry diseases like angiostrongyliasis, clonorchiasis, fascioliasis, fasciolopsiasis, opisthorchiasis, paragonimiasis and schistosomiasis. These are horrible sounding words and diseases, but they are all Snail-Borne Parasitic Diseases (SBPD). About 207 million people are infected around the world. These diseases usually stays in the body for years, and can cause death.
You can get rid of snails by breaking up egg shells and distributing about your garden. Or you can trap them by burying a jar with the neck even with the ground. Put the trap in a shady spot and put a mix of sugar and baking yeast at the bottom. Or you can use scooped out grape fruit halves as bait.
However, you may wish to place the slugs or snails in a jar or fishbowl to observe them for a while. Put an inch or two of dirt in the container and throw a few leaves in there for the little guy to eat. You'll want to keep your observatory in a shady place, otherwise the mollusk will dry out. And you will need to spray the dirt with water every day or two. Add a jar lid of water, so the snail can moisturize himself from time to time. Be sure to keep your jar covered so the snail or slug cannot escape.

Examine the snail carefully. Do your best to figure out what kind of snail or slug you have found. Identify his eyes at the tip of the antennas. Watch how it moves, and you might also time its movements. Measure its speed.
You might also experiment with certain foods to identify what it prefers eating. Which plants might the snail be most likely to destroy in the garden?

2. Find an insect from the outside and put it in a jar. Study it using a magnifying glass if you have one available. Draw a picture of this marvelous creation of God, and label its head, thorax, abdomen, and antennae. Notice that the wings and legs are attached to the thorax.
3. Have you ever seen insects in your home? Can you name all of the ones you have seen? Which of them are pests? Which of them are dangerous? Make a list of insects that have come into your home and identify the ways you might keep them out of the house.
4. Go snorkeling in the ocean and study God's amazing creation, with adequate supervision and company of friends. Identify the invertebrates—those animals without backbones. Most likely you will see coral, jelly fish, sea urchins, sea stars, sand dollars, clams, and conches. Watch for sea anemones. At first you may think they are plants until they grab a fish swimming to close, for a snack. Note the difference between the invertebrates and the fish (vertebrates). Be careful while handling certain sea urchins. Their spines may contain poison. To remove a sea star or some other creature from the salt water will most likely kill it. It would be better to collect sea stars or sand dollars already dead, washed up on the beach.
5. If you live in tick-infested areas then you should takes some extra time to mow down the grass and weeds around your house. Cut branches and bushes away from the trails and paths around your home. Check your pets for ticks.