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# Understanding God's World

Fourth Edition

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**ANSWER KEY**

Fourth Edition  
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# Introduction

This answer key for *Understanding God's World, Fourth Edition* (Copyright © 2008) was developed by the staff of Christian Liberty Press to help the instructor be as successful as possible in teaching this course on science. We have provided sample answers for the “Chapter Check-up,” “Comprehension Check,” and “Thought Questions” exercises found in each chapter. This key should be used by the instructor to review the student’s daily work. Note that the terms in bold, italics, or bold italics correspond to key words found in the text. Furthermore, answers are given in complete sentences and should be considered as examples; students do not have to use the same wording in their sentences as long as they give the same information.

Some of the answers in this key have supplemental information located in parentheses, but the student is not expected to include it in his responses; it has been incorporated to elucidate the concepts that are being taught. In some instances, answers have been expanded to include additional material from the text, while answers to certain questions that have more than one possible response have also been included; obviously, the student is not obligated to specify all of this information— only what is required. Occasionally, we have discovered that some answers are not found directly in the text, but can be deduced from the material in the book. This is especially true of answers to the “Thought Questions.” Furthermore, some of the terms that are required to be defined are more clearly stated in the “Glossary” section found at the end of the book (pages 217 to 228); the student should consult this section if any difficulties arise.

Students are encouraged to complete the exercises in the text and to study the “Special Features,” such as the sections on stamps, butterflies and moths, ladybugs, flowers, and the American manual alphabet. Likewise, students should cover—whenever possible—the “Something to Do” and “Science Concepts” sections, which are found throughout the text.

May God grant you wisdom and diligence as you seek to teach your children the laws and realities of God’s marvelous universe.

*Staff of Christian Liberty Press  
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# TEXT KEY

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## Chapter 1—SCIENCE: Let's Find Out

### ◆ Comprehension Check 1.1, Page 4

- Four good reasons for studying *science* are as follows:
  - God made us curious.
  - God gave us good minds.
  - God gave us the ability to enjoy His world and use it wisely.
  - God gave us a desire to help others.
- Four ways that *scientists* learn are as follows:
  - They look carefully; they observe.
  - They gather information and try to think clearly.
  - They try to make sensible guesses, or hypotheses.
  - They test their hypotheses with experiments to see if they are correct.
- Observation* is looking carefully at something.

### ◆ 1.3 Observing North American Birds and Flowers, Page 9

- Seven states have a *cardinal* as their state bird (Illinois, Indiana, Kentucky, North Carolina, Ohio, Virginia, and West Virginia).
- Answers will vary.*
- They are both *orange* and *black*.
- The *brown pelican* has a large beak for catching fish and a large wing-span.
- The *California quail* has a black plume extending from its forehead. It is a swift runner and rarely flies.
- The *mountain bluebird* is completely blue while the eastern bluebird has an orange and white breast.
- Both the *bluebird* and *robin* have orange breasts. The bluebird is mostly blue while the robin is mostly black.
- The *scissor-tailed flycatcher* has a really long tail.
- Delaware* and *Rhode Island* have a chicken as their state bird.
- The flower of Mississippi grows on the *magnolia tree* (notice the tree branch).
- Georgia, Iowa, New York, North Dakota, and Oklahoma* have a rose as their official flower.
- Forget-me-not* (Alaska), *Rocky Mountain columbine* (Colorado), *violet* (Illinois, New Jersey, Rhode Island), *iris* (Tennessee), *bluebonnet* (Texas), and *wood violet* (Wisconsin) are state flowers that are blue or violet.\*
- California poppy* (California), *hibiscus* (Hawaii), *sunflower* (Kansas), *black-eyed Susan* (Maryland), *gold-enrod* (Kentucky and Nebraska), *Oregon grape* (Oregon), *Carolina Jessamine* (South Carolina), *sagebrush* (Nevada), and *Indian paintbrush* (Wyoming) are state flowers that are yellow or yellow-orange.\*



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\* NOTE TO TEACHER: The first printing of the textbook has questions 12 and 13 reversed. The order above is for the current printing of this edition.

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## Chapter 2—INSECTS: Miniature Marvels of Creation

### ◆ Comprehension Check 2.1, Page 17

1. Define the following terms:
  - a. A *vertebrate* is an animal with a backbone.
  - b. An *invertebrate* is an animal without a backbone.
  - c. An *exoskeleton* is a hard coat of armor (or external skeleton) that protects the body parts of an insect.
  - d. *Molting* is the process of an insect outgrowing its exoskeleton. The new exoskeleton grows underneath the old exoskeleton; when it is ready, the insect crawls out of the old one.
  - e. An *ovipositor* is the long, narrow egg-laying part found on some female insects.
  - f. *Spiracles* are tiny holes found along the side of an insect's body; air enters through the holes into the breathing tubes.
2. The three *special characteristics of insects* are:
  - a. an outside skeleton or *exoskeleton*,
  - b. *three body parts* (head, thorax, and abdomen), and
  - c. *six jointed legs*.
3. The three body parts of insects are the *head*, *thorax*, and *abdomen*.
4. *Answer may vary. This exercise may be completed orally. Outside study may be required. The student is required to name at least one fact about each insect.*
  1. The *grasshopper* has a hard, thick exoskeleton.
  2. A *cicada* has loud noisemakers on the sides of its abdomen.
  3. The *housefly* has a thin, soft exoskeleton.
  4. The *walking stick* is long and narrow; it looks like a stick.
  5. A *ladybug* is wide and thick, and is red with black spots.
  6. The *gnat* has a soft body, compared to the grasshopper.
  7. The female *cricket* has a long, narrow ovipositor.
  8. The *honeybee* has a stinger and makes food called honey.
  9. The *hornet* also has a stinger which is used for protection.
  10. Likewise, the *yellow jacket* has a stinger for protection.
  11. The *fairy fly* is very small (one-hundredth of an inch long).
  12. The *Goliath beetle* is one of the largest insects (4 inches long).

### Thought Question

The *Goliath beetle* received its name because of its large size. It was named after the giant Goliath, whom David fought in I Samuel 17.

### ◆ Comprehension Check 2.2, Page 19

1. Scientists call a caterpillar a *larva*.
2. The caterpillar becomes a *pupa* before it turns into an adult insect.
3. The picture shows a *moth* because it has a large, fuzzy body instead of a small, smooth body like a butterfly; and its antennae are feathery instead of thin with a knob at each end like a butterfly.

Other differences are that moths are *nocturnal* (active at night and sleeping during the day), while butterflies are *diurnal* (active during the day and sleeping at night); moths rest with their wings open, while butterflies rest with them closed.