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# *Understanding God's World*

**Fifth Edition**



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**ANSWER KEY**

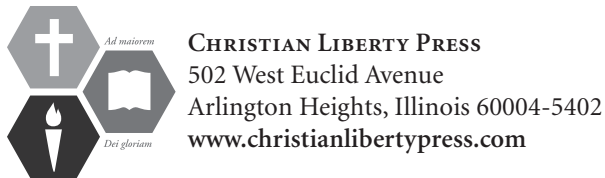
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# Introduction

This answer key for *Understanding God's World* (fifth edition, copyright © 2020 Abeka) is provided by the staff of Christian Liberty Press to help the instructor successfully teach this course. We have provided answers to the Comprehension Check questions and the Chapter Concepts Review questions. CLH students should consult their course instructions for specific course requirements.

The Comprehension Check questions are drawn directly from the text and should be used to determine students' knowledge of the subject matter. The Chapter Concepts Review questions cover the main concepts found in the chapter and should be used with Comprehension Check questions to study for the chapter tests.

We have also given occasional teacher instructions in italics in the key. When the phrase *Answers may (or will) vary* is used, this means that there is not necessarily one correct answer, but the student must relate his or her answer to the question and text material as much as possible. Sample answers have been provided, in most cases, which we believe accurately reflect the textual information. We have also provided a few notes in the key with additional information and/or clarification for the instructor.

This key should be used by the instructor not only to review the student's daily work, but also to help guide the student in answering the questions. The instructor should first read the answers to the questions, and then direct the student accordingly if he or she has any problems. The answers in this key should be considered as examples; the student does not have to use the same wording in his or her answers, as long as the same information is given.

May God grant you wisdom and diligence as you teach your student about our Lord's creation.

*The Staff of Christian Liberty Press*

# TEXT KEY

## Unit 1 Science Foundations

### Chapter 1—Understanding the Scientific Process

#### ◆ Comprehension Check 1.1—Page 6

Give the correct answer.

1. We study science to help others and to glorify God.
2. Sir Francis Bacon is called the Father of the Scientific Method.

#### Matching

1. D observe
2. C hypothesis
3. B experiment
4. A data

#### ◆ Comprehension Check 1.2—Page 12

1. *Answers will vary.*
2. *Answers will vary.*

#### ◆ Comprehension Check 1.3—Page 15

#### Matching

1. C experiment
2. E independent variable
3. A controlled variables
4. B dependent variable

#### True/False

5. False
6. True
7. False
8. True

#### Discuss

Statement 5 is false because forming a hypothesis starts with one question.

Statement 7 is false because a wise scientist follows the evidence rather than his own ideas.

#### ◆ Comprehension Check 1.4—Page 19

Give the correct answer.

1. circle graph
2. bar graph
3. line graph
4. line graph

#### Think and Apply

5. line graph (or bar graph)
6. circle graph
7. bar graph

#### ◆ Comprehension Check 1.5—Page 24

#### Multiple Choice

1. b goggles
2. b stopwatch
3. b eyedropper
4. a binoculars
5. c telescope

### Chapter 2—Understanding Matter and Energy

#### ◆ Comprehension Check 2.1—Page 29

Give the correct answer.

1. Matter is a physical substance. It has weight and takes up space.
2. Molecules are made of atoms.
3. Energy is the ability to do work.

#### Think and Conclude.

4. The universe without matter and energy would be formless, empty, and dark.

#### Discuss

1. *Water* is matter because it has weight and takes up space.
2. *Thought* is not matter because it is not of the physical world. It does not take space or have weight.
3. *Brick* is matter because it is a physical object that has weight and takes up space.

4. *Acorn* is matter because it is a physical object that has weight and takes up space.
5. *Peace*, even though it is real, is not matter because it does not take space and has no weight.
6. *Hope*, even though it is real, is not matter because it does not take space and has no weight.

◆ **Comprehension Check 2.2—Page 33**

**Fill in the Blank**

1. Liquid
2. Solid
3. Solid
4. Gaseous
5. Liquid
6. Gaseous

◆ **Comprehension Check 2.3—Page 37**

**Matching**

1. C volume
2. B mass
3. D weight
4. A density

◆ **Comprehension Check 2.4—Page 42**

**True/False**

1. True
2. False
3. True
4. False

**Discuss**

Statement 2 is false because heat energy always moves from a warm place to a cool place.

Statement 4 is false because as the water gets colder, it begins to expand and becomes less dense.

◆ **Comprehension Check 2.5—Page 43**

**Fill in the Blank**

1. mixture
2. solution
3. dissolved
4. solvent
5. solute

◆ **Comprehension Check 2.6—Page 49**

**Matching**

1. B kinetic energy
2. C potential energy
3. A converted energy
4. D transferred energy

**Think and Classify**

Kinetic	Potential
boiling kettle	battery
light turned on	fuel
moving car	plate of food
running dog	pool of water

◆ **Comprehension Check 2.7—Page 53**

**Fill in the Blank**

1. static electricity
2. positive, negative
3. electrons

**Think and Conclude**

4. molecule
5. atom
6. electron

◆ **Comprehension Check 2.8—Page 59**

**True/False**

1. True
2. True
3. False
4. False
5. False

**Discuss**

Statement 3 is false because plastic is not a good conductor but rather a good electrical insulator.

Statement 4 is false because an open circuit is an interrupted path of electricity that does not allow electrical current to flow.

Statement 5 is false because a closed circuit turns on a light.



## Think and Classify

Conductor of Electricity	Insulator of Electricity
copper	plastic
water	wood
	rubber

◆ **Comprehension Check 2.9—Page 63**

## Matching

1. C luminous
2. B crest
3. D trough
4. A amplitude

## Think and Conclude.

5. *Answers will vary. They could include the following:* sun, stars, light bulbs, fire, fireflies.
6. Nothing. Light travels faster than anything else.
7. Wave energy gives light energy the ability to be transferred from one place to another.

◆ **Comprehension Check 2.10—Page 66**

## Fill in the Blank

1. Opaque
2. Transparent
3. Translucent

## Give the correct answer.

4. shadow
5. reflection

## Think and Predict.

6. Shiny surfaces such as mirrors are good reflectors.

◆ **Comprehension Check 2.11—Page 70**

## Multiple Choice

1. b refracted light
2. c wavelength
3. c white
4. c red

## Label

5. red
6. orange
7. yellow
8. green

9. blue
10. violet

◆ **Comprehension Check 2.12—Page 75**

## Fill in the Blank

1. Sound
2. sound waves
3. matter

## Think and Predict.

4. Sound waves travel more quickly through the earth because the molecules are closer together.
5. Sound waves could not travel in outer space because sound waves can travel only when there are molecules to carry the vibrations, and outer space is an empty space with no air in it.

◆ **Comprehension Check 2.13—Page 78**

## Give the correct answer.

1. volume
2. pitch

---

**Chapter 2 Concepts Review—  
Pages 81–86**
◆ **1. Matter Concepts 2.1–2.5**

## A. Remember

## True/False

1. False; *gases cannot keep their shape; the molecules have too much energy and move too quickly to stay together.*
2. True
3. True

## Fill in the Blank

4. 32° F
5. 212° F

## B. Think Like a Scientist

## Label

1. G Oxygen is a colorless gas found in the air; its molecules are far apart and are fast moving.
2. N Love is an emotion which is not tangible.
3. N Happiness is an emotion which is not tangible.
4. L Milk cannot hold its shape but can fill the shape of a container because the molecules

in it are loosely connected, making it less dense than a solid object.

5. S Rock is a solid matter that can keep its shape because the molecules in it are packed closely together (dense).
6. S Metal is a solid matter that can keep its shape because the molecules in it are packed closely together (dense).

### Short Answer

7. *Answers may vary, but should include one of the following:*

**Observed physical properties:** material's state, color, size, shape, odor, taste, texture, strength, hardness, and flexibility

**Measured physical properties:** an object's size, weight, mass, volume, and density

8. It becomes a solid. (*It begins to expand and becomes less dense as it gets colder. When water gets colder than 32°F, it changes to solid ice, which has a greater volume and less density than the same amount of liquid water.*)

### Identify

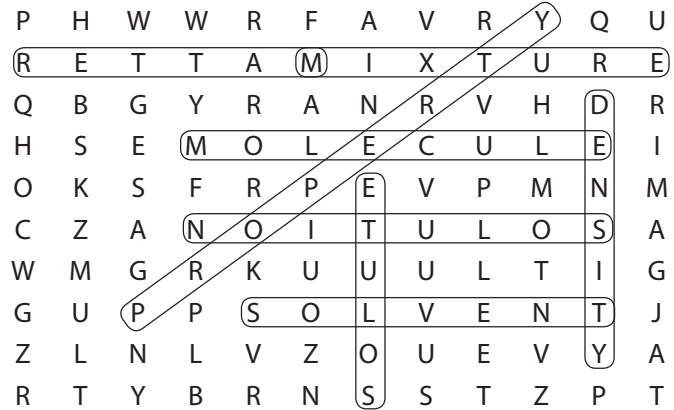
9. *The student should circle the rock.*
10. *The student should circle each component, the red atom and the two white atoms, for a total of three circles.*

### C. Fun with Terms

#### Matching

1. B matter
2. F solute
3. H solvent
4. A density
5. C mixture
6. G solution
7. D molecule
8. E property

### Word Search



### ◆ 2. Energy Concepts 2.6

#### A. Remember

#### Short Answer

1. Energy is the ability to do work.
2. Kinetic energy is the working energy of all moving things.
3. Potential energy is stored energy waiting to be used.

#### B. Think Like a Scientist

#### Sort

Kinetic	Potential
moving water	cellphone battery
musical sounds	firewood
running	food
sliding	fuel

#### C. Fun with Terms

#### Crack the Code

1. Energy
2. Fuel
3. Kinetic
4. Potential
5. Convert
6. Transfer

### ◆ 3. Electricity Concepts 2.7–2.8

#### A. Remember

#### Identify

*The student is asked to circle the four electrons in the diagram.*

