

# HEALTH AND THE PHYSICAL BODY

## Answer Key: Grades 7–8 Lesson Extensions

### Notes:

- This answer key should be used as a guide for basic responses to the questions and instructions found in the grades 7–8 lesson extensions. The children should be encouraged to make their science journals tidy, beautiful, and exceptionally well done.
- Encourage the children to write their answers in their own words, with definitions being a possible exception.
- There are two types of answers provided in this answer key:  
**Sample answers:** Most questions are open ended, so the children’s answers will not match the provided text exactly or include everything provided in the sample answer. However, some answers should match more closely (for example, vocabulary word definitions, copied charts, etc.).  
**Answers will vary:** This is used when there will be great variation in the children’s answers. Refer to the text in the lesson to check these answers.

### Lesson 1

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2. *On the next page, write at least two differences between the bones of an infant and the bones of an adult.*

**Sample answer:** Babies have almost 100 more bones than adults. Babies don’t feel the same discomfort as adults in their knees when crawling on the floor because their kneecaps aren’t solid bone.

3. *Draw a diagram of endochondral ossification or explain the process in your own words.*

**Sample answer:** Endochondral ossification is when cartilaginous bones harden and begin to fuse together. The arteries inside the cartilaginous bones have tiny blood vessels that begin to branch off. These spread through the cartilage and produce a primary ossification center that makes new cells. These cells dissolve the cartilage and replace it with bone.

### Lesson 2

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2. *On the next page, create a lesson plan discussing how dental care has progressed over the years. Then teach your classmates or family using diagrams or other resources you’ve put together.*

**Answers will vary.** Example of a slideshow to teach the lesson: Slide 1: Toothbrushes looked very different in the

past. (Show pictures of bones and small sticks with frayed ends.) Slide 2: Toothpaste in those days consisted of powder and liquids. (Show examples, such as dried flowers, ashes, and myrrh.) Slide 3: Sugar has caused an increase in tooth decay. (Show pictures of sugary foods.) Slide 4: Pierre Fauchard is considered the father of modern dentistry. His book described how to care for and treat teeth. (Show a picture of Fauchard.) Slide 5: Today we are blessed to experience all the most up-to-date dental care. (Show pictures of dental hygiene products, such as toothbrushes, toothpaste, floss, and mouthwash.) *Note: The student should have presented his or her information.*

### Lesson 3

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2. *Pretend that you are a doctor who specializes in treating gastric ulcers. Make a list of things your patients can do to make healthy changes that may help with this condition.*

**Sample answer:**

- Exercise
- Eat a healthy diet
- Drink lots of water
- Maintain a healthy weight

### Lesson 4

2. Pretend you are the owner of a nutrition business, and you are hiring a registered dietician. Create a job description for the ideal candidate, including education or knowledge requirements, responsibilities, pay, specific clientele, work hours, and personality traits.

**Sample answer:** Must have a bachelor's degree and be trained and certified in nutrition. Must have the ability to teach and train clients with professionalism. Must be knowledgeable about meal planning, exercising, business procedures, nutrition, food services, and anatomy. Will receive pay according to qualifications. Working hours are from 8 a.m. to 5 p.m. Will meet regularly with clients involved in athletics. Looking for a hard-working candidate who is friendly and compassionate.

### Lesson 5

2. On the next page, list and explain at least three things that can happen when the body is dehydrated.

**Sample answer:** Being dehydrated can cause a lack of physical coordination, impaired decision-making ability, and risk of seizures or shock.

3. List three healthy habits you can start today to stay hydrated.

**Sample answer:** 1) Drink plenty of water every day. 2) Don't drink too much caffeine. 3) Take time to rest in cool spots.

### Lesson 6

2. Write a list of reasons that a person might need a kidney transplant.

**Sample answer:** 1) diabetes 2) polycystic kidney disease 3) chronic glomerulonephritis

3. In your own words, explain the kidney donation process in at least four sentences.

**Sample answer:** The kidney donation process primarily comes from two types of donations. One is from deceased donors who decided to donate their organs upon death. The other is when a living person decides to donate his or her kidney. Either way, the kidney must be matched with the recipient, and if there is a good match, the donation will occur.

### Lesson 7

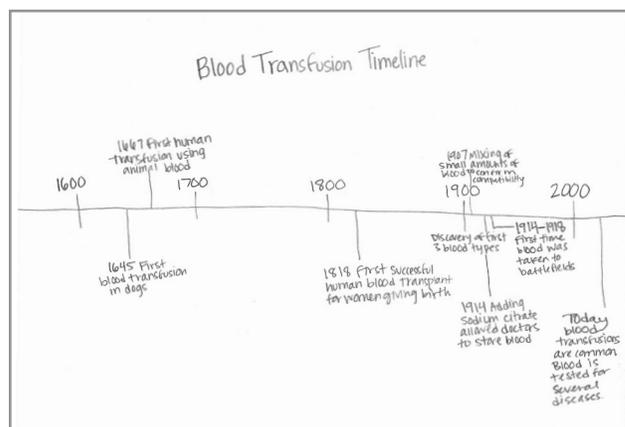
2. On the next page, describe the different types of arrhythmias and how a pacemaker can help with each one.

**Sample answer:** Bradycardia is when the heart beats too slow, less than 60 beats per minute. Tachycardia is when the resting heart beats more than 100 beats per minute. A pacemaker can be used to regulate these irregular heartbeats so the heart functions normally.

### Lesson 8

2. On the next page, draw a timeline and label the major events in the history of blood transfusion.

**Sample answer:**



### Lesson 9

2. In your own words, explain how the iron lung uses pressure to breathe for the patient.

**Sample answer:** The iron lung is a negative pressure machine that works by increasing and decreasing the air inside the tank. This helps the lungs to function, and the patient is able to breathe.

### Lesson 10

2. On the next page, outline a short presentation on prosthetics including the history and impacts they have made to those without limbs. Present it to your family.

**Answers will vary.** Answers should reflect information found in the lesson extension, and the student should have presented the project to his or her family.

**Lesson 11**

2. On the next page, write a definition for muscle fatigue.

**Sample answer:** Muscle fatigue is when nerves can no longer generate signals or the muscle fibers weaken in their ability to contract.

**Lesson 12**

2. On the next two pages, make a chart with the following headings: Burn Type, Signs/Symptoms, Treatment. As you read, fill in the chart with information from the article.

**Sample answer:**

Burn Type	Signs/Symptoms	Treatment
First-Degree Burns	Minor and only affect the epidermis. Some redness and pain.	Soaking in cool water for a few minutes or applying aloe vera gel or antibiotic cream.
Second-Degree Burns	More serious, affecting the epidermis and dermis. Considered the most painful. Exposes nerve cells. Causes swelling and possibly blistering.	Requires a doctor to treat, but may run cool water over it for a few minutes before seeking professional help.
Third-Degree Burns	Destroys all three layers of skin. Dark-brown coloring or charring or a raised and leathery texture to the skin.	Immediate medical attention.
Fourth-Degree Burns	Burned tendons, nerves, muscle tissue, and sometimes exposed bone. Shock can occur from the trauma.	Immediate medical attention. Includes extended medical treatment, cosmetic surgery and in some cases, physical therapy to regain the use of damaged muscles and nerves.

**Lesson 13**

2. On the next page, answer the following question: Whose broken arm will heal faster, the arm belonging to a 12-year-old boy or to a 32-year-old man? Why?

**Sample answer:** A 12-year-old boy's arm could heal faster because the 32-year-old man's immune system could be compromised by aging.

**Lesson 14**

2. Create a family tree outlining how Queen Victoria passed hemophilia on to her descendants.

**Sample answer:**

