TEACHER GUIDE

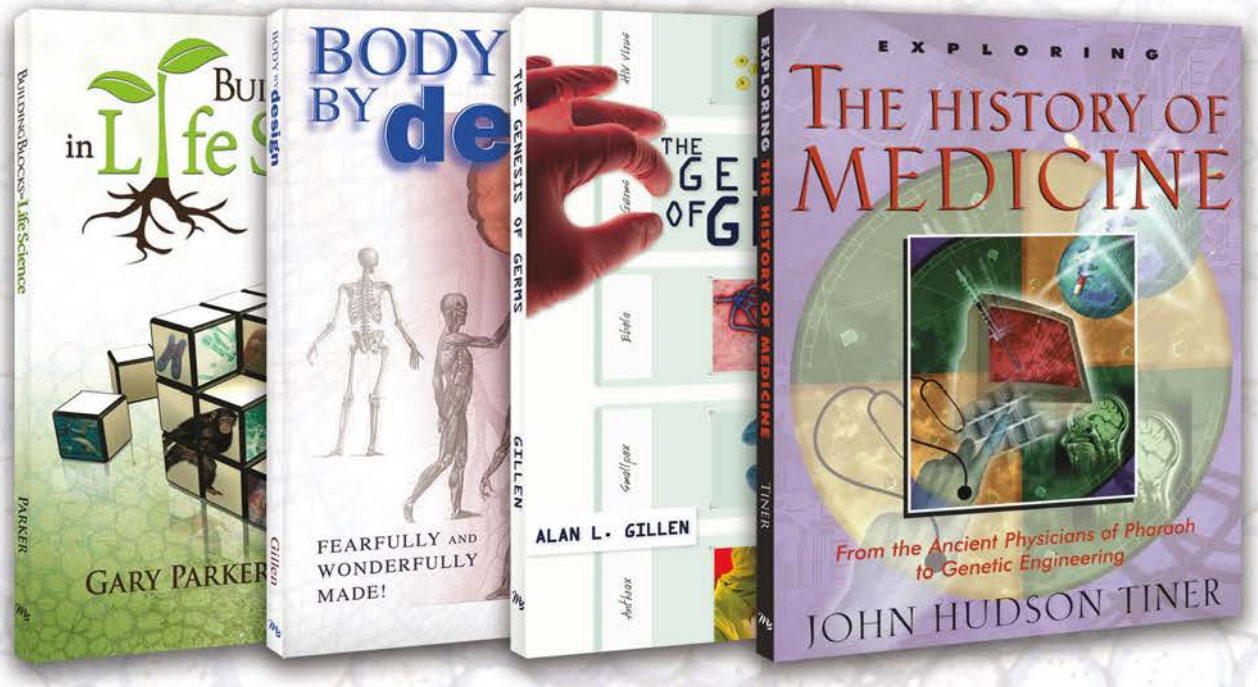
9th–12th Grade

Includes Student Worksheets

Science

- Weekly Lesson Schedule
- Student Worksheets
- Quizzes & Tests
- Answer Key

INTRO TO PRE-MED STUDIES: A CHRISTIAN OVERVIEW



MASTERBOOKS® CURRICULUM

Editor-in-Chief:
Laura Welch

Editorial Team:
Craig Froman
Carla Bradley
Willow Meek
Judy Lewis

Design Team:
Diana Bogardus
Jennifer Bauer

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About the Authors

John Hudson Tiner (*Exploring the History of Medicine*) received five National Science Foundation teaching fellowships during his 12 years as a teacher of mathematics and science that allowed him to study graduate chemistry, astronomy, and mathematics. He also worked as a mathematician and cartographer for the Defense Mapping Agency, Aerospace Center in St. Louis, MO.

Dr. Alan Gillen (*The Genesis of Germs* and *Body by Design*) is a biologist and zoologist with a doctorate in science education. He is an experienced high school and college biology instructor. He is currently a biology professor at Liberty University.

Once a non-Christian evolutionist, **Dr. Gary Parker** (*Building Blocks in Life Science*) became a zealous creationist, eventually serving as professor of biology at the Institute for Creation Research and lecturing worldwide for both ICR and Answers in Genesis.

Quick Navigation

Scope and Sequence

Course Description: In the realm of medicine, encompassing everything from surgical procedures to health awareness, humanity has achieved remarkable advancements. The past few decades alone have witnessed a profound enhancement in the quality of life, and the outlook for the future is promising. Amidst these strides, it is crucial for students to acknowledge that the intellect and resources enabling such progress are divine gifts.

The books in this course underscore the concept that the constant mutation of diseases serves as evidence for devolution rather than evolution, aligning with a biblical worldview. This exploration delves into how germs manifest as symptomatic of the literal Fall and Curse resulting from human transgressions, emphasizing the anticipation of redemption through the arrival of Jesus Christ.

From a creational perspective, the course defines the fundamental anatomy and physiology across 11 body systems, unraveling the wonder and beauty inherent in the creation of the human body. Each chapter serves to present compelling evidence for creation while debunking flawed evolutionistic reasoning. This educational resource not only equips teachers and students with clear biological insights but also underscores the harmony between science and Scripture, fostering a holistic understanding that honors the Creator. Ultimately, it empowers young minds not only to grasp science through a biblical lens but also to articulate a robust defense of their faith.

Features

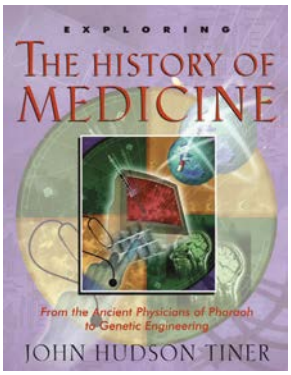
Target Level	Designed for grades 9-12 1 Science Credit
Flexible 180-Day Schedule	Approximately 30 to 45 minutes per lesson, five days a week
Open & Go	Easy-to-manage lessons all on perforated, three-hole punched paper
Engaging Application	Exercises all rooted in the four biblically-sound books
Assessments	Worksheets, Quizzes, and Cumulative Tests

Objectives

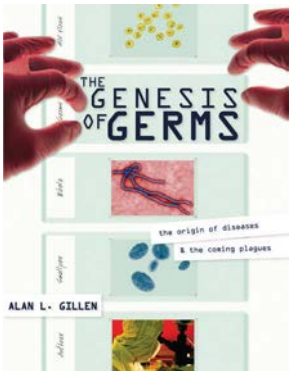
- Acknowledge the remarkable achievements initiated by individuals who utilized their talents to benefit humanity and honor God
- Explore the enthralling journey of medical history, illuminated by a dynamic mix of facts, personal stories, and images
- Investigate the impact of germs, their origin in the Fall, and the hope of Christ's redemptive work
- Explore the wonder, beauty, and creation of the human body, while exposing faulty evolutionistic reasoning
- Identify exceptional insights into the God-designed patterns of order in living things

This course is designed as an introductory exploration of essential medical concepts, structured around four main textbooks (see next page for individual descriptions), each studied quarterly. At the end of each quarter, a comprehensive exam will review the material from the respective textbook. The course includes a detailed daily schedule to guide students through the content page-by-page, ensuring thorough understanding and retention. This structured approach aims to prepare students for future studies in the medical field.

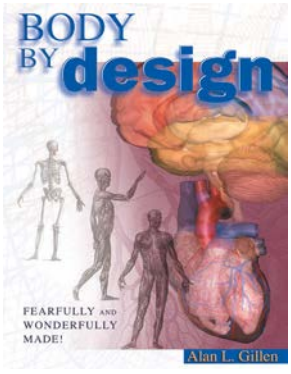
Required Resources:



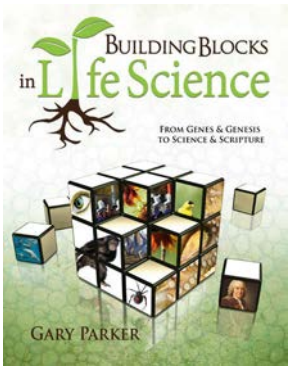
Exploring the History of Medicine: A biblical perspective of healing and the use of medicine provides the best foundation for treating diseases and injury. In *Exploring the World of Medicine*, author John Hudson Tiner reveals the spectacular discoveries that started with men and women who used their abilities to better mankind and give glory to God. The fascinating history of medicine comes alive in this book, providing students with a healthy dose of facts, mini-biographies, and vintage illustrations. Includes chapter tests and index.



The Genesis of Germs: It seems that a new and more terrible disease is touted on the news almost daily. The spread of these diseases from COVID-19 to SARS to AIDS is a cause for concern and leads to many questions, which professor Alan Gillen sheds light on in this revealing and detailed book. He shows how these constantly mutating diseases are proof for devolution rather than evolution and how all of these germs fit into a biblical worldview. Dr. Gillen shows how germs are symptomatic of the literal Fall and Curse of creation as a result of man's sin, and the hope we have in the coming of Jesus Christ.



Body By Design: This text defines the basic anatomy and physiology in each of 11 body systems from a creational viewpoint. Every chapter explores the wonder, beauty, and creation of the human body, giving evidence for creation, while exposing faulty evolutionistic reasoning. Special explorations into each body system look closely at disease aspects, current events, and discoveries, while profiling the classic and contemporary scientists and physicians who have made remarkable breakthrough in studies of the different areas of the human body.



Building Blocks in Life Science: Teachers and students will find clear biological answers proving science and Scripture fit together to honor the Creator. This dynamic educational resource helps young people not only learn science from a biblical perspective, but also helps them know how to defend their faith in the process. It covers in-depth topics such as genes and Genesis, the roll of natural selection, embryonic development, as well as DNA and the magnificent origins of life, and powerfully refutes the evolutionary worldview that life simply evolved by chance over millions of years.

Quizzes and Tests

This course includes a number of quizzes in the schedule that are required for assessment. Each of the four student books in this course also offers a cumulative test based on the quarterly quizzes. Instructors can choose whether or not to use the tests for grading or review purposes.

Grading

It is always the prerogative of an educator to assess student grades however he or she might deem best. The following is only a suggested guideline based on the material presented through this course. To calculate the percentage of the worksheets and tests, the educator may use the following guide. Divide total number of questions correct (example: 43) by the total number of questions possible (example: 46) to calculate the percentage out of 100 possible.

43/46 = 93 percent correct.

The suggested grade values are noted as follows:

90 to 100 percent = A

80 to 89 percent = B

70 to 79 percent = C

60 to 69 percent = D

0 to 59 percent = F

Intro to Pre-Med Studies Daily Schedule

Calendar		Assignment	Due Date	✓	Grade
First Semester-First Quarter — *Exploring the History of Medicine*					
Week 1	Day 1	*Exploring the History of Medicine* (HM) • Lesson 1 • Pages 4–10			
	Day 2	*Intro to Pre-Med Studies Teacher Guide* (TG) • Lesson 1 • Page 21			
	Day 3	Lesson 2 • Pages 12–16 • (HM)			
	Day 4	Lesson 2 • Exercise 1 • Page 23 • (TG)			
	Day 5	Lesson 3 • Pages 18–22 • (HM)			
Week 2	Day 6	Lesson 3 • Exercise 1 • Page 25 • (TG)			
	Day 7	Lesson 4 • Pages 24–30 • (HM)			
	Day 8	Lesson 4 • Exercise 1 • Page 27 • (TG)			
	Day 9	Lesson 5 • Pages 32–36 • (HM)			
	Day 10	Lesson 5 • Exercise 1 • Page 29 • (TG)			
Week 3	Day 11	**Quiz 1** • Lessons 1–5 • Page 161 • (TG)			
	Day 12	Lesson 6 • Pages 38–42 • (HM)			
	Day 13	Lesson 6 • Exercise 1 • Page 31 • (TG)			
	Day 14	Lesson 7 • Pages 44–50 • (HM)			
	Day 15	Lesson 7 • Exercise 1 • Page 33 • (TG)			
Week 4	Day 16	Lesson 8 • Pages 52–58 • (HM)			
	Day 17	Lesson 8 • Exercise 1 • Page 35 • (TG)			
	Day 18	Lesson 9 • Pages 60–66 • (HM)			
	Day 19	Lesson 9 • Exercise 1 • Page 37 • (TG)			
	Day 20	Lesson 10 • Pages 68–74 • (HM)			
Week 5	Day 21	Lesson 10 • Exercise 1 • Page 39 • (TG)			
	Day 22	**Quiz 2** • Lessons 6–10 • Page 163 • (TG)			
	Day 23	Lesson 11 • Pages 76–84 • (HM)			
	Day 24	Lesson 11 • Exercise 1 • Page 41 • (TG)			
	Day 25	Lesson 12 • Pages 86–90 • (HM)			
Week 6	Day 26	Lesson 12 • Exercise 1 • Page 43 • (TG)			
	Day 27	Lesson 13 • Pages 92–96 • (HM)			
	Day 28	Lesson 13 • Exercise 1 • Page 45 • (TG)			
	Day 29	Lesson 14 • Pages 98–106 • (HM)			
	Day 30	Lesson 14 • Exercise 1 • Page 47 • (TG)			

Calendar		Assignment	Due Date	✓	Grade
Week 7	Day 31	Lesson 15 • Pages 108–112 • (HM)			
	Day 32	Lesson 15 • Exercise 1 • Page 49 • (TG)			
	Day 33	**Quiz 3** • Lessons 11–15 • Page 165 • (TG)			
	Day 34	Lesson 16 • Pages 114–120 • (HM)			
	Day 35	Lesson 16 • Exercise 1 • Page 51 • (TG)			
Week 8	Day 36	Lesson 17 • Pages 122–128 • (HM)			
	Day 37	Lesson 17 • Exercise 1 • Page 53 • (TG)			
	Day 38	Lesson 18 • Pages 130–134 • (HM)			
	Day 39	Lesson 18 • Exercise 1 • Page 55 • (TG)			
	Day 40	Lesson 19 • Pages 136–140 • (HM)			
Week 9	Day 41	Lesson 19 • Exercise 1 • Page 57 • (TG)			
	Day 42	Lesson 20 • Pages 142–153 • (HM)			
	Day 43	Lesson 20 • Exercise 1 • Page 59 • (TG)			
	Day 44	**Quiz 4** • Lessons 16–20 • Page 167 • (TG)			
	Day 45	**Test 1** • Lessons 1–20 • Pages 191–192 • (TG)			

Calendar		Assignment	Due Date	✓	Grade
First Semester-Second Quarter — *The Genesis of Germs*					
Week 1	Day 46	*The Genesis of Germs* (GG) • Lesson 21 • Pages 4–9 to Magnificent Microbes			
	Day 47	Lesson 21 • Pages 9–15 Magnificent Microbes to Historical Focus 1.2 • (GG)			
	Day 48	Lesson 21 • Pages 15–21 Historical Focus 1.2 to end of chapter • (GG)			
	Day 49	Lesson 21 • Exercise 1 • Pages 63–64 • Teacher Guide (TG)			
	Day 50	Lesson 22 • Pages 22–25 to Bacterial Anatomy • (GG)			
Week 2	Day 51	Lesson 22 • Pages 25–30 Bacterial Anatomy to Focus on Flagella Function • (GG)			
	Day 52	Lesson 22 • Pages 30–35 Focus on Flagella Function to end of chapter • (GG)			
	Day 53	Lesson 22 • Exercise 1 • Pages 65–66 • (TG)			
	Day 54	Lesson 23 • Pages 36–41 to Life's Extremists • (GG)			
	Day 55	Lesson 23 • Pages 41–45 Life's Extremists to The Nitrogen Cycle • (GG)			
Week 3	Day 56	Lesson 23 • Pages 45–49 The Nitrogen Cycle to end of chapter • (GG)			
	Day 57	Lesson 23 • Exercise 1 • Pages 67–68 • (TG)			
	Day 58	**Quiz 5** • Lessons 21–23 • Pages 169–170 • (TG)			
	Day 59	Lesson 24 • Pages 50–53 to Characteristics of Protozoa • (GG)			
	Day 60	Lesson 24 • Pages 53–57 Characteristics of Protozoa to Design Focus 4.2 • (GG)			
Week 4	Day 61	Lesson 24 • Pages 57–61 from Design Focus 4.2 to end of page • (GG)			
	Day 62	Lesson 24 • Pages 62–66 to Phylum Chrysophyta • (GG)			
	Day 63	Lesson 24 • Pages 66–71 from Phylum Chrysophyta to end of chapter • (GG)			
	Day 64	Lesson 24 • Exercise 1 • Pages 69–70 • (TG)			
	Day 65	Lesson 25 • Pages 72–76 to Ascomycota • (GG)			
Week 5	Day 66	Lesson 25 • Pages 76–81 Ascomycota to Molds Have Other Uses • (GG)			
	Day 67	Lesson 25 • Pages 81–87 Molds Have Other Uses to Chytridiomycota • (GG)			
	Day 68	Lesson 25 • Pages 87–91 Chytridiomycota to end of chapter • (GG)			
	Day 69	Lesson 25 • Exercise 1 • Pages 71–72 • (TG)			
	Day 70	**Quiz 6** • Lessons 24–25 • Pages 171–172 • (TG)			

Calendar		Assignment	Due Date	✓	Grade
Week 6	Day 71	Lesson 26 • Pages 92–98 to Creation Scientist Focus 6.1 • (GG)			
	Day 72	Lesson 26 • Pages 98–105 Creation Scientist Focus 6.1 to end of chapter • (GG)			
	Day 73	Lesson 26 • Exercise 1 • Pages 73–74 • (TG)			
	Day 74	Lesson 27 • Pages 106–110 to Design Focus 7.2 • (GG)			
	Day 75	Lesson 27 • Pages 110–115 Design Focus 7.2 to The Development of the Specific ... • (GG)			
Week 7	Day 76	Lesson 27 • Pages 115–120 The Development of... to Tonsils by Design • (GG)			
	Day 77	Lesson 27 • Pages 120–125 Tonsils by Design to end of chapter • (GG)			
	Day 78	Lesson 27 • Exercise 1 • Pages 75–76 • (TG)			
	Day 79	**Quiz 7** • Lessons 26–27 • Page 173 • (TG)			
	Day 80	Lesson 28 • Pages 126–131 to Disease Focus 8.1 • (GG)			
Week 8	Day 81	Lesson 28 • Pages 131–137 Disease Focus 8.1 to end of chapter • (GG)			
	Day 82	Lesson 28 • Exercise 1 • Pages 77–78 • (TG)			
	Day 83	Lesson 29 • Pages 138–142 to Disease Focus 9.2 • (GG)			
	Day 84	Lesson 29 • Pages 142–147 Disease Focus 9.2 to The Origin of Super Staph • (GG)			
	Day 85	Lesson 29 • Pages 147–157 The Origin of Super Staph to end of chapter • (GG)			
Week 9	Day 86	Lesson 29 • Exercise 1 • Pages 79–80 • (TG)			
	Day 87	Lesson 30 • Pages 158–167 • (GG) • Exercise 1 • Pages 81–82 • (TG)			
	Day 88	Lesson 31 • Pages 168–171 • (GG) • Exercise 1 • Page 83 • (TG)			
	Day 89	**Quiz 8** • Lessons 28–31 • Pages 175–176 • (TG)			
	Day 90	**Test 2** • Lessons 21–31 • Pages 193–194 (TG)			
		Mid-Term Grade			

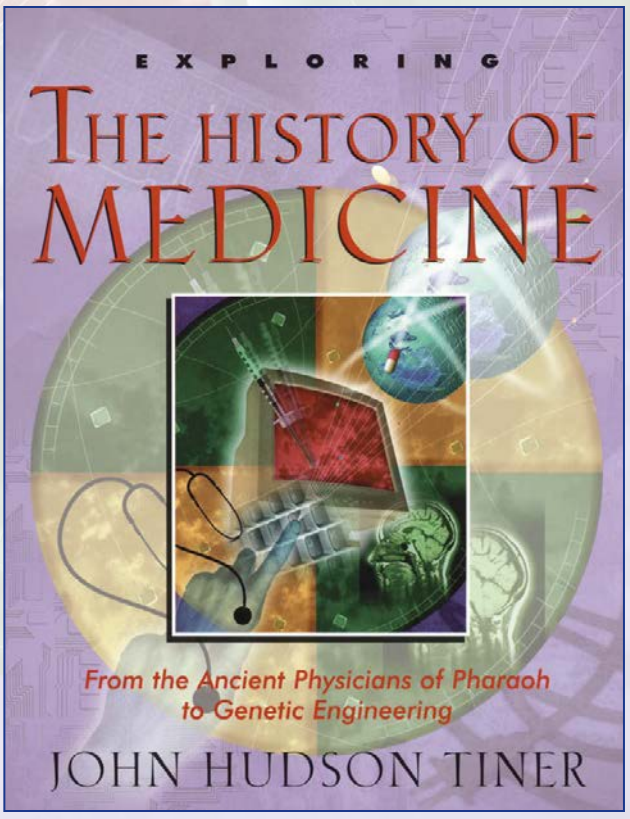
Calendar		Assignment	Due Date	✓	Grade
Second Semester-Third Quarter — *Body by Design*					
Week 1	Day 91	*Body by Design* • Lesson 32 • Pages 4–11 to Human Body as a Machine • (BBD)			
	Day 92	Lesson 32 • Pages 11–14 from Human Body as a Machine to end of chapter (BBD)			
	Day 93	Lesson 32 • Exercise 1 • Pages 87–88 • Teacher Guide (TG)			
	Day 94	Lesson 33 • Pages 16–20 • (BBD)			
	Day 95	Lesson 33 • Exercise 1 • Pages 89–90 • (TG)			
Week 2	Day 96	Lesson 34 • Pages 22–28 • (BBD)			
	Day 97	Lesson 34 • Exercise 1• Page 91 • (TG)			
	Day 98	Lesson 35 • Pages 30–34 • (BBD)			
	Day 99	Lesson 35 • Exercise 1 • Pages 93–94 • (TG)			
	Day 100	**Quiz 9** • Lessons 32–35 • Page 177 • (TG)			
Week 3	Day 101	Lesson 36 • Pages 36–41 to The Teeth • (BBD)			
	Day 102	Lesson 36 • Pages 41–44 from The Teeth to end of chapter • (BBD)			
	Day 103	Lesson 36 • Exercise 1 • Page 95 • (TG)			
	Day 104	Lesson 37 • Pages 46–52 • (BBD)			
	Day 105	Lesson 37 • Exercise 1 • Pages 97–98 • (TG)			
Week 4	Day 106	Lesson 38 • Pages 54–60 • (BBD)			
	Day 107	Lesson 38 • Exercise 1 • Pages 99–100 • (TG)			
	Day 108	Lesson 39 • Pages 62–65 • (BBD)			
	Day 109	Lesson 39 • Exercise 1 • Page 101 • (TG)			
	Day 110	**Quiz 10** • Lessons 36–39 • Page 179 • (TG)			
Week 5	Day 111	Lesson 40 • Pages 68–71 to The Blood Vessels • (BBD)			
	Day 112	Lesson 40 • Pages 71–76 from The Blood Vessels to end of chapter • (BBD)			
	Day 113	Lesson 40 • Exercise 1 • Pages 103–104 • (TG)			
	Day 114	Lesson 41 • Pages 78–83 • (BBD)			
	Day 115	Lesson 41 • Exercise 1 • Pages 105–106 • (TG)			
Week 6	Day 116	Lesson 42 • Pages 86–91 to Integration at Different Levels • (BBD)			
	Day 117	Lesson 42 • Pages 91–94 from Integration at Different Levels to end of chapter • (BBD)			
	Day 118	Lesson 42 • Exercise 1 • Page 107 • (TG)			
	Day 119	Lesson 43 • Pages 96–102 • (BBD)			
	Day 120	Lesson 43 • Exercise 1 • Pages 109–110 • (TG)			

Calendar		Assignment	Due Date	✓	Grade
Week 7	Day 121	**Quiz 11** • Lessons 40–43 • Page 181 • (TG)			
	Day 122	Lesson 44 • Pages 104–110 to Balance in the Body's Urinary System • (BBD)			
	Day 123	Lesson 44 • Pages 110–116 from Balance in the Body's Urinary System to end of chapter • (BBD)			
	Day 124	Lesson 44 • Exercise 1 • Pages 111–112 • (TG)			
	Day 125	Lesson 45 • Pages 118–124 to Anatomical Boundaries in the Body • (BBD)			
Week 8	Day 126	Lesson 45 • Pages 124–128 from Anatomical Boundaries in the Body to end of chapter • (BBD)			
	Day 127	Lesson 45 • Exercise 1 • Pages 113–114 • (TG)			
	Day 128	Lesson 46 • Pages 130–138 • (BBD)			
	Day 129	Lesson 46 • Exercise 1 • Page 115 • (TG)			
	Day 130	Lesson 47 • Pages 140–144 to Explanatory Filter • (BBD)			
Week 9	Day 131	Lesson 47 • Pages 144–150 from Explanatory Filter to end of chapter • (BBD)			
	Day 132	Lesson 47 • Exercise 1 • Pages 117–118 • (TG)			
	Day 133	**Quiz 12** • Lessons 44–47 • Page 183 • (TG)			
	Day 134	Lessons 32–47 Study Day			
	Day 135	**Test 3** • Lessons 32–47 • Pages 195–196 • (TG)			

Calendar		Assignment	Due Date	✓	Grade
Second Semester-Fourth Quarter — *Building Blocks in Life Science*					
Week 1	Day 136	*Building Blocks in Life Science* • Lesson 48 • Pages 4–12 • (BBLS)			
	Day 137	Lesson 48 • Exercise 1 • Pages 121–122 • Teacher Guide • (TG)			
	Day 138	Lesson 49 • Pages 14–18 • (BBLS)			
	Day 139	Lesson 49 • Exercise 1 • Page 123 • (TG)			
	Day 140	Lesson 50 • Pages 20–24 • (BBLS)			
Week 2	Day 141	Lesson 50 • Pages 25–28 • (BBLS)			
	Day 142	Lesson 50 • Exercise 1 • Page 125 • (TG)			
	Day 143	Lesson 51 • Pages 30–34 • (BBLS)			
	Day 144	Lesson 51 • Exercise 1 • Page 127 • (TG)			
	Day 145	Lesson 52 • Pages 36–42 • (BBLS)			
Week 3	Day 146	Lesson 52 • Exercise 1 • Page 129 • (TG)			
	Day 147	Lesson 53 • Pages 44–49 to Selection vs. the Origin of Traits • (BBLS)			
	Day 148	Lesson 53 • Pages 49–52 from Selection vs. the Origin of Traits to end of chapter • (BBLS)			
	Day 149	Lesson 53 • Exercise 1 • Page 131 • (TG)			
	Day 150	Lesson 54 • Pages 54–60 • (BBLS)			
Week 4	Day 151	Lesson 54 • Exercise 1 • Page 133 • (TG)			
	Day 152	Lesson 55 • Pages 62–66 • (BBLS)			
	Day 153	Lesson 55 • Exercise 1 • Pages 135–136 • (TG)			
	Day 154	**Quiz 13** • Lessons 48–55 • Page 185 • (TG)			
	Day 155	Lesson 56 • Pages 68–74 • (BBLS)			
Week 5	Day 156	Lesson 56 • Exercise 1 • Page 137 • (TG)			
	Day 157	Lesson 57 • Pages 76–82 • (BBLS)			
	Day 158	Lesson 57 • Exercise 1 • Pages 139–140 • (TG)			
	Day 159	Lesson 58 • Pages 84–90 • (BBLS)			
	Day 160	Lesson 58 • Exercise 1 • Page 141 • (TG)			
Week 6	Day 161	Lesson 59 • Pages 92–97 to Evolutionary Malpractice • (BBLS)			
	Day 162	Lesson 59 • Pages 97–102 from Evolutionary Malpractice to end of chapter • (BBLS)			
	Day 163	Lesson 59 • Exercise 1 • Page 143 • (TG)			
	Day 164	**Quiz 14** • Lessons 56–59 • Page 187 • (TG)			
	Day 165	Lesson 60 • Pages 104–110 • (BBLS)			

Calendar		Assignment	Due Date	✓	Grade
	Day 166	Lesson 60 • Exercise 1 • Page 145 • (TG)			
	Day 167	Lesson 61 • Pages 112–116 • (BBLS)			
Week 7	Day 168	Lesson 61 • Exercise 1 • Page 147 • (TG)			
	Day 169	Lesson 62 • Pages 118–122 • (BBLS)			
	Day 170	Lesson 62 • Exercise 1 • Page 149 • (TG)			
	Day 171	Lesson 63 • Pages 124–130 • (BBLS)			
	Day 172	Lesson 63 • Exercise 1 • Page 151 • (TG)			
Week 8	Day 173	Lesson 64 • Pages 132–136 • (BBLS)			
	Day 174	Lesson 64 • Exercise 1 • Page 153 • (TG)			
	Day 175	Lesson 65 • Pages 138–142 • (BBLS)			
	Day 176	Lesson 65 • Exercise 1 • Page 155 • (TG)			
	Day 177	Lesson 66 • Pages 144–150 • (BBLS)			
Week 9	Day 178	Lesson 66 • Exercise 1 • Pages 157–158 • (TG)			
	Day 179	**Quiz 15** • Lessons 60–66 • Page 189 • (TG)			
	Day 180	**Test 4** • Lessons 48–66 • Pages 197–198 • (TG)			
		Final Grade			

Intro to Pre-Med Lessons



For use with

Exploring the History of Medicine

Fill in the Blank: Write the best answer in the line provided.

1. Galen learned firsthand about the human body from treating injured _____.
2. Older doctors predicted that doctors who followed Hippocrates' teaching would be _____ by the gods and goddesses.
3. The Hippocratic Oath for doctors is a pledge of proper _____.

Matching Terms: Mark the letter in front of the best answer.

a. Hippocrates	c. Pagan temple	e. Library
b. Galen	d. Creator	

4. _____ The most important physician during Roman times
5. _____ The city of Alexandria was noted for this
6. _____ Father of Medicine
7. _____ One of the Greek treatments for disease was to have the sick person dream away the sickness in this.
8. _____ Galen believed that the marvelous complexity of the human body pointed to this.

Short Answer: Write out the best possible answer as addressed in the text.

9. The Golden Age of Greece ended when: _____

_____

_____

10. Although Galen himself never became a Christian: _____

_____

_____

_____

_____

_____

Matching Terms: Mark the letter in front of the best answer.

a. Sylvius	c. Medical schools
b. Library	d. Washington

1. _____ The treatment for him was based on the four-humors theory.
2. _____ These used Galen's books as the final word in medicine.
3. _____ Great building in Alexandria burned by a mob
4. _____ He taught medical students by reading from a book while an assistant carried out a dissection.

Fill in the Blank: Write the best answer in the line provided.

5. Doctors used _____ because they believed it put the body's four humors in balance.
6. _____ is the study of the human body.
7. All the vast knowledge of _____ and Rome was found in the few books left in scattered libraries across Europe.
8. Medical schools used Galen's books as textbooks for more than a _____ years.
9. _____ were given their name because the word artery is a Greek word meaning "I carry air."

Short Answer: Write out the best possible answer as addressed in the text.

10. What did Galen say about his belief that disease resulted from an imbalance of the vital fluids, or humors, of the body?

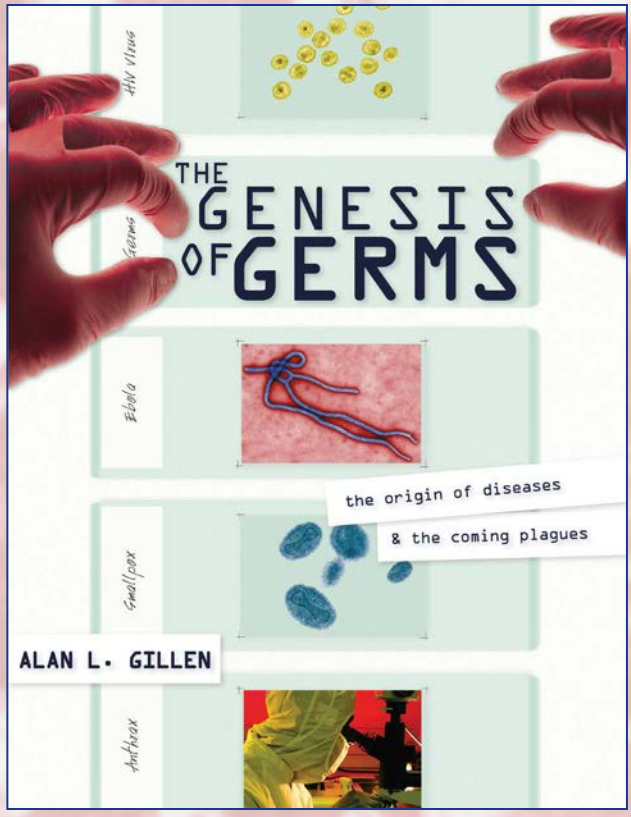
_____

_____

_____

_____

Intro to Pre-Med Lessons



For use with

The Genesis of Germs

Biblical Short Answer: Write out the Scripture verse in the translation provided in the student text or in your preferred version.

1. Genesis 1:11–12_____

_____

_____

_____

Multiple Choice: Circle the letter of the best answer.

2. What percentage of bacteria is pathogenic?
   a. 2%
   b. 5%
   c. 25%
   d. 75%
   e. 100%

3. Name the microbiologist who first described synthesis of the red pigment found in bacteria that often cause bread and communion wafers appear to have blood on it.
   a. Joseph Lister
   b. Robert Koch
   c. Louis Pasteur
   d. John Tyndall
   e. Robert P. Williams

4. Give the name of the pigment responsible for the bright red color in the bacteria that appeared as "blood."
   a. tuberculin
   b. chlorophyll
   c. prodigiosin
   d. hemoglobin
   e. rhodopsin

5. Dr. Michael Behe described flagella as _____.
   a. being a design paradigm
   b. having irreducible complexity
   c. having the "most efficient machine in the universe"
   d. evidence of evolution
   e. necessary for the survival of bacteria

6. Which bacteria has Scott Minnich studied for over a decade?
   a. *Yersinia enterocolitica*
   b. *Chlamydia trachomatis*
   c. *Legionella*
   d. *Treponema*
   e. *Rickettsia*

7. Which of the following scientists refuted the theory of spontaneous generation by boiling plant infusions in swan-necked flasks that maintained their sterility for long periods of time?

   a. Joseph Lister
   b. Robert Koch
   c. Louis Pasteur
   d. John Tyndall
   e. Anna Roby

8. The idea that microbes "pop" into existence from substances less complex than a living cell is termed:

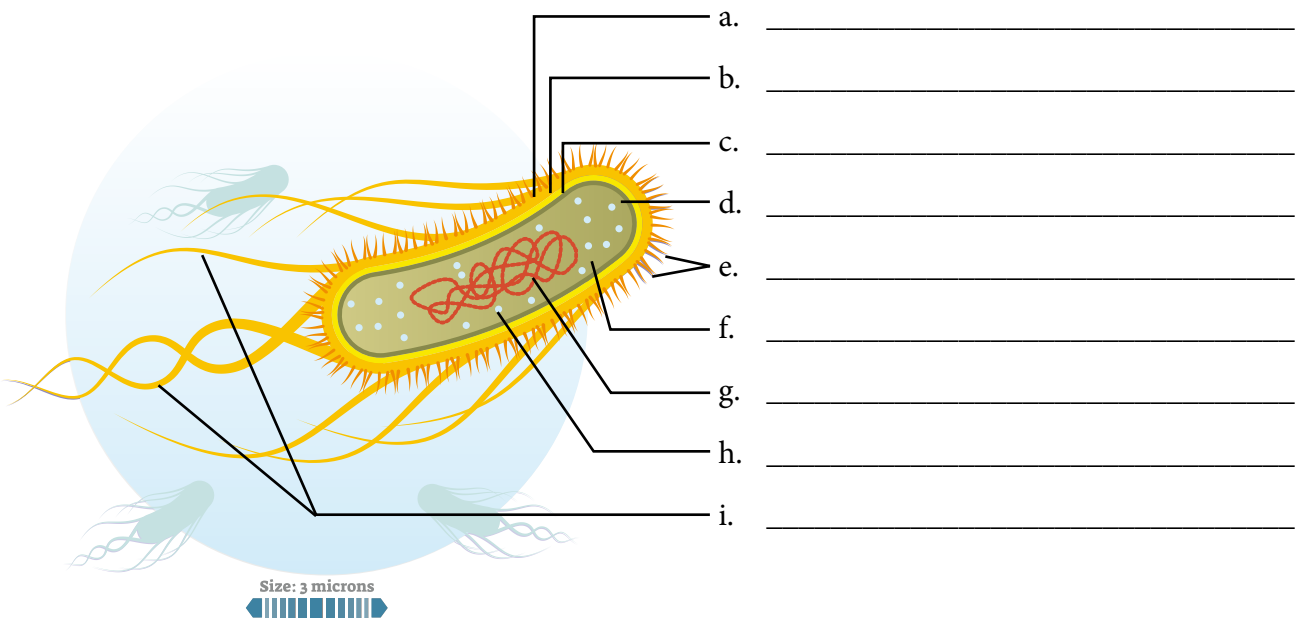
   a. spontaneous generation
   b. sporulation
   c. binary fission
   d. pleiotrophy
   e. etiology

9. Which of the following scientists did *not* believe his scientific findings taught humanity about God as well as science?

   a. Louis Pasteur
   b. Charles Darwin
   c. Joseph Lister
   d. Walter Reed
   e. Ronald Ross

Complete the Illustration: Draw and/or label the illustration as instructed.

10.



Glossary Terms: Write out the term from the glossary definition in the back of the textbook.

1. Bacilli: _____

2. Cocci: _____

3. Spirochaete (Spirilla): _____

Multiple Choice: Circle the letter of the best answer.

4. What is the purpose of bacterial spores?
   a. They divide and increase in cell numbers, allowing the bacteria to reproduce.
   b. Spore formation permits cells to survive adverse conditions.
   c. Spores are an important food source for fastidious bacteria.
   d. Spores allow bacteria to disperse to new locations.
   e. b and d

5. Which of the following is a characteristic of prokaryotes?
   a. They lack a true nucleus.
   b. Their DNA is not associated with histones.
   c. Their cell walls almost always contain peptidoglycan.
   d. They usually divide by binary fission.
   e. all of the above

6. Bacteria have adapted to which of the following living conditions?
   a. the surfaces of virtually all plants and animals
   b. Arctic ice
   c. thermal hot springs
   d. ocean trenches
   e. all of the above

7. In the group of bacteria called spirilla, you would see _____.
   a. Bacteria shaped like a berry.
   b. Bacteria that were rod-shaped.
   c. Bacteria having a helical shape like a corkscrew.
   d. Bacteria with smooth sides and no flagella.
   e. Bacteria that form spores.

8. Which of the following bacteria would be a member of the bacilli group?
   a. A bacterium shaped as a short and thick cylinder.
   b. A bacterium shaped like a long and slender rod.
   c. A bacterium that is not perfectly round, but is flattened on one side or more or less elongated.
   d. A bacterium that is slightly curved and less rigid with blunt ends.
   e. a, b, and d

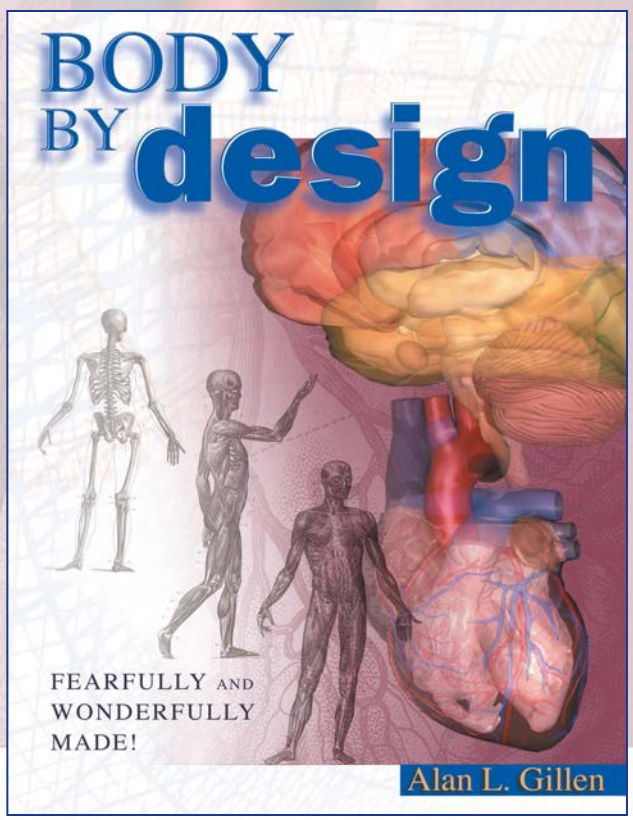
9. The differences in the fine structure of cell walls of Gram-positive and Gram-negative bacteria were discovered in the _____ .
   a. late 1800s with more widespread use of microscopes and improved staining techniques.
   b. early 1900s as man began to study bacteria to develop antibiotics.
   c. mid-1900s as man began to look for biohazards to use in war.
   d. mid-1900s with the invention of the electron microscope.
   e. late 1900s with the mapping of the genome of many bacteria.

Fill in the Table: Complete the table as directed.

10. Structure of Bacterial Cells

Name of Organism	Causes
Borrelia burgdorferi	a. _____
Clostridium tetani	b. _____
Corynebacterium dipetheriae	c. _____
Escherichia coli	d. _____
Neisseria gonorrheae	e. _____
Mycobacterium tuberculosis	f. _____
Salmonella typhi	g. _____
Staphylococcus aureus	h. _____
Streptococcus pyogenes	i. _____
Streptococcus pneumoniae	j. _____
Treponema pallidum	k. _____
Vibrio comma	l. _____

Intro to Pre-Med Lessons



For use with

Body by Design

Fill in the Blank: Write the best answer in the line provided.

1. Generally, the muscles are attached by tough fibrous structures called _____.
2. The overall function of muscle is _____.
3. The nerve-muscle junction features a connection called a _____.
4. Muscles work by _____ and relaxing.
5. The hand has been described as the most sophisticated "_____" in the body.

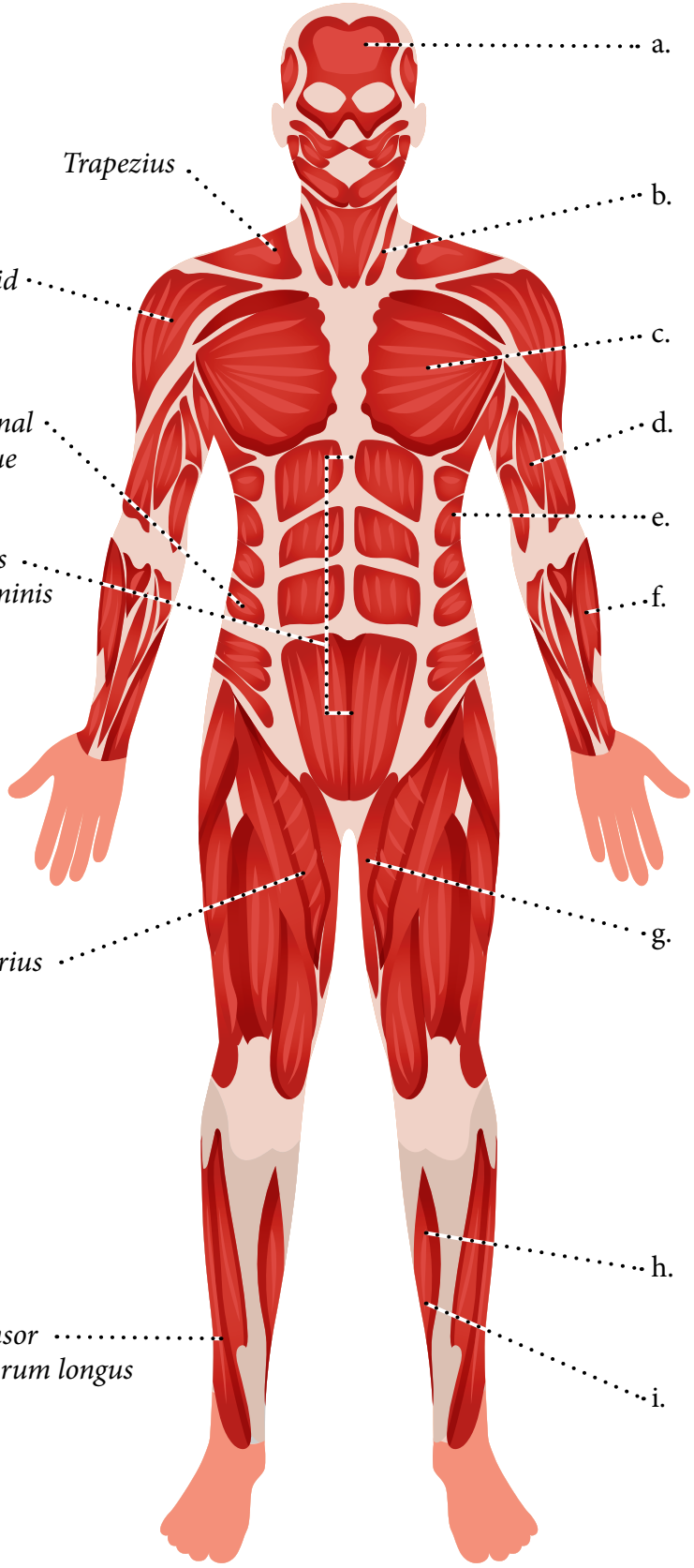
Matching Terms: Mark the letter in front of the best answer.

a. Point of Origin	c. Striated
b. Point of Insertion	d. Sarcolemma

6. _____ The point of attachment to the bone the muscle moves
7. _____ Each muscle fiber is encased in a thin, transparent membrane called this
8. _____ This is the point of attachment to the bone to which the muscle is anchored
9. _____ Called this because of their cross-striped appearance under a microscope

Fill in the Chart: Complete the following chart.

10.



a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

i. _____

Fill in the Blank: Write the best answer in the line provided.

1. In order for the body to stay alive, each of its _____ must receive a continuous supply of nutrients and oxygen.
2. Carbon dioxide and other byproducts of _____ metabolism must be collected for removal from the body.
3. _____ believed blood formed in the intestines.
4. William _____ used observations, dissections, and experimentation to determine the heart's function.
5. The Creator integrated a series of valves into the heart that work flawlessly together to keep _____ moving in the right direction.
6. Blood _____ are multi-layered, muscular tubes that carry blood to and from all parts of the body.
7. _____ is a complex process in which coagulation factors activate each other.

Short Answer: Write out the best possible answer as addressed in the text.

8. Talk about the autonomic control of the rhythmic pulsation of the heart as it pumps and discuss how this proves evolution could not have happened.

_____

_____

_____

_____

_____

_____

9. List the 3 types of blood vessels and briefly describe their functions.

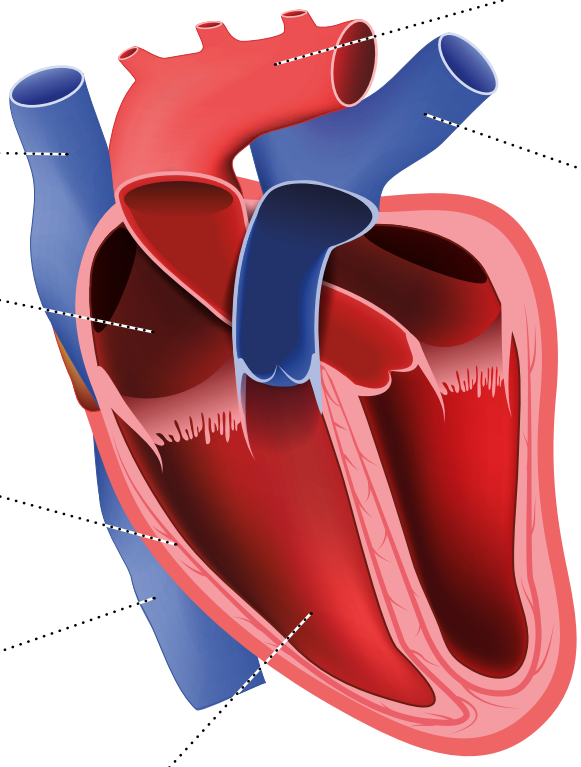
a. _____

b. _____

c. _____

Fill in the Figure: Complete the figure as directed.

10.



a. _____

_____

b. _____

_____

c. _____

_____

d. _____

_____

e. _____

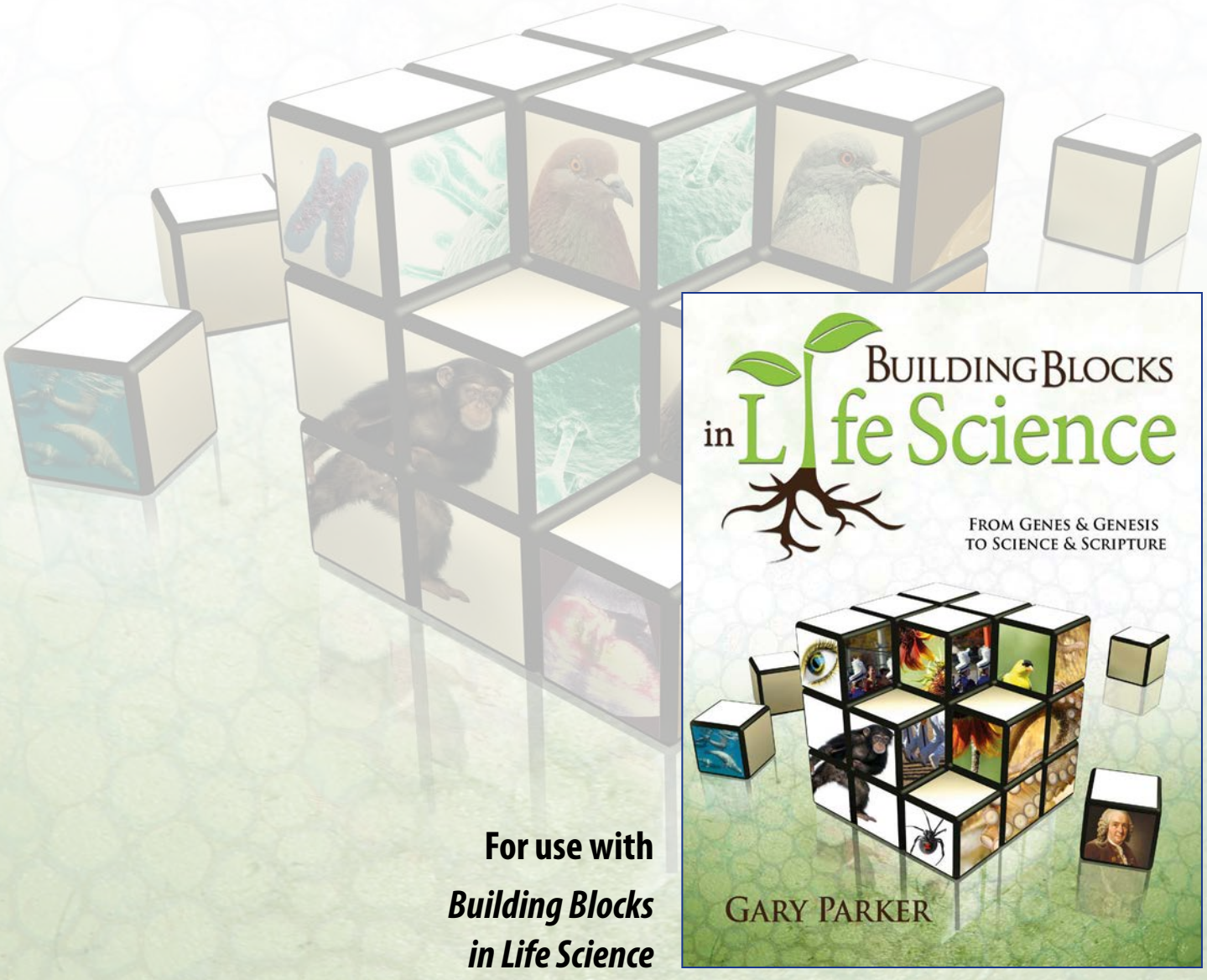
_____

f. _____

g. _____

_____

Intro to Pre-Med Lessons



For use with

Building Blocks in Life Science

Biblical Short Answer: Write out the Scripture verse in the translation provided in the student text or in your preferred version.

1. Acts 17:26 _____

_____

_____

Fill in the Blank: Write the best answer in the line provided.

2. Sections of a DNA molecule that affect particular traits are called _____.
3. According to the biblical worldview that gave birth to science in the 1600s and 1700s, the first of each created kind of life resulted from _____.
4. Variety increases further when more than two allelic variations of a gene exist ("_____ *alleles*").
5. God endowed our first parents, and the first parents of each created kind, with the potential to produce tremendous _____ among individuals.

Matching Terms: Mark the letter in front of the best answer.

a. Creation	c. Catastrophe
b. Corruption	d. Christ

6. _____ Flood conditions are ideal for forming fossils
7. _____ Many defects and diseases result from chance changes in heredity called mutations
8. _____ Adaptations are design features that suit each organism for its special role in the web of life
9. _____ Land animals saved on the Ark and the immune system healing deadly infections both illustrate God's deliverance from death and disaster

Fill in the Figure: Complete the figure as directed.

10.

A couple with **melanin** control genes **AaBb** (Adam and Eve?) would have "**medium**" skin tone, and each would make four kinds of reproductive cells, as shown along the top and side of this "genetic square":

genes in mother's egg cells

genes in father's sperm cells	AB	Ab	aB	ab
AB	AA BB	AA Bb	Aa BB	a. _____ b. _____
Ab	AA Bb	AA bb	Aa Bb	c. _____ d. _____
aB	Aa BB	Aa Bb	aa BB	e. _____ f. _____
ab	Aa Bb	Aa bb	aa Bb	g. _____ h. _____

As shown in the chapter, children of "medium" parents could have **most to least melanin** and **color darkest to lightest** with 4, 3, 2, 1, 0 "capital letter" genes indicated with each picture.

Fill in the Blank: Write the best answer in the line provided.

1. Worst of all are _____, random changes in genes that introduce new alleles into the gene pools of human beings and other created kinds.
2. There does seem to be a tendency for generalized, adaptable _____ *kinds* to break up into specialized, adapted *sub-types* as they multiply and fill the earth.
3. In our corrupted creation, _____ drift has the unfortunate effect of establishing certain disease conditions in isolated populations at much higher levels than those found in the larger population.
4. Percentages of antibiotic-resistant bacteria are all too often higher in _____ than anywhere else.

Matching Terms: Mark the letter in front of the best answer.

a. Genetic Bottleneck	c. Specialization	e. Mutations
b. Genetic Drift	d. Reproductive isolation	

5. _____ Several small groups separate from a large population, each with percentages of alleles different from those in the original gene pool (e.g., language groups moving away from the Tower of Babel).
6. _____ Members of a kind separating into distinctive subtypes as they "multiply and fill" earth's environmental diversity (e.g., generalized bears leaving the Ark becoming black, brown, grizzly, and polar bears).
7. _____ Barriers or preferences in the choice of a mate separate some parts of a gene pool from others (e.g., culture and language separate humans; size and temperament separate dogs).
8. _____ Random changes in genes that often change normal genes into alleles producing defects or disease (e.g., sickle cell hemoglobin).
9. _____ Only a few members of a species with a large gene pool survive a major disaster (e.g., animals aboard the Ark).

Short Answer: Write out the best possible answer as addressed in the text.

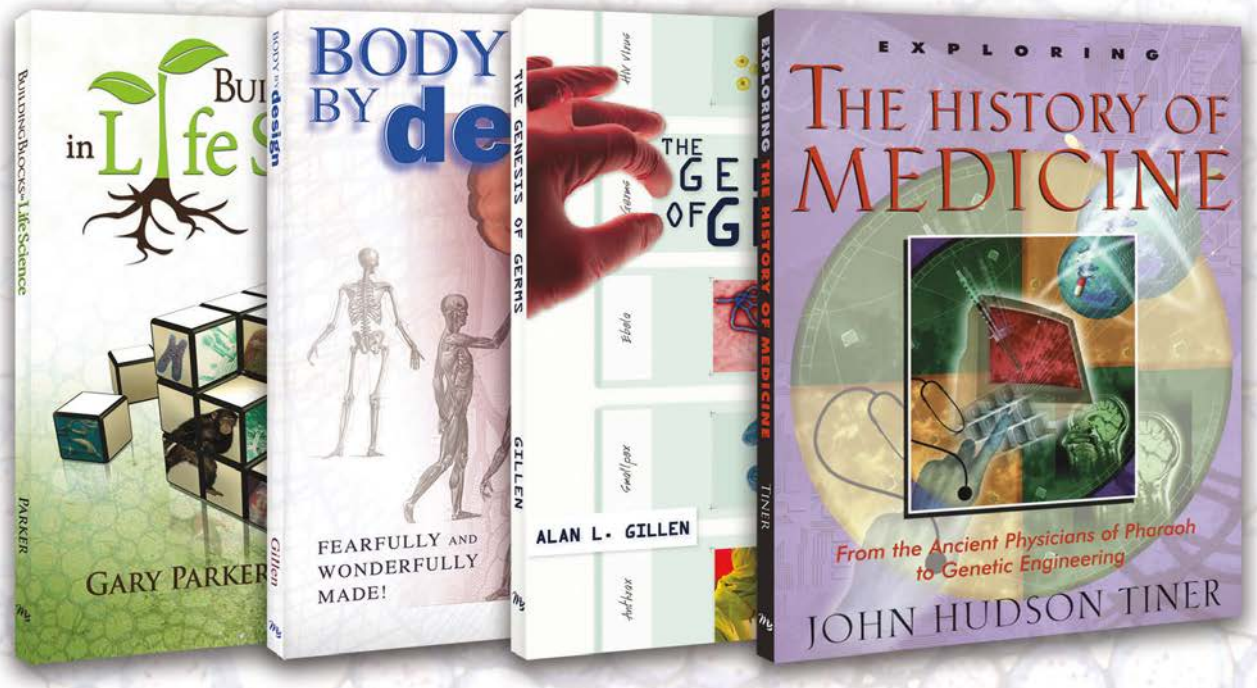
10. All the genes in an individual make up: _____

_____

_____

_____

Intro to Pre-Med Quizzes and Tests



	Intro to Pre-Med Studies *Exploring the History of Medicine*	Day 11	Quiz 1 Lessons 1–5	Total score: _____ of 100	Name

Fill in the Blank: Write the best answer in the line provided.

1. Older doctors predicted that doctors who followed Hippocrates' teaching would be _____ by the gods and goddesses.
2. Medical schools used Galen's books as textbooks for more than a _____ years.
3. Those professors who opposed Vesalius believed _____ served no purpose.
4. In Europe of the 1500s, minor operations and first aid were given by _____.
5. Vesalius' use of illustrations drew swift praise from doctors who had taught _____.

Matching Terms: Mark the letter in front of the best answer.

a. Sylvius	c. Malpighi	e. God
b. Jan Stephen van Calcar	d. Creator	

6. _____ Galen believed that the marvelous complexity of the human body pointed to this
7. _____ A young artist who made illustrations for Vesalius' book
8. _____ He taught medical students by reading from a book while an assistant carried out a dissection
9. _____ Paré said that he treated the patient but that the patient was healed by
10. _____ Discovered capillaries

Fill in the Blank: Write the best answer in the line provided.

1. *Vacca* is a word meaning _____.
2. Medical schools used Galen's books as textbooks for more than a _____ years.
3. Christiaan Eijkman concluded that beriberi could be prevented by eating _____ rice.
4. In Europe of the 1500s, minor operations and first aid were given by _____.
5. Death from _____ was so common in Munich, Germany, that city officials threatened to burn the hospital.
6. Roentgen called his discovery x-rays because they were _____.
7. The word micro means _____.
8. Sulfa is a universal cure-all for _____.
9. Dr. Lind learned that _____ fruits save lives because they contain vitamin C.
10. By the start of the 1800s, the skill of a surgeon was judged by how _____ he worked.

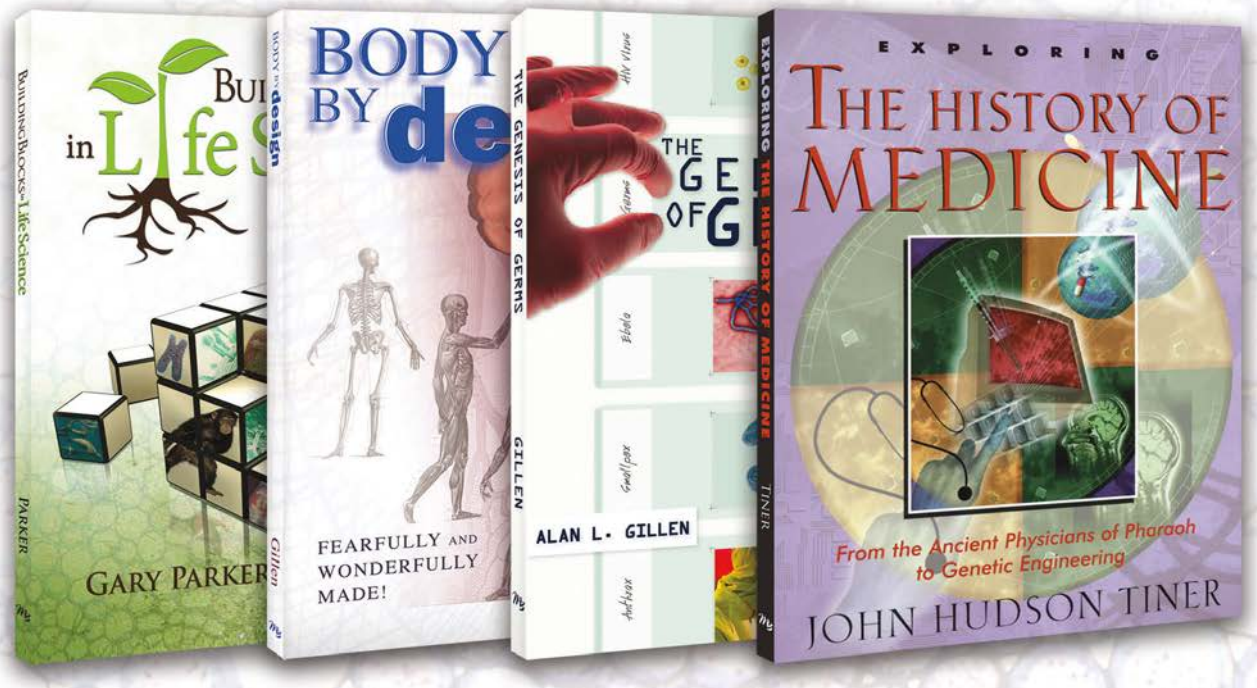
Continued on next page

Matching Terms: Mark the letter in front of the best answer.

a. Potato	e. Gutenberg	i. Curie
b. Cartier	f. Semmelweiss	j. Malpighi
c. Carbolic	g. Fleming	
d. Jan Stephen van Calcar	h. Anesthetics	

11. _____ Invented the printing press
12. _____ Painkillers are known as this
13. _____ He decided to study medicine because he would save lives.
14. _____ A young artist who made illustrations for Vesalius' book
15. _____ This acid is very weak
16. _____ The one who coined the name *radioactivity*
17. _____ Pasteur succeeded in growing the rabies germ in this culture
18. _____ Discovered capillaries
19. _____ He was knighted for his discovery of penicillin
20. _____ Had his men drink tea from pine needles soaked in water

Intro to Pre-Med
Answer Keys



Book 1: *Exploring the History of Medicine* Worksheets

Lesson 1, Exercise 1, Day 2, Page 21

1. Gladiators
2. Punished
3. Conduct
4. b
5. e
6. a
7. c
8. d

9. The Romans conquered most of the civilized world.
10. He believed in one God, the creator of all things. He believed the Creator designed every part of the human body for a particular purpose.

Lesson 2, Exercise 1, Day 4, Page 23

1. d
2. c
3. b
4. a
5. Bloodletting
6. Anatomy
7. Greece
8. Thousand
9. Arteries

10. "The body has in itself blood, phlegm, yellow bile, and black bile . . . We enjoy the most perfect health when these elements are in the right proportion."

Lesson 3, Exercise 1, Day 6, Page 25

1. Doctors
2. Padua
3. Dissections
4. b
5. c
6. e
7. d
8. a

9. On the Fabric of the Human Body
10. At age 50 he traveled to Jerusalem. A friend met him on the road to Jericho. After that, nothing else is known for certain about Vesalius' last days. We have no official record of where he died, when he died, or where he is buried.

Lesson 4, Exercise 1, Day 8, Page 27

1. Barbers
2. Hospital
3. Gunshot
4. Love
5. d
6. a
7. b
8. c

9. With practical experience
10. "God often brings things to pass which seem impossible to the surgeon."

Lesson 5, Exercise 1, Day 10, Page 29

1. b
2. a
3. d
4. c
5. Galileo
6. Veins
7. Toward
8. Pump
9. Capillaries

10. During its circuit, blood passes through the lungs where it absorbs oxygen. It passes along the stomach and intestine where it absorbs food. The food and oxygen are taken throughout the body. Cells accept the nutrients and discharge waste products into the blood. The blood circulates through the kidneys to be purified.

Lesson 6, Exercise 1, Day 13, Page 31

1. b
2. a
3. c
4. e
5. d
6. Small
7. Janitor
8. Dutch
9. 550

10. A certain type of bacteria

Lesson 7, Exercise 1, Day 15, Page 33

1. Cowpox
2. Smallpox
3. Cow
4. Spirit
5. b
6. a
7. c
8. d

9. Smallpox left some victims blind or deaf. It also caused miserable sores that left awful pockmarks. The worst cases disfigured faces beyond recognition. Some people could not bear to look at themselves in the mirror.
10. We know now that vaccination is done with weakened germs. The person treated gets a mild and harmless form of the disease. The body sets up an immunity to it.

Lesson 8, Exercise 1, Day 17, Page 35

1. And the Lord God caused a deep sleep to fall upon Adam, and he slept; and he took one of his ribs, and closed up the flesh instead thereof. (Gen. 2:21)
2. Addicts
3. Fast
4. Nitrogen
5. Debt
6. Limited
7. d
8. c
9. b
10. a

Lesson 9, Exercise 1, Day 19, Page 37

1. b
2. a
3. d
4. c
5. Pain
6. Telegraph
7. Ether
8. Surgery
9. Insane
10. "No feeling"

Lesson 10, Exercise 1, Day 21, Page 39

1. b
2. d
3. a
4. c
5. Midwives
6. Contagious
7. Clean
8. Decreased
9. Germ

10. Each ward held about 400 patients. In one ward, where only the midwives worked, about 4 or 5 mothers died each month. To Philipp's dismay, in the second ward, where doctors attended the mothers, as many as 100 patients died each month — 1 mother out of 4.

Lesson 11, Exercise 1, Day 24, Page 41

1. Chemistry
2. Yeasts
3. Life
4. Evolution
5. Never
6. b
7. d
8. c
9. a

10. Pasteur's germ theory of disease was probably the single most important medical discovery of all time. It answered many questions that didn't have a solution otherwise. It explained the success of Dr. Semmelweiss in preventing infection.

Lesson 12, Exercise 1, Day 26, Page 43

1. Infection
2. Encouraged
3. Fracture
4. Simple
5. Germs
6. c
7. a
8. d
9. b

10. Dr. Joseph Lawrence developed a disinfectant that could be used during operations without damaging human tissue. Later, it was manufactured and sold by Jordan Wheat Lambert and William R. Warner as an effective mouthwash. They named it in honor of Joseph Lister. They called it Listerine.