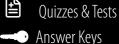
TEACHER GUIDE

9th-12th Grade

Includes Student Worksheets

Science





Introduction to Anatomy & Physiology 1 Revised



Author: Dr. Tommy Mitchell

Master Books Creative Team:

Editor: Craig Froman **Design:** Terry White

Cover Design: Diana Bogardus

Copy Editors:Judy Lewis
Willow Meek

Curriculum Review:

Kristen Pratt Laura Welch Diana Bogardus



First printing: July 2016

First revised printing: March 2022

Copyright © 2016 by Dr. Tommy Mitchell and Master Books®. All rights reserved. No part of this book may be reproduced, copied, broadcast, stored, or shared in any form whatsoever without written permission from the publisher, except in the case of brief quotations in articles and reviews. For information write:

Master Books[®], P.O. Box 726, Green Forest, AR 72638 Master Books[®] is a division of the New Leaf Publishing Group, Inc.

ISBN: 978-1-68344-302-5

ISBN: 978-1-61458-813-9 (digital)

Scripture taken from the New King James Version. Copyright $\ensuremath{\mathbb{O}}$ 1982 by Thomas

Nelson, Inc. Used by permission. All rights reserved.

Printed in the United States of America

Please visit our website for other great titles: www.masterbooks.com

Permission is granted for copies of reproducible pages from this text to be made for use with immediate family members living in the same household. However, no part of this book may be reproduced, copied, broadcast, stored, or shared in any form beyond this use. Permission for any other use of the material must be requested by email from the publisher at info@nlpg.com.



Dr. Tommy Mitchell held an MD from Vanderbilt University School of Medicine and had a thriving medical practice for 20 years before pursuing creation ministry full time. Since 2005, Dr. Mitchell served as a popular speaker and author for Answers in Genesis. He passed into the presence of the Lord on September 17, 2019.



"

Your reputation as a publisher is stellar. It is a blessing knowing anything I purchase from you is going to be worth every penny!

—Cheri ★ ★ ★ ★ ★

"

Last year we found Master Books and it has made a HUGE difference.

—Melanie ★★★★

"

We love Master Books and the way it's set up for easy planning!

—Melissa ★★★★

"

You have done a great job. MASTER BOOKS ROCKS!

—Stephanie ★★★★

"

Physically high-quality, Biblically faithful, and well-written.

—Danika ★★★★

66

Best books ever. Their illustrations are captivating and content amazing!

—Kathy $\star\star\star\star\star$







Table of Contents

Using This Teacher Guide	4
Course Objectives	4
Course Description	
Suggested Daily Schedule	
Worksheets for <i>The Musculoskeletal System</i>	
Worksheets for <i>The Cardiovascular and Respiratory Systems</i>	
Worksheets for <i>The Nervous System</i>	
Quizzes and Tests	
Answer Keys	

Using This Teacher Guide

Features: The suggested weekly schedule enclosed has easy-to-manage lessons that guide the reading, worksheets, and all assessments. The pages of this guide are perforated and three-hole punched so materials are easy to tear out, hand out, grade, and store. Teachers are encouraged to adjust the schedule and materials needed in order to best work within their unique educational program.

Fearfully and Wonderfully Made!

Explore the human body from a creation perspective in this dynamic Anatomy & Physiology course. Students will learn how amazing their bodies are — from the simplest parts to some of its most complex functions. Covering muscles and bones, along with the cardiovascular and respiratory systems, this course takes an in-depth look at how these systems work and how our bodies cannot possibly be an accident! Through worksheets, quizzes, and tests, students will solidify their knowledge of the human body, created by the one and only Master Designer.

	Approximately 30 to 45 minutes per lesson, five days a week
	Includes answer keys for worksheets, quizzes, and tests
	Worksheets for each section
*	Quizzes and tests are included to help reinforce learning and provide assessment opportunities
	Designed for grades 9 to 12 in a one-year science course

Course Objectives: Students completing this course will

- ✓ Learn the incredible design of the human heart and how it is really two pumps in one
- ✓ Identify how blood moves through an incredible network of arteries and veins
- ✓ Investigate what "blood pressure" is and the marvelous systems that help regulate it
- Explore how the respiratory system allows us to get the "bad air out" and the "good air in"
- ✓ Review the ins and outs of the bones in your skeleton and how they function
- Discover detail as to how your marvelous muscles move you

Course Description

In this dynamic *Introduction to Anatomy & Physiology* course, students will not only begin to grasp the intricate workings of their bodies, but also learn of the wonders of the human body, designed by our Creator and loving Father. Nothing else in the universe is quite like it. The body is delicate yet powerful — incredibly complex but at times amazingly simple. Students will explore the structure, function, and regulation of the body in detail.

Throughout the two volumes studied over the course of the year, students will learn things to do to keep the body healthy, though in a fallen, cursed world, things are bound to go wrong. The human body is built from many kinds of cells and tissues, and students will learn how they work. We will look at what happens when disease or injury affects bones and muscles. The course also covers both the cardiovascular and respiratory systems, from the level of the cell to the organs themselves, examining these systems in depth.

Although the world insists that our bodies are merely the result of time and chance, as students examine the human body closely, they will see that it cannot be an accident. It can only be the product of a Master Designer.

First Semester Suggested Daily Schedule

Date	Day	Assignment	Due Date	✓ Grade
		First Semester-First Quarter — <i>The Musculoskeletal System</i>		
	Day 1	Read Foundations • Pages 6–7 • Wonders of the Human Body Vol. 1 (WHBV1) Read Introduction with focus on course objectives • Pages 4–5 • Teacher Guide (TG)		
Week 1	Day 2	Read page 8–14 • (WHBV1)		
Week 1	Day 3	Worksheet 1 • Pages 17–18 • (TG)		
	Day 4	Read Pages 15–18 (to Ribosomes) • (WHBV1)		
	Day 5	Worksheet 2 • Pages 19–20 • (TG)		
	Day 6	Read Page 18 (from Ribosomes) to Page 24 • (WHBV1)		
	Day 7	Worksheet 3 • Pages 21–22 • (TG)		
Week 2	Day 8	Read Pages 25–30 • (WHBV1)		
	Day 9	Read Pages 31–35 • (WHBV1)		
	Day 10	Worksheet 4 • Pages 23–24 • (TG)		
	Day 11	Read Pages 36–41 • (WHBV1)		
	Day 12	Worksheet 5 • Pages 25–26 • (TG)		
Week 3	Day 13	Review Day to Complete All Prior Assignments		
	Day 14	Study Day to Prepare for Quiz		
	Day 15	Unit 1: Quiz 1 • Pages 137–138 • (TG)		
	Day 16	Read Pages 42–45 • (WHBV1)		
	Day 17	Worksheet 6 • Pages 27–28 • (TG)		
Week 4	Day 18	Read Pages 46–49 (to Bone Cells) • (WHBV1)		
	Day 19	Worksheet 7 • Pages 29–30 • (TG)		
	Day 20	Read Page 49 (from Bone Cells) to Page 53 • (WHBV1)		
	Day 21	Worksheet 8 • Pages 31–32 • (TG)		
	Day 22	Read Pages 54–57 • (WHBV1)		
Week 5	Day 23	Worksheet 9 • Pages 33–34 • (TG)		
	Day 24	Read Pages 58–61 • (WHBV1)		
	Day 25	Worksheet 10 • Pages 35–36 • (TG)		
	Day 26	Read Pages 62–65 • (WHBV1)		
	Day 27	Worksheet 11 • Pages 37–38 • (TG)		
Week 6	Day 28	Read Pages 66–70 • (WHBV1)		
	Day 29	Worksheet 12 • Pages 39–40 • (TG)		
	Day 30	Read Pages 71–74 • (WHBV1)		
	Day 31	Worksheet 13 • Pages 41–42 • (TG)		
	Day 32	Read Pages 75–79 • (WHBV1)		
Week 7	Day 33	Worksheet 14 • Pages 43–44 • (TG)		
	Day 34	Study Day to Prepare for Quiz		
	Day 35	Unit 1: Quiz 2 • Pages 139–140 • (TG)		

Date	Day	Assignment	Due Date	\checkmark	Grade
	Day 36	Read Pages 80–84 • (WHBV1)			
	Day 37	Worksheet 15 • Page 45 • (TG)			
Week 8	Day 38	Read Pages 85–88 • (WHBV1)			
	Day 39	Worksheet 16 • Pages 47–48 • (TG)			
	Day 40	Read Pages 89–93 • (WHBV1)			
	Day 41	Worksheet 17 • Page 49 • (TG)			
	Day 42	Read Pages 94–98 • (WHBV1)			
Week 9	Day 43	Worksheet 18 • Pages 51–52 • (TG)			
	Day 44	Read Pages 99–102 • (WHBV1)			
	Day 45	Worksheet 19 • Pages 53–54 • (TG)			
		First Semester-Second Quarter — The Musculoskeletal System			
	Day 46	Review Day to Complete All Prior Assignments			
	Day 47	Study Day to Prepare for the Third Quiz			
Week 1	Day 48	Unit 1: Quiz 3 • Pages 141–142 • (TG)			
	Day 49	Study Day to Prepare for Test			
	Day 50	Unit 1: Test 1 • Pages 153–154 • (TG)			
	Day 51	Read Cardiovascular System • Pages 106–109 • (WHBV1)			
	Day 52	Read Pages 110–115 (to Cardiac Muscle) • (WHBV1)			
Week 2	Day 53	Worksheet 20 • Pages 57–58 • (TG)			
	Day 54	Read Page 115 (from Cardiac Muscle) to Page 120 (to Heart Valves) • (WHBV1)			
	Day 55	Worksheet 21 • Pages 59–60 • (TG)			
	Day 56	Read Page 120 (from Heart Valves) to Page 124 • (WHBV1)			
	Day 57	Worksheet 22 • Pages 61–62 • (TG)			
Week 3	Day 58	Read Pages 125–129 • (WHBV1)			
	Day 59	Worksheet 23 • Page 63 • (TG)			
	Day 60	Read Pages 130–136 • (WHBV1)			
	Day 61	Worksheet 24 • Pages 65–66 • (TG)			
	Day 62	Read Pages 137–141 • (WHBV1)			
Week 4	Day 63	Worksheet 25 • Pages 67–68 • (TG)			
	Day 64	Read Pages 142–146 (to Capillaries) • (WHBV1)			
	Day 65	Worksheet 26 • Pages 69–70 • (TG)			
	Day 66	Study Day			
	Day 67	Unit 2: Quiz 1 • Pages 143–144 • (TG)			
Week 5	Day 68	Read Pages 146 (from Capillaries) to 152 (Cardiovascular Center) (WHBV1)			
	Day 69	Worksheet 27 • Pages 71–72 • (TG)			
	Day 70	Read Pages 150 (from Blood Pressure) to 150 (Blood Presure) • (WHBV1)			

Date	Day	Assignment	Due Date	√	Grade
	Day 71	Worksheet 28 • Page 73 • (TG)			
	Day 72	Read Pages 152–161 • (WHBV1)			
Week 6	Day 73	Worksheet 29 • Pages 75–76 • (TG)			
	Day 74	Extra Study Day			
	Day 75	Extra Study Day			
	Day 76	Read Pages 162–168 (to Sinuses) • (WHBV1)			
	Day 77	Worksheet 30 • Pages 77–78 • (TG)			
Week 7	Day 78	Read Page 168 (from Sinuses) to Page 173 • (WHBV1)			
	Day 79	Worksheet 31 • Pages 79–80 • (TG)			
	Day 80	Read Pages 174–177 • (WHBV1)			
	Day 81	Worksheet 32 • Pages 81–82 • (TG)			
	Day 82	Read Pages 178–181 • (WHBV1)			
Week 8	Day 83	Worksheet 33 • Pages 83–84 • (TG)			
	Day 84	Read Pages 182–186 (to Expiration) • (WHBV1)			
	Day 85	Worksheet 34 • Pages 85–86 • (TG)			
	Day 86	Read Page 186 (from Expiration) to Page 190 (top paragraph) • (WHBV1)			
	Day 87	Worksheet 35 • Pages 87–88 • (TG)			
Week 9	Day 88	Read Page 190 (from second paragraph) to Page 193 (Control of Respiration) • (WHBV1)			
	Day 89	Worksheet 36 • Page 89 • (TG)			
	Day 90	Worksheet 36 • Page 90 • (TG)			
		Mid-Term Grade			

Second Semester Suggested Daily Schedule

Date	Day	Assignment	Due Date	\checkmark	Grade
	S	Second Semester-Third Quarter — <i>Cardiovascular & Respira</i>	tory Systems		
	Day 91	Read Page 193 (from Control of Respiration) to Page 195 (WHBV1)			
	Day 92	Read Pages 196–197 • (WHBV1)			
Week 1	Day 93	Worksheet 37 • Pages 91–92 • (TG)			
	Day 94	Worksheet 38 • Pages 93–94 • (TG)			
	Day 95	Review Day to Complete All Prior Assignments			
	Day 96	Study Day to Prepare for Quiz			
	Day 97	Unit 2: Quiz 2 • Pages 145–146 • (TG)			
Week 2	Day 98	Study Day Volume One			
	Day 99	Study Day Volume Two			
	Day 100	Unit 2: Test 2 • Pages 155–156 • (TG)			
	Day 101	Read Pages 200–202 (to Overview of the Nervous System) (WHBV1)			
	Day 102	Read Pages 202–205 (from Overview of Nervous System) (WHBV1)			
Week 3	Day 103	Worksheet 39 • Page 97 • (TG)			
	Day 104	Worksheet 39 • Page 98 • (TG)			
	Day 105	Read Structure of the Nervous System • Pages 206–209 (WHBV1)			
	Day 106	Read Pages 210–212 • (WHBV1)			
	Day 107	Worksheet 40 • Page 99 • (TG)			
Week 4	Day 108	Worksheet 40 • Page 100 • (TG)			
	Day 109	Read Pages 213–215 (to Nerves) • (WHBV1)			
	Day 110	Read Page 215 (from Nerves) to Page 217 • (WHBV1)			
	Day 111	Worksheet 41 • Page 101 • (TG)			
	Day 112	Worksheet 41 • Page 102 • (TG)			
Week 5	Day 113	Read Pages 218–223 • (WHBV1)			
	Day 114	Read Pages 224–231 • (WHBV1)			
	Day 115	Worksheet 42 • Page 103 • (TG)			
	Day 116	Worksheet 42 • Page 104 • (TG)			
	Day 117	Review Day to Complete All Prior Assignments			
Week 6	Day 118	Study Day to Prepare for Quiz			
	Day 119	Unit 3: Quiz 1 • Pages 147–148 • (TG)			
	Day 120	Read Pages 232–235 (to Cerebrospinal Fluid) • (WHBV1)			

Date	Day	Assignment	Due Date	\checkmark	Grade
	Day 121	Read Page 235 (from Cerebrospinal Fluid) to Page 238 (to Cerebrum - Gross Anatomy) • (WHBV1)			
	Day 122	Worksheet 43 • Page 105 • (TG)			
Week 7	Day 123	Worksheet 43 • Page 106 • (TG)			
week /	Day 124	Read Page 238 (from Cerebrum - Gross Anatomy) to Page 240 (end of first paragraph) • (WHBV1)			
	Day 125	Read Page 240 (from first full paragraph) to Page 242 (The Cerebrum) • (WHBV1)			
	Day 126	Worksheet 44 • Page 107 • (TG)			
	Day 127	Worksheet 44 • Page 108 • (TG)			
Week 8	Day 128	Read Page 242 (from The Cerebrum) to Page 243 (Cerebrum - Association Areas) • (WHBV1)			
	Day 129	Read Page 243 (from Cerebrum - Association Areas) to Page 245 (Which Is the Important Side?) • (WHBV1)			
	Day 130	Worksheet 45 • Page 109 • (TG)			
	Day 131	Worksheet 45 • Page 110 • (TG)			
	Day 132	Read Page 245 (from Which Is the Important Side?) to Page 247 (Brain Stem) • (WHBV1)			
Week 9	Day 133	Read Page 247 (from Brain Stem) to Page 249 (Cerebellum) (WHBV1)			
	Day 134	Worksheet 46 • Page 111 • (TG)			
	Day 135	Worksheet 46 • Page 112 • (TG)			
	Se	econd Semester-Fourth Quarter — <i>Cardiovascular & Respirato</i>	ory Systems		
	Day 136	Read Page 249 (from Cerebellum) to Page 251 (end of first paragraph) • (WHBV1)			
	Day 137	Read Page 251 (from second paragraph) to Page 252 (Blood Brain Barrier) • (WHBV1)			
Week 1	Day 138	Worksheet 47 • Page 113 • (TG)			
	Day 139	Worksheet 47 • Page 114 • (TG)			
	Day 140	Read Page 252 (from Blood Brain Barrier) to Page 253 (WHBV1)			
	Day 141	Read Page 254 to Page 255 (Consciousness and the Mind) (WHBV1)			
	Day 142	Worksheet 48 • Page 115 • (TG)			
Week 2	Day 143	Worksheet 48 • Page 116 • (TG)			
WEER Z	Day 144	Read Page 255 (from Consciousness and the Mind) to Page 257 (Spinal Cord - Gross Anatomy) • (WHBV1)			
	Day 145	Read Page 257 (from Spinal Cord - Gross Anatomy) to Page 259 • (WHBV1)			
	Day 146	Worksheet 49 • Page 117 • (TG)			
	Day 147	Worksheet 49 • Page 118 • (TG)			
Week 3	Day 148	Read Pages 260–261 (to Tracts in th Spinal Cord) • (WHBV1)			
.,					
.,	Day 149	Read Page 261 (from Tracts in th Spinal Cord) • (WHBV1)			

Date	Day	Assignment	Due Date	\checkmark	Grade
	Day 151	Worksheet 50 • Page 120 • (TG)			
	Day 152	Read Pages 262–264 • (WHBV1)			
Week 4	Day 153	Read Pages 265–267 • (WHBV1)			
	Day 154	Worksheet 51 • Page 121 • (TG)			
	Day 155	Worksheet 51 • Page 122 • (TG)			
	Day 156	Read Pages 268–277 • (WHBV1)			
	Day 157	Worksheet 52 • Page 123–124 • (TG)			
Week 5	Day 158	Study Day to Prepare for Quiz			
	Day 159	Unit 3: Quiz 2 • Pages 149–150 • (TG)			
	Day 160	Read Pages 278–279 • (WHBV1)			
	Day 161	Read Pages 280–281 • (WHBV1)			
	Day 162	Worksheet 53 • Pages 125–126 • (TG)			
Week 6	Day 163	Read Page 282 • (WHBV1)			
	Day 164	Read Pages 283–284 (to Hearing) • (WHBV1)			
	Day 165	Worksheet 54 • Page 127 • (TG)			
	Day 166	Worksheet 54 • Page 128 • (TG)			
	Day 167	Read Page 284 (from Hearing) to Page 286 (end of first paragraph) • (WHBV1)			
Week 7	Day 168	Read Page 286 (from start of second paragraph) to Page 287 (Sound) • (WHBV1)			
	Day 169	Worksheet 55 • Page 129 • (TG)			
	Day 170	Worksheet 55 • Page 130 • (TG)			
	Day 171	Read Page 287 (from Sound) to Page 288 • (WHBV1)			
	Day 172	Read Pages 289–291 • (WHBV1)			
Week 8	Day 173	Worksheet 56 • Page 131 • (TG)			
	Day 174	Worksheet 56 • Page 132 • (TG)			
	Day 175	Read Pages 292–301 • (WHBV1)			
	Day 176	Worksheet 57 • Pages 133–134 • (TG)			
	Day 177	Study Day to Prepare for Quiz			
Week 9	Day 178	Unit 3: Quiz 3 • Pages 151–152 • (TG)			
	Day 179	Study Day to Prepare for Test			
	Day 180	Unit 3: Test 3 • Pages 157–158 • (TG)			
		Final Grade			