



Homeschool Psych 2nd Edition
Student Workbook
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Homeschool Psych: Preparing Christian Homeschool Students for Psychology 101
2nd edition
Student Workbook

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***Homeschool Psych: Preparing Christian Homeschool
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Introduction

Introduction

It is right and proper for Christian homeschool students to study the wonders of the mind, the brain, and human behavior. It is crucial, however, that we approach the study of psychology from a Christian worldview perspective. It is crucial that you are equipped to recognize and evaluate the worldview assumptions underlying modern psychology's theories, its schools-of-thought, and its presentation in academia and the culture.

It is crucial that you recognize the worldview assumptions underlying modern psychology's theories and schools-of-thought. There are two overarching goals. 1. You will to recognize psychology-specific worldview issues and 2. You will have a good basic understanding of them to the study of the human mind – a.k.a. God's grandest creation.

Christians studying and psychology have to work a little harder than everyone else. You must think about psychology's content in the context of the Christian worldview. You must wrestle with complex abstract concepts and you must think like a Christian about psychology's concepts, and more importantly, its underlying worldview assumptions. Both Psychology and the Christian worldview are complex topics. In this class you need to prayerfully consider with how they relate to one another. **CRITICAL AND REFLECTIVE THINKING** are crucial. You have to learn to think critically. Throughout the course you should practice critical thinking skills by asking the following questions:

What is the claim?

What are you being asked to believe?

What does the Bible have to say?

What worldview assumptions underlie the claim?

What is the evidence?

Are there alternative ways of interpreting the evidence?

What additional evidence would be helpful in evaluating the claim?

What conclusions are most reasonable?

This is a survey course. As a survey course, we address the main topics generally covered in introductory psychology classes, but we do not delve very deeply into any one topic. There are many excellent resources for going deeper into Psychology's content. This course is not special because of the depth or breadth of its insight into the Christian worldview. There are many excellent resources for digging deep into the Christian worldview – beginning with the Bible. This course is special because it asks you to consider psychology vis a' vis a Christian worldview.

In a course in which you learn lots of little bits and pieces, there's a risk of losing sight of the whole. We are whole persons, more than genetics plus development plus personality plus, plus, plus. Because we are made in the image of God, we are more than the sum of our parts. Let's not forget that. You are more than the sum of your parts.

This Student workbook is divided into two parts. Part Two has answer keys so no peeking. Part One is divided into sections:

Chapter outline
Chapter summary
Learning objectives
Study guide
Short essay questions
Activities & things for discussion
Opportunities for further study
Multiple choice quiz

STUDY GUIDE. The study guide is intended to accompany the textbook – fill in the blanks as you read the material. When you're done, the study guide becomes a study guide – something to review before the quiz.

OPPORTUNITIES FOR FURTHER STUDY: There are countless resources for studying Psychology on the Internet. Hopefully the links are good – check homeschoolpsych.com/student_resources for new links and other resources.

ADVANCE PLACEMENT TESTING: This text is intended to be useful for students studying for the AP Psychology exam, but it should not be your sole source for text preparation. Go to a used bookstore (especially in college towns) and pick up a used AP test guide (I like the Barron's and Princeton Review versions) or CLEP test guide and a used copy of a Psychology 101 textbook by David G. Myers. Dr. Myers is a Christian who writes excellent college-level psychology texts. There's also an on-line dictionary of psychological terms at allpsych.com/dictionary/ and at www.apa.org/research/action/glossary.aspx.

In the free-response section of the AP Psychology Exam, students are asked to answer two essay questions. The questions may require students to interrelate different content areas and to analyze and evaluate psychological constructs and, more generally, theoretical perspectives. Students are expected to use their analytical and organizational skills to formulate cogent answers in writing their essays. See the College Board's AP Psychology Course Description at apcentral.collegeboard.com/apc/public/repository/ap-psychology-course-description.pdf for more information.

Chapter 1 What is Psychology?

It is important to begin the study of psychology by establishing the basics. Chapters 1 – 3 are about the basics. In this class, like every other introduction to psychology, you will learn about psychology's history, theories, and methods. Every introductory psychology class teaches the basics of the brain, learning, development, memory, and so on. But in this class you will consider the worldview assumptions embedded in those topics and theories. In this class you will also compare and contrast modern psychology's worldview assumptions with a Christian worldview.

Students will be able to

- Define and explain what the word “psychology” means.
- Discuss the importance of worldviews in defining psychology and describe how psychology's definition has changed.
- Describe the controversy among Christians about psychology.
- Describe psychology's influence in academia, the culture, and the Christian Church.
- Describe a Christian approach to the study of psychology.
- Describe psychology's goals.
- Describe psychology's subfields and careers.
- Describe modern psychology's major approaches or schools of thought.
- Identify possible career alternatives in psychology.
- Describe areas of potential psychological research on topics of interest to Christians.

Students will be able to define these terms

Affect	Hubris
Behavior	Divisive
Cognition	Heresy
Psyche	Modernism
Dominion	Philosophy
Popular Psychology	Agnosticism
Stigma Freedom Subjective	Atheism
Objective	Determinism
Freedom	Empiricism
Subjective	
Objective	

Short essay questions

1. Define psychology in your own words.
2. Describe reasons that psychology is controversial among Christians today.
3. Explain and provide examples of psychology's influence in the culture and in the Christian Church.
4. Why does the author of the text say that "psychology is not a harmless academic discipline nor is it inherently anti-Christian?"
5. Describe the impact of Darwin's theory of evolution on the study of the psychology.
6. Name and describe five of psychology subfields.
7. What advice does the text offer about a Christian approach to Psychology?
8. The text named four things psychologists do? Name and describe them.
9. The text named five main approaches to psychology. Name and describe them.
10. Describe three helping careers Christians might pursue and the ways that psychology influences those careers.
11. Name the four purposes for psychological research?

For Further Study

Web: Review the Divisions of the American Psychological Association at <http://www.apa.org/about/division/> and visit the homepage for a few of the divisions to explore the extent of psychological topics.

Find word #5590 (psuche) in Strong's Exhaustive Concordance of the Bible (available at [eliyah.com/lexicon.html](http://www.strong.com/lexicon.html)) Review usage of psuche, read verses containing the word, and compare and contrast meanings of psuche.

Video: The Discovering Psychology: Updated Edition learner.org/resources/series138.html is an instructional series on introductory psychology for college and high school classrooms and adult learners comprised of 26 half-hour video programs. The series features demonstrations, classic experiments and simulations, current research, documentary footage, and computer animation and provides students plenty of opportunity to discern the worldview perspectives embedded in Dr. Zimbardo's narration.

Read: Christ, the Lord of Psychology, by Eric L. Johnson from the Journal of Psychology and Theology. Permalink at homeschoolpsych.com/student_resources.

Chapter 1 What is Psychology

Read: Select articles from the Neuroscience & Christianity section of the American Scientific Affiliation at <http://www.asa3.org/ASA/topics/Neuroscience/index.html> where there are a number of resources for further study on the Psychology.

Read: The End of Christian Psychology at psychoheresy-aware.org/endofcp.html by Martin & Deidre Bobgan

Read : All Truth God's Truth? At psychoheresy-aware.org/truth92.html by Martin & Deidre Bobgan.

Read: Christian Psychology - Part I by Dave Hunt at thebereancall.org/node/5949. Hunt describes Christian psychology as the most deadly and at the same time the most appealing and popular form of modernism ever to confront the church.

Read: Christian Psychology - Part II by Dave Hunt at thebereancall.org/node/5950. Hunt describes Christian psychology as cult-like and calls desperately for a return to biblical Christianity.

Read: Biola University's Journal of Psychology & Theology at apps.biola.edu/jpt.

Read: Psychology and Faith, by David G. Myers at davidmyers.org/davidmyers/assets/Psych.and.Faith.pdf.

For Further Discussion

How does the duty to love God with one's mind extend to psychology?

What do the terms freedom, determinism, and responsibility mean to you?

What does the term cultural commission mean and how does the term apply to psychology?

What does it mean to love the Lord your God with all your heart, soul, and mind?

Why is it especially important to wear the full armor of God while studying psychology?

How could failing to recognize the worldview assumptions embedded in psychology's theories lead Christian students to inadvertently compromise their Christian worldview?

Why do many Christian students walk away from their faith after the first year of college?

Chapter 2 A Christian Worldview

There is nothing special about taking a Psychology class. Practically everybody does. What is special about your study is looking at Psychology's content from a Christian perspective. Everyone has core beliefs and assumptions – a worldview. All psychological research and theorizing happen in a worldview context. Ultimately, truth is only discernible from error at the worldview level. The Christian worldview begins with the biblical account of God, creation, the fall, and redemption. A Christian worldview and modern psychology intersect around five questions.

What Do You Believe About God?

What is the nature of Man?

How can we know things with certainty?

Are there moral absolutes?

What are the causes of and the cures for abnormal thoughts, feelings, and behaviors?

Students will be able to

Define “worldview.”

Explain their worldview and explain how it intersects with modern psychology along the five worldview issues.

Describe a Christian view of God and the nature of Mankind.

Define and describe epistemology from a Christian perspective.

Describe a Christian view of moral absolutes.

Describe a Christian perspective of the causes for mental pain and suffering.

Describe the history and influence of naturalism on psychology and other sciences.

Describe the limitations of naturalistic descriptions of Mankind.

Describe the history and influence of Darwinian evolution on psychology.

Name several of the fathers of modern psychology who were atheists.

Define Biblical anthropology.

Define epistemology. Describe a Christian view of knowledge.

Describe the “faith/Science dichotomy” and discuss a Christian view of science.

Describe the phrase “All Truth is God’s Truth” as it relates to a Christian worldview.

Describe general and natural revelation in relation to knowledge about the nature of Man.

Describe empiricism and its limits. 15. Describe the effect of sin on the study of psychology.

Describe the role of sin in a Christian understanding of mental pain and suffering.

Compare a Christian view of sin with moral relativism and humanism.

Study Guide

1. Complicated mental processes like “thoughts” and “feelings” involve complex interactions between the _____, _____, _____, and _____.
2. One’s worldview is a complex system of core _____, _____, and _____.
3. Psychologists don’t often use the word “worldview,” but they do define a _____ as a mental structure used to organize and understand the world around us.
4. The Christian worldview begins with the Biblical account of _____, _____, _____, and _____.
5. Our personal bias and depravity should cause us to maintain a _____ and hold our conclusions _____.
6. Christians studying psychology must be willing to _____ and be willing to _____.
7. A Christian worldview recognizes moral absolutes described _____ and _____ by Jesus Christ.
8. A Christian worldview emphasizes _____ as the primary (if not exclusive) cause of mental and emotional pain.
9. Your worldview of the causes of and cures for mental suffering includes whether you believe that _____, _____, and _____ and guilt have meaning and purpose or are unfortunate circumstances to be avoided at all costs.
10. A Christian view of the nature of Mankind is also called _____. According to a Christian worldview, God reveals Himself in _____, _____, and supremely in _____ His Son.
11. The historical Christian approach to science was that faith and science were _____.
12. The fathers of modern science (many of whom were Christians) saw science as one tool to _____, _____, and to _____.
13. A Christian worldview believes that God reveals things to us in two ways: _____ revelation and _____ revelation.
14. God’s natural and special revelations are parts of an _____ and _____ whole.

Students will be able to define these terms:

Vis-à-vis	God-likeness
Psyche	Naturalism
Mind	Popular Psychology
Soul	Freedom vs. Determinism
Theism	Heridity vs. Environment
Epistemology	The Self
Faith/science dichotomy	Cultural Commission

Short essay questions

1. What is a worldview?
2. What is epistemology?
3. What is natural revelation? What is special revelation?
4. What do you believe about God?
5. What do you believe about the nature of Mankind?
6. What do you believe about moral absolutes?
7. What do you think causes mental pain and suffering?
8. Describe a monistic, dualistic, and tripartite view of human nature.
9. Describe the faith/science dichotomy. Do you believe there is a dichotomy between science and a Christian worldview? Explain your answer.
10. Have your thoughts and opinions about psychology and worldviews changed?

For Further Study

Read: The Spheres of Revelation and Science. What Are Their Limitations in Relation to Each Other? Clark, R. E. (1953) in The Journal of the American Scientific Affiliation at asa3.org/ASA/PSCF/1953/JASA6-53Clark.html

Web: Historical Studies of Science and Christianity asa3.org/ASA/topics/history/index.html

Read: How Sin Affects Scholarship: A New Model by Stephen K. Moroney at asa3.org/ASA/topics/ethics/CSRSpring-1999Moroney.html

Web: Summit Ministries summit.org/

For Further Discussion

How does psychology “fit” in your worldview?

Is psychology a dangerous rival religion?

What other core beliefs are parts of your Christian worldview (i.e. the family, sexuality, dancing)?

Is this statement true or false? Support your answer. “The foundational beliefs of a Christian worldview, of an atheist’s worldview, and of a psychology professor’s worldview are matters of faith and philosophy and not of data and science.”

Do we have a mind that is greater than the sum of our brain activity?

Why do Christians disagree about whether extra-biblical techniques are proper approaches to caring for mental suffering?

How does God use guilt, pain, and suffering as tools to conform Christians to Christ’s image?

In what ways are we like the animals physically? In what ways are we like animals mentally?

In what ways are we different from the animals?

Describe a monistic, dualistic, and tripartite perspective on human nature. Differentiate between naturalistic monism and Christian monism.

What do you believe about God?

What do you believe about the nature of Mankind? Are we products of nature or nurture? Is human behavior determined, or are we free to make willful choices? Are people basically good or bad?

What do you believe about moral absolutes?

Is “all truth God’s Truth?”

Why do many people believe that a Christian worldview and science are inherently in conflict?

How does Biblical theism provides the foundation of science (and therefore of psychology)?

Using Romans 1:25 as your guide, respond to this statement; “Christians should reject any use of natural science methods to understand Mankind.”

Pelagianism is a theological doctrine proposed by Pelagius, a British monk, and condemned as heresy by the Roman Catholic Church in A.D. 416. It denied original sin and affirmed the ability of humans to be righteous by the exercise of free will. Compare and contrast Humanism with Pelagianism then contrast each with the Biblical concepts of justification and sanctification.

Chapter 3 Psychology's History and Worldview

Psychology is old and psychology is new. Poets, theologians, philosophers, and high school students throughout history have thought deeply about their own mind. A worldview approach to history of Psychology mean understanding the important psychological discoveries and recognizing the worldview assumptions underlying major theories and school of thought.

Students will be able to:

Describe Cartesian Dualism.

Describe the emergence of experimental psychology.

Describe the study of psychology pre-dating the establishment of modern scientific psychology.

Describe examples of ancient psychological research and theories.

Describe the development of psychology as an empirical science.

Describe phrenology.

Trace the history of psychology through each of its five major schools-of-thought.

Describe Sigmund Freud's worldview on the nature of Man and contrast his view with a Christian view.

Describe Freudian/psychodynamic psychology.

Describe behaviorism and radical behaviorism's claims about the nature of Mankind and contrast behaviorism with a Christian view.

Describe the structuralists.

Explain the contribution of Dr. Charles Bell, Franz Gall, Gustave Fechner, Wilhelm Wundt, Edward Titchener to the development of modern psychology.

Describe reductionism and its implications on the nature of Mankind.

Describe the functionalists.

Describe the influence of Herbert Spencer, Charles Darwin, and William James on modern psychology.

Summarize the theory of evolution as applied to human behavior and mental processes.

Compare and contrast the worldviews underlying Behaviorism and Freudian psychology.

Describe humanism and contrast humanism's beliefs about the nature of Man with a Christian view.

Define self-esteem. Evaluate "selfism" in comparison to Biblical anthropology.

Describe cognitive psychology.

Describe neuro-biology

Describe various explanations for mental illness in terms of underlying worldview assumptions.

Chapter 3 Study Guide

1. Many of the “fathers” of modern psychology saw their theories as _____ to or _____ of Biblical understandings of Mankind.
2. Most histories say modern scientific psychology was founded in what year?
3. Who is recognized as the father of modern scientific psychology?
4. Each of psychology's models, schools of thought, and approaches represents alternative worldviews of _____.
5. Throughout history people have suggested locations and organs where the _____ (spiritual) interacted with the _____ (body).
6. Descartes did not reject _____ but believed that _____ was a crucial measure of truth.
7. Rationalists emphasize _____ over sensory experience or religious teachings.
8. Descartes believed that there are two types of human behavior that operate in interaction. Name them and provide examples of each.
9. Descartes believe that our material and immaterial natures interacted at the _____ (pineal gland).
10. Descartes theorized that sensations and voluntary movement operated in a cycle that came to be known as the _____.
11. Modern psychology rejects Descartes' dualism in favor of _____, a belief that there is no immaterial mind or soul.
12. The Greek doctor and philosopher Galen thought that personality types were determined by levels of body fluids called _____.
13. Francis Bacon's philosophy of knowledge is called _____.
14. According to Francis Bacon, by making _____ we can draw conclusions about the world.
15. Early modern psychology embraced _____ as its guiding principle, and it is its primary approach today.
16. Strict empiricism only allows psychology to study our creatureliness and reveals only sterile facts void of any meaningful contribution to what it means to be human

17. _____ is the study of the physics of sensation and perception.
18. _____, thought by some to be the real father of modern scientific psychology, was one of the very first to apply scientific procedures to mental processes in his study of psychophysics.
19. _____, generally known as the founder of scientific psychology, established a psychology laboratory at the University of Leipzig in Germany in 1879.
20. Wundt's interest was _____. His goal was to identify the components (elements) of consciousness in a type of periodic table of mental elements.
21. Wundt's experimental method called _____, meaning trained subjects looked inward to describe subjective mental experiences.
22. _____, now discredited, suggested that the shape of the skull indicated a person's character and personality.
23. Modern psychology's _____ assumptions led its definition "evolving" from "the study of the mind, spirit, or soul" to "the science of the brain and behavior."
24. Charles Darwin anticipated that psychology's new foundation would be the "acquisition of each mental power and capacity by _____."
25. Darwin's theory requires that psychology explain and interpret everything about mental functioning in terms of _____ passed down from one generation to the next according to _____.
26. _____ focused on discovering what adaptive purpose the brain structures served; what survival advantage did a particular behavior or mental function provide.
27. Modern psychology sees in evolution a _____ and a reason for all behavior and mental processes.
28. Evolutionary psychologists search for the _____ and _____ causes of behavior. _____, also called psychobiology, is the study of the nervous system's structures and processes and is the most productive research field in psychology today.
29. Modern neurobiology is _____, meaning means that each mental structure and behavior is thought to be made of ever simpler component structures and behaviors.
30. Francis Crick, co-discoverer of DNA, proposed that our mental life, consciousness, morality, decision-making, and judgment are the product of a material physical brain in what is called the _____.
31. The goal of behaviorial psychology is to explain the _____.

32. According to Skinner and Pavlov, both “radical behaviorists,” ALL human behavior is determined by the environment in a _____.
33. Behaviorism is a _____ worldview in which free-will is an illusion.
34. From the perspective of the history of psychology, Freud's theories and behaviorism were _____.
35. Freud believed in a _____ (Id, Ego, and Super ego), and that we are not consciously aware of most of the factors that influence our emotions and behavior.
36. Freud believed that Man invented God and religion as a way to cope with our _____.
37. A _____ approach to psychology emphasizes the ways we process information and is a dominant school of thought in psychology today.
38. _____ is a philosophy that values values, reason and individual self-worth above all else.
39. Humanist psychology claims that people in their “_____” are inherently good and that in accepting and nonjudgmental environments; we can recover that original goodness.
40. _____ means achieving personal fulfillment and full potential as determined by humanistic values.
41. A Christian worldview sees personal fulfillment and full potential in terms of the extent to which we look like _____.
42. Humanistic psychology, which rejected the determinism in Freudian and behavioral approaches, was also known as psychology's _____.
43. The popular perspective that people should feel good about themselves, learn to love themselves, and rid themselves of needless shame and guilt is known as _____, _____, and most recently, positive psychology.
44. In positive psychology, a new “branch” of psychology, _____, _____, _____, _____, and _____ define what it means to be human.
45. A Christian worldview emphasizes _____ as the primary (if not exclusive) cause of mental and emotional pain; modern psychology attributes it to anything but _____.
46. Psychology's naturalistic foundation requires that mental pain and suffering be explained in terms of anything except _____ and _____.
47. Modern psychology's leading explanation for mental pain and suffering is neurobiological, known as the _____ of mental illness.

48. _____ is the application of a naturalistic worldview to ethics and personal responsibility.

49. _____ is humanistic worldview focused on helping women achieve self-actualization, as defined by humanist values, in a male dominated world.

Students will be able to explain these key concepts & people

Naturalism	Structuralism
Atheism	Herman von Helmholtz
Church authority	Introspection
The Reformation	Charles Bell
Martin Luther	Edward B. Titchener
Rationalism	Charles Darwin
Renee Descartes	Evolutionary psychology
Deductive reasoning	Functionalism
Monism	Herbert Spencer
Cartesian dualism	William James
The conarium	Proximate and ultimate cause
Reflex arc	Neuro-biology
Empiricism	Reductive (reductionism)
Francis Bacon	Francis Crick: The Astonishing
Inductive reasoning	Hypothesis
Hippocrates	Behavioral Genetics
Four humors	Francis Galton
Wilhelm Wundt	Behaviorism
Phrenology	Sigmund Freud
Franz Gall	Cognitive psychology
Psychophysics	Humanism
Paul Broca	Self psychology
Gustav Fechner	Abnormal thoughts, feelings, and behaviors
	Feminist psychology

Short essay questions

What is Cartesian dualism?

How did a naturalistic worldview effect modern psychology?

How did rationalism contribute to the development of modern psychology?

How did empiricism contribute to the development of modern psychology?

What are some criticisms of modern psychology's reliance on empirical methods?

Chapter 3 Psychology's History and Worldview

What is phrenology and how are phrenology and modern neurobiology similar?

How did Sigmund Freud's view of Mankind differ from a Christian view?

What were radical behaviorism's assumptions about the nature of Mankind?

What were the influences of Herbert Spencer, Charles Darwin, and William James on modern psychology?

In what ways is secular humanism inconsistent with a Christian worldview?

For Further Study

Web: History of Psychology, in conjunction with Dr. Donald Pozella of the University of Dayton at elvers.us/hop/welcome.asp

Read: the affirmations of the Humanist Manifesto I at the American Humanist Association at americanhumanist.org/Who_We_Are/About_Humanism/Humanist_Manifesto_I

Read about ancient philosophers' influence in the history of psychology.

Democritus at iep.utm.edu/democrit/

Epicurus at iep.utm.edu/epicur/

Galen at iep.utm.edu/galen

Read Marko Marulic -The Author of the Term "Psychology" at psychclassics.yorku.ca/Krstic/marulic.htm

Read John Locke – An Essay Concerning Human Understanding at gutenberg.org

David Hume – An Enquiry Concerning Human Understanding at gutenberg.org

Read Gustav Fechner -- Elements of Psychophysics at psychclassics.yorku.ca/Fechner/

Read: Sigmund Freud: Psychoanalyst from Time Magazine at time.com/time/magazine/article/0,9171,990609,00.html

Web: Classics in the History of Psychology an internet resource at psychclassics.yorku.ca/links.htm

Web: The Center for Evolutionary Psychology psych.ucsb.edu/research/cep/

Read: Darwin's Dirty Secret by Nancy R. Pearcey from World Magazine 3/13/2000 at leaderu.com/orgs/arn/pearcey/np_world-rape0300.htm

Read: Non-bizarre delusions as strategic deception, by Edward H. Hagen. Hagen suggests that delusion are an evolved adaptive survival benefit at anthro.vancouver.wsu.edu/media/PDF/Delusions_revised_Aug_2007.pdf

Read: Evolutionary Psychology: Controversies, Questions, Prospects, and Limitations at homepage.psy.utexas.edu/homepage/Group/BussLAB/pdffiles/evolutionary_psychology_AP_2010.pdf

Web: History of Psychology at elvers.us/hop/welcome.asp

Read: Leaving Psychology Behind, by Paul Vitz at summit.org/resources/essays/leaving-psychology-behind/

Web: The Psychology of Religion pages at psywww.com/psyrelig/

For Further Discussion

Based on your knowledge of Charles Darwin's Origin of Species and its implications on modern biology, write an essay in which you discuss how evolutionary theory influences modern psychology.

Is psychology old or is it new? Explain your answer.

Do a web search of the following phrases: Social Darwinism, Economic Darwinism, Political Darwinism, Legal Darwinism, Educational Darwinism. Based on your observations of the application of Darwinian evolution to sociology, economics, politics, the law, and education, write an essay describing how Darwinian evolution might influence psychology.

What are the limits of the biological and behavioral perspectives on explaining human behavior and mental processes?

What is the nature of the human "heart" as described in Acts 14:17, Romans 9:2, Matthew 5:28, Luke 24:32, John 12:40, Matthew 9:4, Matthew 13:15, Acts 2:37, Acts 11:23 and Romans 10:10. Why was phrenology condemned by some Christians as heretical?

Compare and contrast Descartes' rationalism and Francis Bacon's empiricism.

How might psychologists explain aggression from behavioral, psychodynamic, humanistic, and Christian perspectives?

Chapter 4 Brain and Nervous System

The human brain is the most complex and highly coordinated structure in the known universe. It is a wonder of God's creation. The study of the brain and the nervous system is called neuro-psychology, neuro-anatomy, and neuro-biology and you could spend a lifetime studying it. Neuro-scientists make new discoveries every day that help understand and care for the brain. Every part of our life, everything we do and everything know and experience in this life involves the brain and nervous system. Everything, from memories, to hunger, to sleep, dreams, temperature regulation, and your heart beat involves the brain and nervous system.

Students will be able to:

Describe the structure and function of the neuron

Recognize that specific functions are centered in specific lobes of the cerebral cortex

Describe the organization of the nervous system

Describe the function of the CNS, PNS, and the sympathetic and parasympathetic systems

Describe techniques for studying the brain

Describe the function of the endocrine system and how the endocrine glands are linked to the nervous system

Classify the major divisions and subdivisions of the nervous system

Differentiate the functions of the various subdivisions of the nervous system

Identify the structure and function of the major regions of the brain

Describe lateralization of brain functions

Describe the divisions of the brain

Identify and describe the cerebrum, cerebellum, and medulla

Describe how brain injury contributed to our understanding of brain function

Describe how brain stimulation studies contributed to our understanding of brain function

Describe how imaging contributes to our understanding of brain function

Describe lobotomy

Study Guide

1. The near-infinite complexity of the brain represents the single biggest _____ necessary to hold an evolutionary worldview.
2. The nervous system. The human nervous system consists of two sub-systems; the _____ and the _____.
3. The _____ is the most basic building block of the nervous system.
4. Neurons differ from other cells in that they communicate with each other via specialized extensions called _____ and _____.
5. The axon is covered in a fatty covering that insulates it and speeds neurotransmission call the _____.
6. _____ neurons carry signals from the sense receptors in the body to the brain.
7. _____ neurons carry signals from the brain and spinal cord to the muscles and glands.
8. _____, exist exclusively in the brain and spinal cord, make up about 90% of all neurons, and make the connection between sensory and motor neurons and are involved in all mental activity.
9. _____ support neural functioning by digesting dead neurons, producing the myelin sheathing, and providing nutrition to neurons.
10. The process by which neurons communicate is known as _____.
11. When a neuron is sufficiently excited, it “fires,” sending an _____ down the axon.
12. The _____ is the minimum level of excitement required for the neuron to fire.
13. The recovery time after firing is called the _____.
14. Psychotropic medications affect the _____ of neurotransmitters or the way in which neurotransmitters are _____.
15. _____ make more of a neurotransmitter available in the synapse. _____ decrease the amount of available neurotransmitter or blocks it from delivering its signal.
16. Neurotransmitters must cross the _____ between the axon of one neuron and the dendrite of another.
17. _____ neurotransmitters increase the likelihood that neighboring neurons will fire. _____ neurotransmitters lower the likelihood that others will fire.
18. A _____ is a poison that acts specifically on nerve cells.

19. The _____ controls voluntary and involuntary muscle movement, sensory information, and automatic functions of the body.
20. The _____ nervous system controls smooth muscles in places like the stomach, intestines, blood vessels, glands, and the bladder.
21. The autonomic nervous system is further subdivided into the _____, _____, and _____ nervous systems.
22. The _____ system creates an excited state and mobilizes the body for action by accelerating some functions and accelerating others.
23. The _____ parasympathetic system acts like a brake and restores the body to a state of rest and relaxation by slowing heart and respiration rates, diverting blood flow from the muscles, and restarting the digestive process.
24. The _____ nervous system is a network of nerve fibers in the stomach, intestines, pancreas, and gall bladder controlling the digestive process.
25. That portion of the temporal frontal lobe responsible for speech production is known today as _____.
26. Brain-related disorders in speech are known as _____.
27. The result of a cut-off of blood supply to a part of the brain is called a stroke, or _____.
28. A type of brain surgery involving cutting the connections to the prefrontal cortex with an instrument inserted into the brain through the eye socket is called _____.
29. _____ and _____ are brain-imaging techniques that produce real-time three-dimensional images of blood flow, oxygen use, drug activity, and glucose metabolism in specific regions of the brain.
30. _____ is a brain-imaging technique that can produce a precise image of brain activity as fast as every second.
31. The _____ is a membrane that lets some substances from the blood into the brain but keeps out toxins.
32. The term _____ refers to the idea that certain parts of the brain are responsible for specific mental functions.
33. The text described the brain in terms of three major divisions or parts called _____, _____, and _____.
34. As the brain develops, it folds into deep wrinkles called _____, allowing for more brain surface area to fit in the limited space in the skull.

35. The outer layer of the forebrain, called the _____ contains the majority of the brain's neurons and is involved in "higher-order" functions like language and reasoning.
36. A deep fissure called the _____ splits the cerebral cortex down the middle into the left and right hemispheres.
37. The left and right hemispheres are connected by a dense bundle of nerve fibers called the _____ which allows the two halves of the brain to communicate.
38. _____ refers to the different roles each hemisphere plays in mental functioning.
39. Handedness (being left-handed or right-handed) is a function of the _____ of the opposite cerebral hemisphere.
40. Visual processing is localized in _____ at the back of the brain.
41. The frontal lobe is related to _____ like attention, organization, planning, judgment, problem solving, and creativity.
42. The _____ controls the pituitary gland and other endocrine glands, plays a major role in the autonomic nervous system, and controls body temperature, hunger, and thirst.
43. The _____ is an almond shaped structure located deep in the temporal lobes that plays a role in fear and other emotions, learning, memory, attention, and perception.
44. The _____ is a seahorse shaped structure in the temporal lobe involved in processing memories, emotion, and spatial navigation.
45. The _____ is the second largest structure in the brain and is involved in movement, co-ordination, balance, and motor related memory.
46. The _____ is a general term for the area of the brain responsible for basic functions of life such as breathing, heart rate and blood pressure.
47. The _____ is a mesh-like network of neurons involved in sleep and consciousness, arousal and attention, coordinating signals from the senses, and in pain modulation.
48. _____ refers to the lifelong process of creating, pruning, and reorganizing neural connections.
49. The _____ system is a collection of glands that secrete hormones into the blood stream.
50. The thalamus, hypothalamus, amygdala, and hippocampus make up the _____, which plays an important role in our sense of smell and in memory and emotion.

Students will be able to explain these key concepts & people

Neuro-psychology	Localization of functioning
Nervous system	Phineas P. Gage
Central nervous system	Galen
Peripheral nervous system	Franz Gall
Somatic division	Cortical mapping
Autonomic division	Cerebral cortex
Sympathetic nervous system	Thalamus
Parasympathetic nervous system	Hypothalamus
Sensory neurons	Amygdala
Motor neurons	Hippocampus
Interneurons	Bi-lateral symmetry
Neurotransmission	Hemispheric specialization
Peter Milne	Brain lateralization
James Olds	Brain plasticity
Walter Penfield	Brain imaging
Phrenology	Endocrine system
Blood-brain barrier	Limbic system
	Neurotransmitters

Short essay questions

1. Identify the major divisions of the nervous system.
2. What are the major structures of the neuron?
3. Name the three types of neurons and describe their functions.
4. Describe neurotransmission, both within the neuron and between neurons.
5. Name and describe the three subsystems of the peripheral nervous system.
6. Respond to the following statement from a Christian worldview perspective. "All mental experience is nothing more than brain activity."
7. Describe important historical discoveries about the structure and function of the brain.
8. Discuss the case of Phineas P. Gage as an example of how brain injuries led to knowledge about brain function.
9. Describe the psycho-surgery known as the frontal lobotomy.

10. Name and describe five brain imaging techniques.
11. Identify and describe the midbrain, forebrain, and hindbrain.
12. Identify 4 lobes of the cerebral cortex.
13. Describe hemispheric specialization.
14. Describe brain lateralization.
15. Describe “the god spot” from a naturalistic perspective and from a Christian perspective.

For Further Study

1. Read: The Human Nervous System: Evidence of Intelligent Design [Part I]
<http://www.apologeticspress.org/apcontent.aspx?category=12&article=1581>
by Brad Harrub, Ph.D at Apologetics Press
2. Read: The Human Nervous System: Evidence of Intelligent Design [Part II]
<http://www.apologeticspress.org/apcontent.aspx?category=12&article=1697>
by Brad Harrub, Ph.D. at Apologetics Press
3. Read: Mind Life <http://www.asa3.org/ASA/PSCF/2001/PSCF6-01Glanzer.html>
by P. David Glanzer at The American Scientific Affiliation
4. Web: Disorder Index http://www.ninds.nih.gov/disorders/disorder_index.htm
National Institute of Neurological Disorders and Stroke.
5. Video: The Lobotomist <http://www.pbs.org/wgbh/americanexperience/films/lobotomist/>
American Experience on PBS.
6. Web: The Divisions of the Nervous System Neuroscience for Kids, Eric H. Chulder, PhD.
<http://faculty.washington.edu/chudler/nsdivide.html>
7. Web: Neuroscience for Kids Eric H. Chulder, PhD.
<http://faculty.washington.edu/chudler/introb.html>
8. Web: The Wada Test http://www.epilepsy.com/epilepsy/surgery_wada at Epilepsy.com.
9. Read: The Split Brain Experiments at Nobel.org.
http://nobelprize.org/educational_games/medicine/split-brain/background.html
10. Web: Neuroscience Online <http://nba.uth.tmc.edu/neuroscience/>
An electronic textbook for the neurosciences. University of Texas.

11. Read: Phineas Gage's Story at Deakin University

<http://www.deakin.edu.au/hmnbs/psychology/gagepage/Pgstory.php>

12. Video: Kim Gorgens: Protecting the brain against concussion, at TED.

http://www.ted.com/talks/kim_gorgens_protecting_the_brain_against_concussion.html

13. Read: Damaged, by Malcom Gladwell, from The New Yorker

gladwell.com/pdf/damaged.pdf.

What are the article's implication for understanding free will and moral responsibility?

14. Read: Is God and Accident? By Dr. Paul Bloom from The Atlantic.

<http://www.theatlantic.com/magazine/archive/2005/12/is-god-an-accident/4425/>

15. Read: Religion: Is God in our Genes?

<http://www.time.com/time/magazine/article/0,9171,995465-1,00.html>

By Jeffery Kluger from Time Magazine.

16. Read about brain activity in frozen Artic Salmon – a critique of neuromania. On permalink at www.homeschoolpsych.com/student_resources or listen to it on NPR at

<http://www.npr.org/2012/09/22/161604476/study-on-dead-fish-thoughts-snags-ig-nobel-prize>

For Further Discussion

Respond to this statement; “though experiencing God may correlate with brain activity, it does not disprove or diminish the experience.”

Why do you think that Phineas Gage's accident was such an important event in the history of psychology?