

CHAPTER 1: What Is Physical Anthropology?

MULTIPLE CHOICE

1. Before AD 1000 what did the people of St. Catherines Island eat?
 - a. They ate wild animals, fish, and wild plants.
 - b. They ate bison and salmon.
 - c. They were vegetarians and ate wild plants exclusively.
 - d. They ate mostly fruit.

ANS: A DIF: Easy

OBJ: 1B. Characterize the importance of the biocultural approach to anthropological inquiry.

TOP: 1.Intro MSC: Remembering

2. After AD 1000, the people of St. Catherines Island acquired corn agriculture, and farming became the mainstay of their diet. What physical changes did this cause?
 - a. They became taller and better nourished, and signs of disease nearly disappeared.
 - b. While people became generally larger in size and healthier, the corn diet caused more dental disease.
 - c. Their bodies became more fit because they had less work to do in acquiring food and could exercise in other ways.
 - d. They became shorter and had smaller skulls and limb bones, more dental disease, and more infections.

ANS: D DIF: Moderate

OBJ: 1B. Characterize the importance of the biocultural approach to anthropological inquiry.

TOP: 1.Intro MSC: Understanding

3. What can be learned from studying a population through time?
 - a. We can learn that lifestyles do not change over time.
 - b. We can learn that diets, and therefore human biology, change through time.
 - c. We can learn that consuming the wrong foods over time does little to population health.
 - d. We can learn that human physiology does not change through time.

ANS: B DIF: Moderate

OBJ: 1B. Characterize the importance of the biocultural approach to anthropological inquiry.

TOP: 1.2 What Is Physical Anthropology? MSC: Understanding

4. Which aspects of humans do physical anthropologists focus on?
 - a. the role of culture in shaping human behavior
 - b. human physiology as observed in laboratory studies
 - c. human biology and behavior in the past and present
 - d. the processes behind human behaviors as revealed by artifacts

ANS: C DIF: Moderate

OBJ: 1A. Explain the differences and similarities among the four branches of anthropology and understand what it means to say physical anthropologists practice an interdisciplinary science.

TOP: 1.2 What Is Physical Anthropology? MSC: Understanding

5. Physical anthropologists view how humans come to be the way they are as the result of:
 - a. their biological makeup.
 - b. both evolutionary history and their own individual life histories.
 - c. their genes; their environment has very little effect.
 - d. their environment; their genes have very little effect.

ANS: B DIF: Moderate
OBJ: 1B. Characterize the importance of the biocultural approach to anthropological inquiry.
TOP: 1.2 What Is Physical Anthropology? MSC: Understanding

6. Which of the following is a good description of what physical anthropologists do?
- a. work in the laboratory to understand the genetic relationships among different groups of mammals
 - b. seek out and excavate sites that have fossil evidence of dinosaurs and other extinct species
 - c. live with various groups of people for extended periods of time, to learn their language and customs
 - d. use bones and other materials to study a diversity of ancient and living human populations and primates

ANS: D DIF: Moderate
OBJ: 1D. Identify several different research areas in physical anthropology.
TOP: 1.2 What Is Physical Anthropology? MSC: Understanding

7. Primates are a group of mammals that have:
- a. fingernails and forward-facing eyes.
 - b. no fingernails and a long snout.
 - c. complex behavior and small brains.
 - d. simple behavior and varied forms of locomotion.

ANS: A DIF: Moderate
OBJ: 1D. Identify several different research areas in physical anthropology.
TOP: 1.2 What Is Physical Anthropology? MSC: Remembering

8. Physical anthropologists study what type of science?
- a. astrological
 - b. biological
 - c. social
 - d. biological and social

ANS: D DIF: Moderate
OBJ: 1A. Explain the differences and similarities among the four branches of anthropology and understand what it means to say physical anthropologists practice an interdisciplinary science.
TOP: 1.2 What Is Physical Anthropology? MSC: Remembering

9. What activity does bipedalism in primates describe?
- a. walking on two feet
 - b. walking on four feet
 - c. walking using two legs and a tail
 - d. swinging from branch to branch

ANS: A DIF: Moderate
OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals.
TOP: 1.3 What Makes Humans So Different from Other Animals?
MSC: Remembering

10. Which of the following key attributes of human uniqueness developed after 10,000 to 11,000 years ago?
- a. bipedalism
 - b. dependence on domesticated food
 - c. complex material culture
 - d. nonhoning chewing

ANS: B DIF: Moderate
OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals.
TOP: 1.3 What Makes Humans So Different from Other Animals?
MSC: Remembering

11. What makes it possible for humans to accumulate an amazing amount of information over long periods of time?
- a. social learning
 - b. education
 - c. social media
 - d. mimicry

ANS: A DIF: Moderate

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Understanding

12. Through which of the following activities do archaeologists differentiate themselves from other anthropologists?
- a. studying primate evolution
 - b. devoting most of their efforts to recovering artifacts and building museum collections
 - c. studying past human societies by focusing mostly on their material remains
 - d. primarily studying the evolution of language

ANS: C DIF: Moderate

OBJ: 1A. Explain the differences and similarities among the four branches of anthropology and understand what it means to say physical anthropologists practice an interdisciplinary science.

TOP: 1.1 What Is Anthropology? MSC: Remembering

13. An archaeological field school is announced in your anthropology course. The description says that you will travel to Belize to learn about the lives of the ancient Mayans. What, primarily, do you expect to learn during this field school?
- a. what species of nonhuman primate occupies this region
 - b. how current populations of immigrants have changed local dialects
 - c. how to excavate and study material culture
 - d. how to socially navigate life in a Central American setting

ANS: C DIF: Moderate

OBJ: 1A. Explain the differences and similarities among the four branches of anthropology and understand what it means to say physical anthropologists practice an interdisciplinary science.

TOP: 1.1 What Is Anthropology? MSC: Analyzing

14. Which of the following is true about the scientific method?
- a. It relies on making hunches about the natural world.
 - b. It involves empirical data collection and hypothesis testing.
 - c. It is used to support preconceived notions or theories.
 - d. It seeks to establish the absolute scientific truth.

ANS: B DIF: Moderate

OBJ: 1F. Explain the four steps involved in “doing science” (i.e., the scientific method).

TOP: 1.4 How We Know What We Know - The Scientific Method

MSC: Understanding

15. What is a hypothesis?
- a. the same thing as a theory
 - b. a testable statement that could potentially explain specific phenomena observed in the natural world
 - c. a statement that concerns scientific facts assumed to be true
 - d. a statement unable to be refuted by future investigations

ANS: B DIF: Moderate OBJ: 1G. Distinguish between hypotheses and theories.

TOP: 1.4 How We Know What We Know - The Scientific Method

MSC: Understanding

16. There is a hypothesis that the origin of human bipedalism was linked to a shift from life in the trees to life on the ground in the grasslands of Africa. Which of the following is true about this hypothesis?
- It has been upheld by subsequent scientific data on human origins.
 - It was developed in consultation with genetic and fossil evidence.
 - It has been rejected recently subsequent to new fossil evidence.
 - It has become a scientific law.

ANS: A DIF: Moderate OBJ: 1G. Distinguish between hypotheses and theories.

TOP: 1.4 How We Know What We Know - The Scientific Method

MSC: Remembering

17. How is biocultural anthropology different from cultural anthropology?
- Biocultural anthropology combines cultural studies with archaeology.
 - Biocultural anthropology studies the interrelationship between culture and what humans have inherited genetically. Cultural anthropology studies diverse cultures and societies.
 - It is strictly a biological science.
 - It considers culture to be a byproduct of our biological histories.

ANS: B DIF: Moderate

OBJ: 1B. Characterize the importance of the biocultural approach to anthropological inquiry.

TOP: 1.1 What Is Anthropology? MSC: Analyzing

18. Why is bipedalism considered one of the hallmarks of hominid evolution?
- It was the first evolutionary development that distinguished humans from other animals.
 - It was possible only after the advent of simple material culture.
 - It followed brain expansion in human evolution.
 - It allowed hominids to come out of the trees and make tools 10 mya.

ANS: A DIF: Moderate

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Understanding

19. How is a theory different from a hypothesis?
- A hypothesis explains observations and cannot be refuted by new evidence.
 - A theory is an explanation based upon controversial facts.
 - A theory is an explanation that has been carefully examined and tested.
 - A theory has been less thoroughly tested than a hypothesis.

ANS: C DIF: Easy OBJ: 1G. Distinguish between hypotheses and theories.

TOP: 1.4 How We Know What We Know - The Scientific Method

MSC: Understanding

20. Why is the hyoid bone important to the study of anthropology?
- It is found only in carnivores.
 - It is found only in organisms with speech.
 - It provides information about the vocal structure of hominins.
 - Through careful measurement, it can differentiate between individuals with a corn-based diet versus those with a hunter-gatherer diet.

ANS: C DIF: Moderate

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Remembering

21. Which of the following is Franz Boas known for?
- his early influence on Darwin's theory of natural selection
 - his understanding of environment and biology as insignificant in the study of human cultures
 - his inability ever to conduct his own fieldwork, curiously
 - his union of the study of culture, language, and biology, and the founding of American anthropology

ANS: D DIF: Moderate

OBJ: 1C. Explain how Franz Boas's research contributed to the development of the four branches of anthropology. TOP: 1.2 What Is Physical Anthropology?

MSC: Remembering

22. Franz Boas studied which of the following?
- the Inuit (Eskimos) of Baffin Island
 - the townspeople of Minden, Germany
 - the farmers of St. Catherines Island
 - the chimpanzees of Gombe, Tanzania

ANS: A DIF: Moderate

OBJ: 1C. Explain how Franz Boas's research contributed to the development of the four branches of anthropology. TOP: 1.2 What Is Physical Anthropology?

MSC: Remembering

23. To be called a forensic anthropologist, what must a scientist do?
- focus on skeletal analysis of individuals
 - study skeletal remains from past human populations
 - study the evolution of human skeletal traits
 - work primarily with soft tissue, as opposed to bone and teeth

ANS: A DIF: Moderate

OBJ: 1D. Identify several different research areas in physical anthropology.

TOP: 1.2 What Is Physical Anthropology?

MSC: Understanding

24. What were people on St. Catherines Island like just before the arrival of the Spanish?
- They were primarily fishermen.
 - They were hunter-gatherers.
 - They became the first farmers of the region.
 - Their health had been worse before the Spanish arrived.

ANS: C DIF: Moderate

OBJ: 1B. Characterize the importance of the biocultural approach to anthropological inquiry.

TOP: 1.Intro

MSC: Remembering

25. What about a disadvantaged social environment would physical anthropologists focus on in their research?
- minimal access to communication technology
 - the lack of a sophisticated transportation system
 - poor-quality nutrition available to infants and children

d. poor literacy rates

ANS: C DIF: Moderate

OBJ: 1B. Characterize the importance of the biocultural approach to anthropological inquiry.

TOP: 1.2 What Is Physical Anthropology? MSC: Analyzing

26. There are six aspects of humanity that together define humans as different from other primates. Of these, which are unique to humans and not found in other primates?

- a. speech and arboreal life
- b. the use of material culture and the loss of a honing canine
- c. hunting as a way of getting food
- d. domestication of plants and animals

ANS: D DIF: Moderate

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Understanding

27. The study of physical anthropology varies in that some physical anthropologists study:

- a. the potential for life on other planets.
- b. the disappearance of languages as small groups are assimilated into larger groups.
- c. extinct and living species of primates.
- d. changes in marine life.

ANS: C DIF: Moderate

OBJ: 1D. Identify several different research areas in physical anthropology.

TOP: 1.2 What Is Physical Anthropology? MSC: Analyzing

28. What makes us human?

- a. physiology, culture, and planning
- b. biology, culture, and religion
- c. physiology, behavior, and religion
- d. biology, culture, and behavior

ANS: D DIF: Easy

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Remembering

29. Why is physical anthropology considered an interdisciplinary science?

- a. A specific set of disciplines, including anatomy and linguistic studies, are required of all students who intend to go into this discipline.
- b. Compared to other areas of science, physical anthropology is one of the largest fields.
- c. Physical anthropologists often incorporate other fields of study such as chemistry or geology to facilitate their research.
- d. Physical anthropology comprises four different branches: bioanthropology, archaeology, cultural anthropology, and linguistics.

ANS: C DIF: Moderate

OBJ: 1A. Explain the differences and similarities among the four branches of anthropology and understand what it means to say physical anthropologists practice an interdisciplinary science.

TOP: 1.2 What Is Physical Anthropology? MSC: Remembering

30. What are the four branches of anthropology?

- a. archaeology, geology, geography, and biology
- b. physical anthropology, biological anthropology, cultural anthropology, and linguistic anthropology

- c. cultural anthropology, linguistic anthropology, geology, and physical anthropology
- d. physical anthropology, archaeology, cultural anthropology, and linguistic anthropology

ANS: D DIF: Moderate

OBJ: 1A. Explain the differences and similarities among the four branches of anthropology and understand what it means to say physical anthropologists practice an interdisciplinary science.

TOP: 1.1 What Is Anthropology? MSC: Remembering

31. Which is the study of evolution and variation in humans?
- a. physical anthropology
 - b. archaeology
 - c. linguistic anthropology
 - d. cultural anthropology

ANS: A DIF: Moderate

OBJ: 1A. Explain the differences and similarities among the four branches of anthropology and understand what it means to say physical anthropologists practice an interdisciplinary science.

TOP: 1.1 What Is Anthropology? MSC: Remembering

32. What increased early humans' chances of hunting success?
- a. Hunting was led by females.
 - b. Hunting was conducted with lithic tools and cooperative strategies.
 - c. Hunting was always well planned with a diagram.
 - d. Hunting strategies were developed to include children as bait.

ANS: B DIF: Moderate

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Understanding

33. What is human production of stone or lithic tools an example of?
- a. linguistic comprehension
 - b. subsistence strategies
 - c. material culture
 - d. ideology

ANS: C DIF: Moderate

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Remembering

34. What did Boas propose that anthropologists could learn about through careful observations and attention?
- a. race, morality, and primitive religions
 - b. primitive humans and their societies
 - c. morality, human variation, and cultures
 - d. cultures, societies, and peoples' biology

ANS: D DIF: Moderate

OBJ: 1C. Explain how Franz Boas's research contributed to the development of the four branches of anthropology. TOP: 1.2 What Is Physical Anthropology?

MSC: Understanding

35. How did Boas lay the foundation for scientific anthropology?
- a. relying on the scientific method
 - b. evaluating cultures from a personal perspective
 - c. using genetics to develop theories on human variation
 - d. demonstrating the variation in humans as a result of moral differences

ANS: A DIF: Moderate

OBJ: 1C. Explain how Franz Boas's research contributed to the development of the four branches of anthropology. TOP: 1.2 What Is Physical Anthropology?
MSC: Understanding

ESSAY

1. Discuss the difference between a hypothesis and a theory. Why is the distinction important?

ANS:

Both terms are widely misused, especially *theory*, which in common parlance often means a weak or unlikely idea. In science, the opposite is true.

A hypothesis is a clearly stated idea that has been designed to be disproven using scientific techniques. A scientific hypothesis is said to be "testable," which means that scientifically made observations can prove it wrong, allowing it to be rejected. A good, testable hypothesis usually has to be narrowly defined and about one specific aspect of the world, so that a test can be performed, or observations collected, to evaluate it unambiguously. The term *hypothesis* usually refers to specific scientific ideas that are being evaluated, while *theory* usually refers to explanations that are more comprehensive and, although always subject to revision and further study, are more widely accepted. A theory is established from a well-tested and supported hypothesis.

One or more hypotheses that withstand repeated attempts at rejection may form the basis of a theory. A theory is often bigger, more complex, or more comprehensive than a single hypothesis, and may incorporate multiple lines of evidence. An established scientific theory is a set of ideas to explain a natural phenomenon that is based on empirical evidence and generally accepted by scientists, but still subject to further investigation and revision.

DIF: Moderate OBJ: 1G. Distinguish between hypotheses and theories.
TOP: 1.4 How We Know What We Know - The Scientific Method
MSC: Evaluating

2. Discuss the steps of the scientific method.

ANS:

The scientific method includes an observation, development of a hypothesis, experimentation, data collection, and conclusions. Data are used to test hypotheses, possible explanations for the processes under study, by observing and then rejecting or accepting the hypotheses. After observations are collected, scientists develop a theory, which is an explanation, not just a description, of phenomena.

DIF: Moderate
OBJ: 1F. Explain the four steps involved in "doing science" (i.e., the scientific method).
TOP: 1.4 How We Know What We Know - The Scientific Method
MSC: Analyzing

3. Provide an imaginary example of the proper use of the scientific method.

ANS:

This answer should include only examples of what can be tested. It should make reference to empirical data collected by experiment or observation. The student's response should include each step of the scientific method along with a fictional conclusion. There should be a clear reference to the development and testing of hypotheses. This question may even be used on the first day of class as an icebreaker of sorts after a thorough lecture on the scientific method.

DIF: Difficult

OBJ: 1F. Explain the four steps involved in “doing science” (i.e., the scientific method).

TOP: 1.4 How We Know What We Know - The Scientific Method

MSC: Applying

4. Discuss the value of the scientific method in our society.

ANS:

The response should include discussions of pharmaceutical and medical testing, or other important policy related science (climate change, technology, etc.). The student should show comprehension of the value of testing and retesting data. For example, do immunization shots administered all at once increase the child’s likelihood to develop autism? The answer, we know, is that they do not; however, previous doctored data were used to claim that they do, causing millions of parents all over the world to reduce inoculations or completely neglect them, thereby increasing the incidence of disease—for example, the number of whooping cough cases in the United States.

DIF: Difficult

OBJ: 1F. Explain the four steps involved in “doing science” (i.e., the scientific method).

TOP: 1.4 How We Know What We Know - The Scientific Method

MSC: Evaluating

5. Discuss the six key attributes that make humans unique relative to other species.

ANS:

The six distinguishing features of humanity are bipedalism, nonhoning chewing, complex material culture and tool use, hunting, speech, and dependence on domesticated food. Note that the order in which these attributes appear, and their timing, can be important parts of a complete and correct answer. The commitment to walking on two legs is usually considered the most profound physical difference between humans and other primates. After bipedalism, according to the fossil record, the large honing canine tooth was lost as a result of the ability to make and use tools for processing food. Culture, pervasive for humans, is defined in the text as learned behavior, transmitted from person to person, that facilitates survival through adaptation to varied settings. Material culture is the part of culture that is expressed as objects that humans use to manipulate our environment. The archaeological record of past cultures’ material remains goes back to the simple rock tools that date from 2.5 mya. Humans require some form of technology to regulate temperature, acquire food, etc., in our varied environments. Some chimpanzees and other primates have simple material culture and even nonmaterial culture. Humans’ other key attributes—hunting, speech, and dependence on domesticated foods—appeared much later in human evolution. Hunting refers to cooperative hunting, which likely emerged 1 million or more years ago. Speech is very distinctive of humans but difficult to pinpoint in the fossil record. Domestication of foods is the most recently developed unique human behavior, usually traced to 10,000 years ago. Increasing dependence on culture for survival makes us quite distinct among species and necessitates a biocultural approach to both human origins and human behavior.

DIF: Difficult

OBJ: 1E. Identify and explain the importance of six major attributes that separate humans from nonhuman animals. TOP: 1.3 What Makes Humans So Different from Other Animals?

MSC: Analyzing