

Student name: _____

The field that studies fossil records is:

primatology

paleontology

genetics

archaeology

The subfield of physical anthropology includes the study of:

human genetics

forensic anthropology

human biological variation

all of these

Cultural anthropology:

is a branch of archaeology

is the study of art and music

includes the study of human social organizations and learned patterns of behavior

includes paleontology as a major topic

The study of a people's political organization would be a part of:

cultural anthropology

linguistics

archaeology

physical anthropology

An anthropological linguist:

always attempts to learn to speak as many languages as he or she possibly can

teaches students foreign languages

studies the history, function, structure, and physiology of language

would only be interested in cultures that have writing systems

The practical application of anthropological knowledge to real-world concerns is called:

academic anthropology

lived anthropology

applied anthropology

realistic anthropology

An empirical observation is one that is:

measurable

a fact

received through the senses

all of these

Hypotheses:

are always considered to be correct statements

are the same thing as laws in science

are not a necessary part of the scientific method

must be logical and testable

Hypotheses:

can be disproven

can be tested through experiments and observations

are based on empirical observations

all of these

A tentative statement about the relationship between two variables is a(n):

hypothesis

theory

empirical statement

rationalization

An example of a variable would be:

the theory of evolution by natural selection

the cranial capacities of a series of skulls

that all mammals give live birth

all of these

Once proposed, a hypothesis may be tested by:

comparing it to known data gathered from nature

conducting an experiment

comparing one phenomenon with another to determine the relationships between them

all of these

A hypothesis may be tested in a number of ways. One of the following is **not** a way to test a hypothesis.

Test the predictive value of the hypothesis by comparing it to all known data from nature.

Ask all scientists doing research in the area the hypothesis concerns and confirm that the hypothesis is based on a consensus of the opinions of those scientists.

Conduct experiments

Through comparative studies

A theory is:

a speculative statement

a statement of extremely high validity

the same as a hypothesis

the same as a fact

Darwin's explanation of evolution by natural selection is an example of a(n):

theory

hypothesis

empirical statement

experiment

That evolution has occurred is a(n):

theory

hypothesis

fact

experiment

Statements about the ways in which evolution occurs (the processes) are:

facts

theories

experiments

variables

Scientific investigation can:

provide answers to all possible questions

generate statements that are considered to be absolute truths

only deal with empirical observations

all of these

When scientists say that evolution is a theory, they mean that evolution is:

a general law or principle supported by mass data

an educated guess

but one of several possible explanations for the diversity of life

accepted by the majority of scientists

A control in science is:

a situation that differs from the situation being tested

an empirical observation

always easy to achieve in physical anthropology

a monocausal explanation for a phenomenon

Which of the following statements is true regarding scientific hypotheses and theories about human evolution?

Scientists refuse to consider supernatural causes to explain their observations because most scientists are atheists.

Explanations of natural phenomena based upon religious dogma are superior because science cannot explain the great many things about the world.

Scientists refuse to invoke supernatural causes because the scientific method restricts scientific inquiry to hypotheses that are falsifiable and testable.

While evolution has been fairly well demonstrated in bacteria, plants, and simple animals, it has not been demonstrated to have taken place in humans.

Which of the following statements is true?

One cannot accept science and also be a religious person.

Science can successfully answer questions about ethics and morality.

Scientific conclusions are based upon available evidence and therefore can change when new evidence appears.

Scientific conclusions are considered to be absolute facts within the scientific community.

The idea that humans are superior to other animals is termed:

egocentrism

anthropocentrism

ethnocentrism

geocentrism

The belief that people are the center of the universe is termed:

ethnocentrism
anthropocentrism
holism
cultural relativism

The idea that life can form from nonliving material is known as:

uniformitarianism
spontaneous generation
anthropocentricity
immutability

An early belief was that life is immutable, meaning:

once created, a type of organism remains unchanged
once created, a type of organism may become extinct or change into some other type of organism
once created, a type of organism may evolve through time into other types of organisms
none of these

In the eighteenth century, the accepted date for the origin of the earth, as calculated in the seventeenth century by Archbishop Ussher, was:

1 million B.C.
250,000 B.C.
10,550 B.C.
4004 B.C.

The fact that the earth is not the center of the universe was conclusively demonstrated by:

James Ussher

Nicolaus Copernicus

Carolus Linnaeus

Comte de Buffon

An eighteenth-century scientific classification of the living world was made by:

Nicolaus Copernicus

Carolus Linnaeus

Comte de Buffon

Charles Lyell

Linnaeus's classification was important because:

it imposed order on nature's infinite variation

it provided the means of seeing change and possible ancestral relationships

it included humans

all of these

The eighteenth-century biologist Comte de Buffon:

argued that the earth was the center of the universe

believed that living forms are immutable

proposed that the earth is much older than 6,000 years

developed a classification of the living world that is still used today

Jean Baptiste de Lamarck was important because:

his theory of evolution was correct in detail
he speculated on the mechanisms of change
he proposed the idea of uniformitarianism
all of these

Jean Baptiste de Lamarck is associated with:
the first scientific account of the gorilla
the concept of uniformitarianism
the concept of natural selection
the principle of acquired characteristics

If a woman and a man both lift weights and become muscular, it follows that their offspring:
are more likely to be muscular
will inherit their father's, but not their mother's, muscularity
will be genetically weaker
will not be more muscular simply because their parents lift weights

Lamarck believed that parts of the body that are used are strengthened and improved, whereas parts of the body that are not become weak and might disappear. This is the principle of:

Lamarckism
strength and weakness
use and disuse
inheritance and disinheritance

George Cuvier developed the theory of:

acquired characteristics

catastrophism

uniformitarianism

anthropocentrism

Catastrophists believe that the geographic history of the earth and changes in the biological world are a result of:

natural selection as described by Charles Darwin

gradual changes caused by such factors as wind, water, earthquakes, and volcanoes

a series of violent and sudden events

the first six days of creation as depicted in *Genesis*

The idea that animal forms are arranged in a ladder whereby organisms progress from a lesser to a greater state of perfection is termed:

holism

uniformitarianism

great chain of being

anthropocentrism

William Smith is noted for:

being the first geologist to recognize what a fossil was

developing the concept of uniformitarianism

finding the earliest known stone tools of human manufacture

studying the strata of the earth and creating the first geologic map of England

The recognition that the layers of the earth or strata could be identified by specific features and always existed in the same order resulted in the construction of the first geologic map of England by:

William Smith

Charles Lyell

Alfred Russel Wallace

Peter Grant

Charles Lyell is associated with the concept of:

uniformitarianism

catastrophism

the theory of acquired characteristics

the heliocentric view of the universe

The principle of uniformitarianism refers to the concept that:

the geological processes at work today are the same as those at work in the past

evolution is a universal fact

the basic biological processes of life are the same wherever life is found

the laws of heredity are universal

The concept of uniformitarianism states that:

the human genome is uniform throughout the world

the basic skeletal structure of primates shows much uniformity

the mechanism of heredity is uniform throughout the animal kingdom

the physical laws of nature are uniform throughout time

The importance of uniformitarianism for the development of Darwinian theory is that it:
showed that the earth's age was many times greater than previously thought
explained the uniformity of shape among different animal species
allowed for changes in a species over time
explained the existence of fossils

The first person to make a systematic attempt to demonstrate the existence of a prehistoric period was:

Charles Darwin

Jacques Boucher de Perthes

Comte de Buffon

Jean Baptiste de Lamarck

Jacques Boucher de Crevecoeur de Perthes:

was the first to demonstrate that the earth was extremely old

recognized primitive stone tools as evidence of prehistoric peoples

believed that collections of now-extinct fossil animals in particular strata ended with catastrophic events

developed the principle of use and disuse

That each stratum was characterized by distinct fossils that could be used to indicate the age of strata was found by:

Charles Lyell

Charles Darwin

William Smith

Carolus Linnaeus

Charles Darwin:

is best known for explaining evolution in terms of natural selection

was the first person to conceive the idea of evolution

published *The Origin of Species* in 1859

was the first person to work out the basic principles of heredity

When Charles Darwin began his voyage around the world in 1831, he was given a textbook on geology that set forth ideas on the evolution of the earth. This book, *Principles of Geology*, was written by:

Thomas Malthus

Alfred Russel Wallace

Charles Lyell

William Smith

Darwin's five-year voyage on board the HMS *Beagle*:

was disappointing to him since he only was able to visit South America

allowed him to gain new insights into the plants and animals in different parts of the world

was important because he traveled with the older and more experienced naturalist Alfred Russell Wallace

all of these

The main destination of the HMS *Beagle*, on which Darwin was the ship's naturalist, was:

Europe

Asia

South America

North America

The Galápagos Islands are located off the coast of:

New Guinea

Ecuador

Australia

England

Which of the following statements is *not* correct?

Charles Darwin was the first person to conceive the idea of evolution.

The concept of evolution was the result of a long chain of discoveries and hypotheses.

The theory of evolution was not developed by one person.

Thomas R. Malthus's *An Essay on the Principle of Population* was influential on Darwin and Wallace in their conceptualization of natural selection.

The concept of natural selection was developed by Charles Darwin and, at about the same time, by another biologist:

Thomas Malthus

Charles Lyell

Alfred R. Wallace

Carolus Linnaeus

Charles Darwin realized that populations have the potential to grow at a faster rate than their food supply. This idea came from the writings of:

Thomas Malthus

James Hutton

Charles Lyell

Georges Cuvier

Charles Darwin wrote in *On the Origin of Species* that:

the genetic material is a protein

traits are inherited through paired genes

natural selection occurs because of differences in fertility rates among individuals

humans are descended from apes

Charles Darwin:

was the first to apply the scientific method to examine evolution

proved that evolution had occurred

provided a mechanism to explain how evolution works

disproved the biblical account of creation

Alfred Russel Wallace:

wrote *Essay on the Principles of Population*

was a rigorous opponent of the concept of natural selection

came up with the idea of natural selection at about the same time as Charles Darwin

disproved spontaneous creation

Darwin laid out his ideas on evolution by natural selection in the book:

The

*Antiquity
of
Man*
The
*Principles
of
Populations*
On
*the
Origin
of
Species*
The
*Principles
of
Geology*

The synthetic theory of evolution integrates the Darwinian concept of natural selection with:

- genetics
- paleontology
- embryology
- all of these

Which of the following statements is true?

The earth is 4000 years old.

Evolution has never been actually seen occurring.

Evolution generates testable predictions.

Evolution is not accepted by substantial number of biologists.

Essential elements of Darwin's theory of evolution by natural selection include which of the following?

Individuals within a population vary.

While organisms are able to reproduce rapidly, resource growth is limited.

Individuals with favorable variations will be more likely to survive and reproduce.

All of these

Darwin lacked an accurate understanding of:

inheritance

variability of populations

population growth

differential survival rates

Darwin's theory states that _____ who are more well suited to their environment will be more likely to survive and reproduce.

individuals

species

families

groups

Darwin believed that evolution:

happened quite rapidly

could be observed in an individual's lifetime

occurred over extremely long periods of time

Which of the following is not a part of the concept of natural selection?

There are limited resources for which individuals compete.

Modifications acquired by an organism during its lifetime are passed on to its offspring.

Individuals in a population vary in physical characteristics.

Variations possessed by individuals are, in part, inherited.

Court cases advocating the teaching of creation science:

are now on the books in over 40 states

have not occurred in the last twenty years

are supported by the majority of anthropologists

are still being fought well into the 21st century

Intelligent design theory is:

a new version of evolutionary theory

a creationist explanation

an attempt to blend natural selection and religion

based on new genetic information

The creationist idea that the great complexity found in living organisms implies the existence of a creator is called:

intelligent design theory

God as creator theory

the science of design theory

creation science

Creationism and Intelligent Design are:

scientific explanations of phenomena that do not appear to be affected by natural selection

attempts to discredit evolution and replace evolutionary theory by religious-based ideas

based upon new discoveries in genetics

developed because of growing doubts about the validity of evolution within the scientific community

Intelligent Design Theory:

answers important questions that have not been successfully explained by natural selection

suggests that the existence of complex design in the world is evidence of an intelligent designer

is consistent with the scientific methods and should be included in scientific discussions

From 1925 to until recently, a series of court cases have ruled that which of the following laws or policies was legal?

law prohibiting the teaching of evolution

law mandating equal treatment of creation-science with evolution

school district rule restricting the right of teachers to teach creationism in the classroom

All of these were declared illegal.

On November 20, 2005, Federal Judge John Jones ruled in a case involving the attempt of the Dover Pennsylvania school board to introduce Intelligent Design into the biology curriculum that:

since the "designer" is not identified as God, Intelligent Design is not a religious concept

Intelligent Design is a form of creationism and, being a religious concept, cannot be taught in the public schools as science

in order to present all sides of an issue, Intelligent Design should be taught alongside evolution in the science classroom

In the Kitzmiller v. Dover Area School District legal case, the Judge declared that:

intelligent design was a legitimate scientific concept

the school board had the right to require teachers to discuss intelligent design in their 9th grade classes

intelligent design is not a scientific concept

the concept of evolution is a religious concept

The synthetic theory of evolution refers to the fusion of natural selection with:

intelligent design theory

theology

genetics, paleontology, and other disciplines

new discoveries in astronomy and astrophysics

Of the following, the most tentative statement about the relationship between two variables is a:

hypothesis

theory

law

rationalization

An early belief was that life is immutable, meaning:

life was created once and only once

once created, a type of organism remains unchanged

once created, an organism will eventually change into some other type of organism

once created, a type of organism may evolve through time into other types of organisms

The principle of uniformitarianism refers to the concept that:

evolution occurs in a uniform manner for every species

the geological processes at work today are the same as those at work in the past

the laws of heredity are universal

all of these

A main area of study for physical anthropologists is the study of evolution.

true

false

Science can provide answers to all possible questions.

true

false

An empirical observation is one that is made with the help of a microscope or telescope.

true

false

A theory is more certain than a guess but less certain than a fact.

true

false

The idea that humans are superior to other animals is termed anthropocentrism.

true

false

Charles Darwin was the first person to recognize that nature could be dynamic.

true

false

Lamarck proposed the theory of acquired characteristics, which states that traits gained during a lifetime can be passed to the next generation.

true

false

Darwin's theory states that groups who are better suited to their environment will be more likely to survive and reproduce.

true

false

Darwin lacked an accurate understanding of the mechanisms of inheritance.

true

false

The study of the change in body color of peppered moths described in chapter one showed that evolution could be observed in a shorter period of time than Darwin thought possible.

true

false

What is anthropology? What are some of the subfields within anthropology?

Early views on the nature of humankind were anthropocentric. What major intellectual and historical events served to move people away from an anthropocentric view?

Why was the classification scheme of Linnaeus so important to the later development of evolutionary biology?

Great ideas seldom develop in a vacuum. Summarize the ideas that were developed prior to 1859 that influenced the work of Charles Darwin.

Contrast the concepts of catastrophism and uniformitarianism. What is the relationship of each of these concepts to the development of evolutionary theory?

What role did the development of historical geology play in the development of evolutionary theory?

What is meant by the synthetic theory of evolution? How does the synthetic theory of evolution differ from the concept of evolution as conceived by Charles Darwin?

What are some of the major concepts of creationism? Discuss the debate over the teaching of evolution in public schools.

What is the theory of intelligent design? What do scientists say to counter the claims of intelligent design theory?

Describe the basic principles of scientific thinking. Can science provide answers to all questions?

Many people confuse the terms *hypothesis* and *theory*. What do these two terms mean and how do they differ?

Ideas do not develop in a vacuum. Darwin was certainly not the first person to conceive the idea of biological evolution. The roots of the concept of biological evolution go back to at least the time of ancient Greece. Research and discuss these early concepts and why they failed to become widely accepted.

What were some of the concepts about human nature and the relationship between humans and nature that had to change before an evolutionary concept could develop?

Explain the components of Darwin's theory of evolution by natural selection.

How does a scientific inquiry work? Can science provide answers to all questions? Why/why not?

How does the peppered moth example, discussed in this chapter, help explain the concept of natural selection?

What is the concept of intelligent design and what are the scientific arguments against it?

Answer Key

Test name: CH1 Physical Anthropology 12E

B

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