TOSS-UP

1. GENERAL SCIENCE; Multiple Choice: Which of the following US Department of Energy

Secretaries were awarded the Nobel Prize in Physics?

(W) Samuel Bodman

(X) Steven Chu

(Y) Bill Richardson

(Z) Spencer Abraham

ANSWER: X—STEVEN CHU

BONUS

1. GENERAL SCIENCE; Multiple Choice: Which of the following are not categories for the

Nobel Prize?

(W) Medicine

(X) Chemistry

(Y) Economics

(Z) Biology

ANSWER: Z—BIOLOGY

TOSS-UP

2. GENERAL SCIENCE; Short Answer: What Renaissance physician is considered to be the

founder of modern human anatomy?

ANSWER: ANDREAS VESALIUS (ACCEPT: VESALIUS)

BONUS

1. GENERAL SCIENCE; Multiple Choice: Which of the following was a prominent physician in ancient Rome?

(W) Tycho Brahe

(X) Nostradamus

(Y) Galen

(Z) Ptolemy

ANSWER: Y—GALEN

TOSS-UP

1. GENERAL SCIENCE; Short Answer: Name the Renaissance scientist who proposed that

the planets followed elliptical orbits around the Sun.

ANSWER: JOHANNES KEPLER (ACCEPT: KEPLER)

BONUS

3. GENERAL SCIENCE; Short Answer: Who was the scientist who proposed the heliocentric

theory of the solar system?

ANSWER: NICOLAUS COPERNICUS (ACCEPT: COPERNICUS)

TOSS-UP

4. GENERAL SCIENCE; Short Answer: Name the SI unit for luminous intensity.

ANSWER: CANDELA

BONUS

4. GENERAL SCIENCE; Multiple Choice: Which of the following units can be used to

measure electric charge?

(W) Coulomb

(X) Tesla

(Y) Volt

(Z) Ampere

ANSWER: W—COULOMB

TOSS-UP

5. GENERAL SCIENCE; Multiple Choice: Which of the following scientists is NOT

associated with the atomic bomb?

(W) Enrico Fermi

(X) J. Robert Oppenheimer

(Y) Niels Bohr

(Z) Albert Einstein

ANSWER: Y—Niels Bohr

BONUS

5. GENERAL SCIENCE; Multiple Choice: What is the branch of the United Nations that oversees nuclear proliferation?

(W) Atomic Watchdog Association

(X) United Nations Non-proliferation Agency

(Y) World Bank

(Z) International Atomic Energy Agency

ANSWER: Z—INTERNATIONAL ATOMIC ENERGY AGENCY

TOSS-UP

6. GENERAL SCIENCE; Short Answer: Name the father of modern taxonomy.

ANSWER: CAROLUS LINNAEUS (ACCEPT: LINNAEUS)

BONUS

6. GENERAL SCIENCE; Short Answer: What is the name of the system of biological

classification that is based on the shared ancestry of living things?

ANSWER: CLADISTICS

TOSS-UP

7. GENERAL SCIENCE; Multiple Choice: Which of the following scientists is NOT

associated with the study of electricity?

(W) Michael Faraday

(X) Benjamin Franklin

(Y) Alessandro Volta

(Z) Isaac Newton

ANSWER: Z—ISAAC NEWTON

BONUS

7. GENERAL SCIENCE; Multiple Choice: Who is the Scottish scientist who demonstrated

that electricity and magnetism are interrelated phenomena?

(W) William Aiton

(X) Thomas Brisbane

(Y) Phillip Clancey

(Z) James Maxwell

ANSWER: Z—JAMES MAXWELL

TOSS-UP

1. GENERAL SCIENCE; Short Answer: Name the scientist who discovered the

photoelectric effect.

ANSWER: HEINRICH HERTZ (ACCEPT: HERTZ)

BONUS

8. GENERAL SCIENCE; Multiple Choice: Which of the following do not make use of the

photoelectric effect?

(W) Photodiodes

(X) Phototropisms

(Y) Phototransistors

(Z) Photomultipliers

ANSWER: X—PHOTOTROPISMS

TOSS-UP

9. GENERAL SCIENCE; Multiple Choice: What is the leading cause of death in the United

States?

(W) Heart Disease

(X) Cancer

(Y) Automobile accidents

(Z) Stroke

ANSWER: W—HEART DISEASE

BONUS

1. GENERAL SCIENCE; Short Answer: What is the most dangerous type of skin cancer?

ANSWER: MELANOMA

TOSS-UP

10. GENERAL SCIENCE; Short Answer: Which scientist proposed the idea that every force

has an opposite and equal reaction?

ANSWER: ISAAC NEWTON (ACCEPT: NEWTON)

BONUS

10. GENERAL SCIENCE; Multiple Choice: What branch of mathematics was developed by

Isaac Newton and Gottfried Leibniz?

(W) Non-Euclidean geometry

(X) Calculus

I (Y) Discrete mathematics

(Z) Fractal geometry

ANSWER: X—CALCULUS

TOSS-UP

11. GENERAL SCIENCE; Short Answer: What bacterium is known to cause stomach

ulcers in humans?

ANSWER: HELICOBACTER PYLORI

BONUS

11. GENERAL SCIENCE; Multiple Choice: What bacterium is an essential symbiont that

lives in the human colon and produces vitamin K?

(W) *Staphylococcus aureus*

(X) *Thiomargarita namibiensis*

(Y) *Escherichia coli*

(Z) *Haemophilus influenzae*

ANSWER: Y—*ESCHERCHIA COLI*

TOSS-UP

12. GENERAL SCIENCE; Short Answer: What was the first organic compound to be

synthesized artificially?

ANSWER: UREA

BONUS

12. GENERAL SCIENCE; Multiple Choice: Which Nobel laureate is considered to be the

father of modern organic synthesis?

(W) Robert Woodword

(X) Osamu Shimomura

(Y) Martin Chalfie

(Z) Ada Yonath

ANSWER: W—ROBERT WOODWORD

TOSS-UP

13. GENERAL SCIENCE; Multiple Choice: What household pet did Russian scientist

Ivan Pavlov experiment with for his studies of classical conditioning?

(W) Cat

(X) Dog

(Y) Goldfish

(Z) Hamster

ANSWER: X—DOG

BONUS

13. GENERAL SCIENCE; Short Answer: What type of psychological conditioning is

associated with rewards and punishments?

ANSWER: OPERANT CONDITIONING

TOSS-UP

14. GENERAL SCIENCE; Short Answer: What Swiss psychiatrist developed the notion of

personality archetypes?

ANSWER: CARL JUNG

BONUS

14. GENERAL SCIENCE; Multiple Choice: What is the central concept that underlies

modern social psychology?

(W) Attachment theory

(X) Cognitive dissonance

(Y) The unconscious

(Z) Maslow’s hierarchy of needs

ANSWER: X—COGNITIVE DISSONANCE

TOSS-UP

15. GENERAL SCIENCE; Short Answer: Which nation launched the first human being

into space?

ANSWER: SOVIET UNION (ACCEPT: U.S.S.R.)

BONUS

15. GENERAL SCIENCE; Multiple Choice: Which U.S. President created the National

Aeronautics and Space Administration?

(W) Lyndon Johnson

(X) John Kennedy

(Y) Dwight Eisenhower

(Z) Harry Truman

ANSWER: Y—DWIGHT EISENHOWER

TOSS-UP

16. GENERAL SCIENCE; Short Answer: Who was the first person to set foot on the moon?

ANSWER: NEIL ARMSTRONG

BONUS

16. GENERAL SCIENCE; Multiple Choice: In what year is the International Space Station

meant to be completed?

(W) 2010

(X) 2011

(Y) 2012

(Z) 2013

ANSWER: 2011

TOSS-UP

17. GENERAL SCIENCE; Multiple Choice: Which Greek philosopher first proposed the idea

that matter is composed of indivisible particles?

(W) Aristotle

(X) Plato

(Y) Democritus

(Z) Erastosthenes

ANSWER: Y—DEMOCRITUS

BONUS

17. GENERAL SCIENCE; Short Answer: The oath that doctors must take to ensure that they

practice medicine ethically is named after what Greek philosopher?

ANSWER: HIPPOCRATES

TOSS-UP

18. GENERAL SCIENCE; Multiple Choice: Who is the creator of the periodic table of

elements?

(W) Nikolai Girenko

(X) Yuri Gagarin

(Y) Dmitri Mendeleev

(Z) Nikolai Koltsov

ANSWER: Y—DMITRI MENDELEEV

BONUS

18. GENERAL SCIENCE; Short Answer: Who is the father of modern genetics?

ANSWER: GREGOR MENDEL

TOSS-UP

1. GENERAL SCIENCE; Multiple Choice: Which German scientist invented the cathode ray

tube in 1897?

(W) Karl Braun

(X) Walther Bothe

(Y) Philo Farnsworth

(Z) Pascual Jordan

ANSWER: W—KARL BRAUN

BONUS

19. GENERAL SCIENCE; Short Answer: Which of the following is NOT a component of a

cathode ray tube?

(W) Fluorescent screen

(X) Magnetron

(Y) Vacuum

(Z) Electron gun

ANSWER: X—MAGNETRON

TOSS-UP

20. GENERAL SCIENCE; Multiple Choice: Who developed the concept that mass and energy

are equivalent?

(W) Barbara McClintock

(X) James Watson

(Y) Albert Einstein

(Z) Max Planck

BONUS

20. GENERAL SCIENCE; Short Answer: Who discovered the neutron?

ANSWER: JAMES CHADWICK (ACCEPT: CHADWICK)

TOSS-UP

21. GENERAL SCIENCE; Short Answer: What Renaissance scientist coined the term “cell”?

ANSWER: ANTON VON LEEUWENHOEK (ACCEPT: LEEUWENHOEK)

BONUS

21. GENERAL SCIENCE; Multiple Choice: What theory did Theodor Schwann formulate?

(W) Vitalism

(X) Cell theory

(Y) Ecological succession

(Z) Mechanism

ANSWER: X—CELL THEORY

TOSS-UP

22. GENERAL SCIENCE; Short Answer: What French philosopher developed the coordinate

plane?

ANSWER: RENE DESCARTES (ACCEPT: DESCARTES)

BONUS

22. GENERAL SCIENCE; Multiple Choice: What Greek thinker is noted for developing

plane geometry?

(W) Sophocles

(X) Socrates

(Y) Diogenes

(Z) Euclid

ANSWER: Z—EUCLID

TOSS-UP

23. GENERAL SCIENCE; Short Answer: Which U.S. President established the Department

of Energy?

ANSWER: JIMMY CARTER (ACCEPT: CARTER)

BONUS

23. GENERAL SCIENCE; Multiple Choice: What is the name of the operational head of the

U.S. Public Health Service Commissioned Corps?

(W) Department of Health and Human Services Secretary

(X) National Institutes of Health President

(Y) Surgeon General

(Z) National Health Secretary

ANSWER: Y—SURGEON GENERAL

TOSS-UP

24. GENERAL SCIENCE; Multiple Choice: Who proposed the principle that a submerged

object experiences a buoyant force equal to the weight of the fluid it displaced?

(W) Nicolaus Copernicus

(X) Archimedes

(Y) Aristotle

(Z) Robert Boyle

ANSWER: X—ARCHIMEDES

BONUS

24. GENERAL SCIENCE; Short Answer: What scientist established that as the speed of a

moving fluid increases, the pressure within the fluid decreases?

ANSWER: DANIEL BERNOULLI (ACCEPT: BERNOULLI)

TOSS-UP

25. GENERAL SCIENCE; Short Answer: Who discovered the length at which the laws of

classical physics fail to apply?

ANSWER: MAX PLANCK (ACCEPT: PLANCK)

BONUS

25. GENERAL SCIENCE; Multiple Choice: Which of the following scientists proposed that

electrons orbit the nucleus in much the same way as the planets orbit the Sun?

(W) Niels Bohr

(X) Tycho Brahe

(Y) Ernest Rutherford

(Z) Robert Millikan

ANSWER: Z—ROBERT MILLIKAN