Edward Lee

25 General Science

**TOSS-UP**

1) GENERAL SCIENCE *Short Answer*  This American inventor created, among other things, the phonograph and the microphone.

ANSWER: THOMAS EDISON

**BONUS**

1) GENERAL SCIENCE *Short Answer* As an improvement to Edison’s lightbulb, Lewis Latimer added what other part, which today is usually made of tungsten?

ANSWER: FILAMENT

**TOSS-UP**

2) GENERAL SCIENCE *Multiple Choice* A mycologist would most likely study

W) toxins

X) yeasts

Y) microscopes

Z) aromatic hydrocarbons

ANSWER: X – YEASTS

**BONUS**

2) GENERAL SCIENCE *Short Answer* This first ever antibiotic is usually used in the treatment of Gram-positive bacteria and was extracted from a fungus it was named for. Name the antibiotic.

ANSWER: PENICILLIN

**TOSS-UP**

3) GENERAL SCIENCE *Short Answer* Classify the following three substances as molecules, formula units, or elements: uranium, water, table salt.

ANSWER: URANIUM – ELEMENT; WATER – MOLECULE; TABLE SALT – FORMULA UNIT

**BONUS**

3) GENERAL SCIENCE *Multiple Choice* In an NaCl molecule, a chlorine atom attracts how many neighboring sodium atoms?

ANSWER: 6

**TOSS-UP**

4) GENERAL SCIENCE *Short Answer* John Stuart Mill was one of the pioneers to outline a specific set of guidelines concerning scientific experimentation including a hypothesis and empirical evidence. What is this set of guidelines generally called?

ANSWER: THE SCIENTIFIC METHOD

**BONUS**

4) GENERAL SCIENCE *Short Answer* Through the scientific method, Benjamin Franklin proved that this phenomenon, in which luminous plasma is created by a coronal discharge, was electrical in nature.

ANSWER: ST. ELMO’S FIRE

**TOSS-UP**

5) GENERAL SCIENCE *Multiple Choice* Which of the following is not a domain of life?

W) Archaea

X) Eukarya

Y) Prokarya

Z) Bacteria

ANSWER: Y – PROKARYA

**BONUS**

5) GENERAL SCIENCE *Short Answer* To what class do humans belong?

ANSWER: MAMMALIA

**TOSS-UP**

6) GENERAL SCIENCE *Short Answer* Charles Darwin was influenced by this British geologist and his theory of the geologic time scale. Name this geologist who was a chief proponent of uniformitarianism, the idea that the way events take place now are the way they have always taken place.

ANSWER: CHARLES LYELL

**BONUS**

6) GENERAL SCIENCE *Short Answer* Fossils which are used to date the strata they are found in are called what?

ANSWER: INDEX FOSSILS

**TOSS-UP**

7) GENERAL SCIENCE *Short Answer* Which inventor, famous for his series of prestigious prizes named for him, gave the world dynamite?

ANSWER: ALFRED NOBEL

**BONUS**

7) GENERAL SCIENCE *Multiple Choice* Nitroglycerin, the main component in dynamite, can also be used for which of the following purposes?

W) Caulking wooden slats

X) Dilate blood vessels

Y) Fertilize soil

Z) Preserving foods

ANSWER: X – DILATE BLOOD VESSELS

**TOSS-UP**

8) GENERAL SCIENCE *Short Answer* Xylitol is a sugar alcohol found most commonly in what substance?

ANSWER: CHEWING GUM

**BONUS**

8) GENERAL SCIENCE *Short Answer* Xylitol gives 2/3 of the energy of what other disaccharide?

ANSWER: SUCROSE

**TOSS-UP**

9) GENERAL SCIENCE *Short Answer* The study of glands is called what?

ANSWER: ADENOLOGY

**BONUS**

9) GENERAL SCIENCE *Short Answer* What is the largest gland in the human body?

ANSWER: LIVER

**TOSS-UP**

10) GENERAL SCIENCE *Short Answer* Anemology is the study of what?

ANSWER: WIND

**BONUS**

10) GENERAL SCIENCE *Short Answer* According to the National Weather Service, what is the term for a wind that is 39-54mph in wind speed?

ANSWER: GALE

**TOSS-UP**

11) GENERAL SCIENCE *Short Answer* How many Nobel Prizes are science-based?

ANSWER: THREE

**BONUS**

11) GENERAL SCIENCE *Short Answer* Name the three Nobel Prizes in the sciences.

ANSWER: CHEMISTRY, PHYSICS, MEDICINE (PHYSIOLOGY)

**TOSS-UP**

12) GENERAL SCIENCE *Short Answer* Members of the order Monotremata are mammals that do what unique action?

ANSWER: THEY LAY EGGS

**BONUS**

12) GENERAL SCIENCE *Short Answer* Select all of the following that are not monotremes: long-beaked echidna, kangaroo, short-beaked echidna, platypus.

ANSWER: KANGAROO

**TOSS-UP**

13) GENERAL SCIENCE: *Multiple Choice*: Which of the following shapes is impossible to create using only a protractor and a straightedge?

w. Equilateral triangle

x. Regular heptagon

y. Regular octagon

z. Regular 17-sided figure

ANSWER: X – REGULAR HEPTAGON

**BONUS**

13) GENERAL SCIENCE: *Short Answer:* As a regular polygon gains an infinite number of sides, in theory, what shape is created?

ANSWER: A CIRCLE

**TOSS-UP**

14) GENERAL SCIENCE: *Multiple Choice*: The term used to describe the changing of cheap substances to more valuable ones, such as lead to gold, is

w. Chemistry

x. Metallurgy

y. Alchemy

z. Proton Subtraction

ANSWER: Y – ALCHEMY

**BONUS**

14) GENERAL SCIENCE: *Short Answer*: What famous scientist, credited for the discovery of gravity, was also noted for his illicit alchemy experiments?

ANSWER: SIR ISAAC NEWTON

**TOSS-UP**

15) GENERAL SCIENCE: *Short Answer*: L. Acidophilus, the primary bacteria used in the making of yogurt, would fit in what classification kingdom?

ANSWER: MONERA

**BONUS**

15) GENERAL SCIENCE: *Multiple Choice*: Give the complete classification (all 7 levels) for humans.

ANSWER: ANIMALIA CHORDATA MAMMALIA PRIMATE HOMINIDAE HOMO SAPIENS

**TOSS-UP**

16) GENERAL SCIENCE: *Multiple Choice*: How many bytes are in two kilobytes?

w. 1024

x. 2048

y. 4096

z. 8192

ANSWER: X – 2048

**BONUS**

16) GENERAL SCIENCE: *Short Answer*: A traditional CD-RW has how many megabytes?

ANSWER: 700 MB

**TOSS-UP**

17) GENERAL SCIENCE: *Multiple Choice*: Gastric acid has approximately what value on the pH scale?

w. 1.0

x. 2.5

y. 4.0

z. 6.5

ANSWER: X – 2.5

**BONUS**

17) GENERAL SCIENCE: *Short Answer*: Store-brand antacids are primary composed of what compound?

ANSWER: CALCIUM CARBONATE

**TOSS-UP**

18) GENERAL SCIENCE: *Short Answer*: What petroleum-related acronym can be used to remember the results of oxidation and reduction?

ANSWER: OIL RIG

**BONUS**

18) GENERAL SCIENCE: *Short Answer*: What does OIL RIG stand for?

ANSWER: OXIDATION IS LOSS, REDUCTION IS GAIN

**TOSS-UP**

19) GENERAL SCIENCE: *Multiple Choice*: Which of the following has been proven to improve the heart’s overall health?

w. Low-density cholesterol

x. Phytosterols

y. Lycopene

z. Lutein

ANSWER: Y – LYCOPENE

**BONUS**

19) GENERAL SCIENCE: *Short Answer*: Lycopene is primarily found in what fruit?

ANSWER: TOMATO

**TOSS-UP**

20) GENERAL SCIENCE: *Multiple Choice*: The number one killer in the United States is

w. Heart disease

x. Cancer

y. AIDS

z. Hemophilia

ANSWER: W – HEART DISEASE

**BONUS**

20) GENERAL SCIENCE: *Multiple Choice*: Which of the following statements concerning cancer is least accurate?

w. The body’s own blood vessels connect to tumors and feed them.

x. The risk of lung cancer increases exponentially with the use of cigarettes.

y. Cancerous tumors can be benign or malignant.

z. Cancer cells have a different strand of DNA than regular cells.

ANSWER: Z – CANCER CELLS HAVE A DIFFERENT STRAND OF DNA THAN REGULAR CELLS.

**TOSS-UP**

21) GENERAL SCIENCE: *Multiple Choice*: Electric appliances and tools are grounded in order to

w. complete the electrical circuit

x. prevent the overloading of circuits

y. balance the voltage in both lines

z. prevent surface static charge buildup

ANSWER: Z – PREVENT SURFACE STATIC CHARGE BUILDUP

**BONUS**

21) GENERAL SCIENCE: *Short Answer:* What is the typical outlet voltage in the U.S.?

ANSWER: 140

**TOSS-UP**

22) GENERAL SCIENCE: *Multiple Choice:* Which of the following organisms grows by producing additional units of itself that are very similar to the composition of the original?

w. sea sponge

x. sea urchin

y. spider

z. termite

ANSWER: W – SEA SPONGE

**BONUS**

22) GENERAL SCIENCE: *Short Answer:* The more specific term for asexual reproduction without fertilization by a male is what?

ANSWER: PARTHENOGENESIS

**TOSS-UP**

23) GENERAL SCIENCE: *Short Answer:* Most dental amalgams are made by reacting mercury with an alloy consisting of what two metals?

ANSWER: SILVER AND TIN

**BONUS**

23) GENERAL SCIENCE: *Multiple Choice:* Sugar-free chewing gum has been shown to prevent cavities in the mouth because

w. chicle fills up the holes in the teeth

x. the active ingredients in gum kill plaque-causing bacteria

y. gum stimulates saliva production, reducing the effectiveness of plaque acids

z. phenylalanine is a natural enamel strengthener

ANSWER: Y – GUM STIMULATES SALIVA PRODUCTION, REDUCING THE EFFECTIVENESS OF PLAQUE ACIDS

**TOSS-UP**

24) GENERAL SCIENCE: *Short Answer:* Sickle cell disease is caused by the changing of glutamine to what other amino acid in the chain?

ANSWER: VALINE

**BONUS**

24) GENERAL SCIENCE: *Short Answer*: Phenylketonuria, also known as PKU, is characterized by the lack of what enzyme in the body?

ANSWER: PHENYLALANINE HYDROXYLASE

**TOSS-UP**

25) GENERAL SCIENCE: *Multiple Choice*: It is theorized that the Large Hadron Collider will confirm the existence of what elementary particle?

w. gluons

x. mesons

y. the Higgs boson

z. strange quarks

ANSWER: Y – THE HIGGS BOSON

**BONUS**

25) GENERAL SCIENCE: *Short Answer*: As particles in the Large Hadron Collider accelerate to 99.99% the speed of light, what happens to their masses?

ANSWER: THEY INCREASE