**Science Bowl Questions**

**Round 1**

**TOSS-UP**

1. BIOLOGY *Multiple Choice* What endocrine gland secretes the hormone Calcitonin, to regulate blood calcium levels?

W) Pituitary

X) Hypothalamus

Y) Pancreas

Z) Thyroid

ANSWER: Z) THYROID

**BONUS**

1. BIOLOGY *Short Answer* What lobe of the brain is the visual processing center?

ANSWER: OCCIPITAL LOBE

**TOSS-UP**

1. CHEMISTRY *Multiple Choice* When the definition of a base is given to be “a substance that tends to accept a proton”, it is known as the \_\_\_\_\_\_\_ definition.

W) Arrhenius

X) Brønsted-Lowry

Y) Lewis

Z) Mendeleev

ANSWER: X) BRØNSTED-LOWRY

**BONUS**

1. CHEMISTRY *Short Answer* All elements past the number 100 on the Periodic Table of Elements are classified into this group.

ANSWER: TRANSFERMIUM ELEMENTS

**TOSS-UP**

1. PHYSICS *Multiple Choice* Which band of the electromagnetic spectrum has the shortest wavelength?

W) Radio

X) Infrared

Y) X-ray

Z) Gamma-ray

ANSWER: Z) GAMMA-RAY

**BONUS**

1. PHYSICS *Short Answer* Using Charles’ Law for ideal gases, calculate the original volume of a gas if its original temperature was 30 °C, and it was heated to 60 °C, with a new volume of 100 mL.

ANSWER: 50 mL

**TOSS-UP**

1. EARTH SCIENCE *Multiple Choice* The common name given to the event when large pieces of ice are suddenly released and fall off of a glacier is:

W) Calving

X) Ablation

Y) Fracture

Z) Erosion

ANSWER: W) CALVING

**BONUS**

1. EARTH SCIENCE *Short Answer* This type of coal has the highest amount of carbon, and is said to be the highest quality type.

ANSWER: ANTHRACITE

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Apiology is the study of what?

W) Bees

X) Primates

Y) Tobacco

Z) Ants

ANSWER: W) BEES

**BONUS**

1. GENERAL SCIENCE *Short Answer* What does the acronym RADAR stand for?

ANSWER: RADIO DETECTION AND RANGING

**TOSS-UP**

1. MATH *Short Answer* 313 is the sum of what 2 squares?

ANSWER: 12² AND 13²

**BONUS**

1. MATH *Short Answer* Name the numbers in the 5th row of Pascal’s Triangle.

ANSWER: 1, 5, 10, 10, 5, 1

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* What is the layout engineMozilla uses in its web browser, Firefox?

W) Trident

X) Gecko

Y) Presto

Z) WebKit

ANSWER: X) GECKO

**BONUS**

1. GENERAL SCIENCE *Short Answer* This alternative layout to QWERTY is now available in all major operating systems.

ANSWER: DVORAK

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Otto Hahn is regarded as the “father of nuclear chemistry” for his discovery of:

W) Nuclear Fusion

X) Radioactivity

Y) Electromagnetism

Z) Nuclear Fission

ANSWER: Z) NUCLEAR FISSION

**BONUS**

1. GENERAL SCIENCE *Short Answer* 12 species of which bird were studied by Charles Darwin on the Galapagos Islands while he was making his theory of evolution?

ANSWER: FINCHES

**TOSS-UP**

1. GENERAL SCIENCE *Short Answer* What is the formula used to calculate kinetic energy?

ANSWER: KE= ½ mv2

**BONUS**

1. GENERAL SCIENCE *Short Answer* What isotope of Carbon is used in Carbon Dating?

ANSWER: CARBON 14

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Who was the Cuban doctor who first proposed that mosquitoes spread yellow fever?

W) Carlos Finlay

X) Walter Reed

Y) Aristides Agramonte

Z) Jesse William Lazeaer

ANSWER: W) CARLOS FINLAY

**BONUS**

1. GENERAL SCIENCE *Short Answer* The discovery of Penicillin is attributed to which scientist?

ANSWER: ALEXANDER FLEMMING

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Hepatitis affects which organ?

W) Lungs

X) Kidney

Y) Liver

Z) Heart

ANSWER: Y) LIVER

**BONUS**

1. PHYSICS *Short Answer* What does IUPAC stand for?

ANSWER: NTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY

**TOSS-UP**

1. ASTRONOMY *Multiple Choice* Which gas, that makes up the majority of Venus’s atmosphere, is the cause for its extreme heat?

W) Nitrogen

X) Sulfur Dioxide

Y) Carbon Dioxide

Z) Methane

ANSWER: Y) CARBON DIOXIDE

**BONUS**

1. ASTRONOMY *Short Answer* Respectively, name the largest and smallest constellation.

ANSWER: HYDRA (LARGEST) AND CRUX (SMALLEST)

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* A ketone is a compound in which 2 carbon atoms are bonded to:

W) Carboxylic Acid

X) Carbonyl Group

Y) Amide

Z) Aldehyde

ANSWER: X) CARBONYL GROUP

**BONUS**

1. GENERAL SCIENCE *Short Answer* Name the 7 metalloid elements.

ANSWER: (In any order) BORON, SILICON, GERMANIUM, ARSENIC, POLONIUM, TELLURIUM, ANTIMONY.

**TOSS-UP**

1. GENERAL SCIENCE *Short Answer* What is the name of the area in the Pacific Basin, in which large numbers of earthquakes and volcanic eruptions take place?

ANSWER: RING OF FIRE

**BONUS**

1. GENERAL SCIENCE *Short Answer* This scale is commonly used to measure the intensity of hurricanes.

ANSWER: SAFFIR-SIMPSON SCALE

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* What is the largest of Jupiter’s moons?

W) Io

X) Ganymede

Y) Europa

Z) Callisto

ANSWER: X) GANYMEDE

**BONUS**

1. GENERAL SCIENCE *Multiple Choice* Which of the following constellations is in the Crab Nebula?

W) Taurus

X) Aries

Y) Scorpius

Z) Virgo

ANSWER: W) TAURUS

**TOSS-UP**

1. GENERAL SCIENCE *Short Answer* What is the name of the scientist who is credited with the discovery of Hydrogen?

ANSWER: HENRY CAVENDISH

**BONUS**

1. GENERAL SCIENCE *Short Answer* Name the first Noble Gas discovered.

ANSWER: ARGON

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice*  A slug would be scientifically classified under this class, in the Phylum Mollusca:

W) Bivalvia

X) Gastropoda

Y) Cephalapoda

Z) Scaphopoda

ANSWER: X) GASTROPODA

**BONUS**

1. GENERAL SCIENCE *Multiple Choice* During this period in the Paleozoic Era, fish grew legs, and various terrestrial arthropods established themselves on land:

W) Cretaceous

X) Carboniferous

Y) Cambrian

Z) Devonian

ANSWER: Z) DEVONIAN

**TOSS-UP**

1. GENERAL SCIENCE *Short Answer* 1 ATM equals how many Torr Units of Pressure?

ANSWER: 760 (TORR)

**BONUS**

1. GENERAL SCIENCE *Short Answer*  Name the 6 Simple Machines.

ANSWER: (In any order) LEVER, WHEEL AND AXLE, PULLEY, INCLINED PLANE, WEDGE AND SCREW.

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Who was the scientist who made the Plum Pudding Model?

W) Rutherford

X) Dalton

Y) Heisenberg

Z) Thomson

ANSWER: Z) THOMSON

**BONUS**

1. GENERAL SCIENCE *Short Answer* What is the name given to different forms of the same pure element, such as Graphite, Diamond, and Fullerenes all being pure Carbon?

ANSWER: ALLOTROPES

**TOSS-UP**

1. GENERAL SCIENCE *Short Answer* What does the SI prefix “femto” mean?

ANSWER: 10-15

**BONUS**

1. GENERAL SCIENCE *Short Answer* What is the binary code for the decimal “15”?

ANSWER: 1111

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Which German Physicist confirmed JC Maxwell’s electromagnetic theory, and produced and studied electromagnetic waves?

W) Hertz

X) Bohr

Y) Heisenberg

Z) Heaviside

ANSWER: W) HERTZ

**BONUS**

1. GENERAL SCIENCE *Short Answer* Which French scientist is known as “the father of chemistry”, and is credited with the creation of the Law of Conservation of Mass.

ANSWER: ANTOINE LAVOISIER

**TOSS-UP**

1. GENERAL SCIENCE *Short Answer* The acronym ASCII, which is the universal standard system used on computers for text representation, stands for what?

ANSWER: AMERICAN STANDARD CODE FOR INFORMATION EXCHANGE

**BONUS**

1. GENERAL SCIENCE *Short Answer* What is the name used to describe the Analog television system that was used through most of the US until recently?

ANSWER: NTSC

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Which blood group has both A and B antibodies present?

W) AB

X) A

Y) B

Z) O

ANSWER: Z) O

**BONUS**

1. GENERAL SCIENCE *Short Answer* What is the term used to describe the sign of death in which chemical changes in the muscles of a corpse make its limbs stiff?

ANSWER: RIGOR MORTIS

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* On the Periodic Table, what is the first period in which the “4f” subshell is found?

W) 4

X) 5

Y) 6

Z) 7

ANSWER: Y) 6

**BONUS**

1. GENERAL SCIENCE *Short Answer* What is the name of the hypothetical subatomic particle that travels *faster* than the speed of light at all times?

ANSWER: TACHYONS

**TOSS-UP**

1. GENERAL SCIENCE *Multiple Choice* Grain alcohol is another name for:

W) Methanol

X) Ethanol

Y) Propane

Z) Butanol

ANSWER: X) ETHANOL

**BONUS**

1. GENERAL SCIENCE *Short Answer* What is the name of the polymer that carbohydrates are stored as in plants?

ANSWER: CELLULOSE