Science Bowl Questions

1. EARTH SCIENCE *Short Answer* In which time period did most of the glacial episodes occur which formed a division in the time scale?

ANSWER: PLEISTOCENE EPOCH

1. EARTH SCIENCE *Multiple Choice* Which of the next best describes relative humidity?

i. the amount of moisture required for saturation

ii. the mixing ratio of moisture in the air

iii. how near the air is to saturation

ANSWER: iii. HOW NEAR THE AIR IS TO SATURATION

1. EARTH SCIENCE *Short Answer* The glowing head of a comet that occurs due to vaporization on a comet is called what?

ANSWER: COMA

1. EARTH SCIENCE *Short Answer* The sun has multiple layers. Which of the layers can be best described as very weak and the outermost?

ANSWER: CORONA

1. PHYSICS *Short Answer* An object is dropped from a height of 980 meters. In how many seconds will it reach the halfway point between it and the ground? (assume *g* = 10m/s2)

ANSWER: 7 SQUARE ROOT 10 SECONDS

1. PHYSICS *Short Answer* An object with a mass of 30 g is dropped from a height of 30 m. An object with a mass of 500 g is dropped from a height of 40 m. Which is the first to reach the ground?

ANSWER: THE FIRST OBJECT WITH MASS OF 30 GRAMS

1. PHYSICS *Short Answer* Two trains are start off coming at each with a velocity of 20 mi/hr. The acceleration is 10 mi/hr2. They are 60 miles apart. How many hours does it take for them to meet each other?

ANSWER: 2 HOURS

1. PHYSICS *Multiple Choice* Which of the following quantity is a vector?

W) Speed

X) Velocity

Y) Temperature

Z) Time

ANSWER: X) VELOCITY

9) PHYSICS *Multiple Choice* When spinning a ball on a string, which of the following forces takes place?

W) GRAVITATIONAL

X) CENTRIFUGAL

Y) BOUYANT

Z) CENTRIPITAL

ANSWER: Z) CENTRIPITAL

1. BIOLOGY *Short Answer* What is the name for the set of metabolic reactions that are present in cells to convert biochemical energy to ATP?

ANSWER: CELLULAR RESPIRATION

1. BIOLOGY *Multiple Choice* What organelle provides mobility to the cell?

W) Mitochondria

X) Flagella

Y) Cytoplasm

Z) Nucleus

ANSWER: X) FLAGELLA

1. BIOLOGY *Short Answer* What is the name for the molecule present in the beginning of an enzymatic reaction?

ANSWER: SUBSTRATES

1. BIOLOGY *Multiple Choice* Which of the following is not a bone located in the leg portion of the human body?

W) Femur

X) Patella

Y) Fibula

Z) Humeras

ANSWER: Z) HUMERUS

1. MATH *Multiple Choice* What is the standard form of the equation whose roots are (3,0) and (-3,0), and whose vertex is at (0,-9)?

W) 2x2+6x=y

X) 3x2+9x = y

Y) x2-9 = y

Z) Not possible in the reals

ANSWER: x2 – 9 = y

1. MATH *Short Answer* Compute (x+3)4 – (x-5)3 if x=2?

ANSWER: 652

1. MATH *Short Answer* What is the value of 4 choose 3?

ANSWER: 4

1. MATH *Multiple Choice* Which of the conic sections is represented by this equation: 25x2-xy-49y2+4=0?

W) Circle

X) Ellipse

Y) Hyperbola

Z) Parabola

ANSWER: Y) HYPERBOLA

1. ENERGY *Short Answer* What type of energy would be there at the point the yoyo is closest to your finger?

ANSWER: POTENTIAL ENERGY

1. ENERGY *Short Answer* What is the average temperature increase per year since 2005?

ANSWER: around 1 degree Celsius

1. ENERGY *Multiple Choice* Where is the world’s biggest energy producer located?

W) Russia

X) Syria

Y) United States

Z) Canada

ANSWER: Y) UNITED STATES

1. ENERGY *Short Answer* Which country is the world’s largest polluter in terms of population?

ANSWER: UNITED STATES

1. CHEMISTRY *Short Answer* Does a liquid with a higher vapor pressure have a relatively low boiling point or high boiling point?

ANSWER: LOW BOILING POINT  
23. CHEMISTRY *Multiple Choice* What is the common name for the following formula KNO3?

W) Methane

X) Saltpeter

Y) Nitrate

Z) Laughing gas

ANSWER: X) SALTPETER  
24. CHEMISTRY *Short Answer* What is the name for a substance whose aqueous solutions conduct heat or electricity?

ANSWER: ELECTROLYTES

25. CHEMISTRY *Multiple Choice* What process is taking place when elements are synthesized to new ones?

W) Nuclear Fission

X) Ionization

Y) Synthesis

Z) Nuclear Fusion

ANSWER: Z) NUCLEAR FUSION