

Extra Questions - Elementary

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(1) **Long period varieties of these objects come from the Oort Cloud. In 1994, one of these objects named Shoemaker-Levy 9 crashed into (+) the surface of Jupiter. Solar wind causes the tails of these objects to always point away from the (*) star which they orbit. For the point, name these icy bodies that orbit the Sun and include examples named Halley's and Hale-Bopp.**

ANSWER: **Comets** (accept Short-period **comets**; accept Long-period **comets**; accept Periodic **comets**)

(2) **As a consequence of its high density, this body's atmosphere experiences super-rotation. Unique volcanic features on this body's surface include pancake domes and ticks. This body is the only (+) planet to experience retrograde rotation. Due to its similar size, this body is sometimes called "Earth's twin." The hottest surface in the Solar (*) System is found on, for the point, what second planet from the Sun?**

ANSWER: **Venus**

(3) **In 1961, Bernice Eddy discovered that millions of people were exposed to SV40 [[S-V-"forty"]] through contaminated vaccines for this disease. During the Cutter incident, thousands of Americans were given faulty (+) live-virus vaccines for this disease. This disease's first vaccine was invented by Jonas Salk in the 1950s. Paralysis can be (*) caused by, for the point, what disease that attacks the nervous system?**

ANSWER: **Polio** (or **Poliomyelitis**)

(4) **Children with this disorder typically fail the Sally-Anne test, demonstrating a lack of theory of mind. The DSM Five reclassified this (+) disorder as a spectrum, subsuming the previous diagnosis of Asperger's syndrome. Low (*) social interest and communication struggles characterize, for the point, what neurodevelopmental condition?**

ANSWER: **Autism** (or **Autism** Spectrum Disorder; accept **ASD**; accept answers relating to being **Autistic**; prompt on "on the spectrum" and similar answers)

(5) **Ralph Solecki controversially claimed that the presence of flower pollen with a buried member of this species was evidence of ritual burial. This species is believed to have frequently interbred with the closely related (+) Denisovans [[deh-NEE-soh-vins]]. The 1983 discovery of this species's hyoid bone suggests they had the ability to talk. A valley in Western (*) Germany names, for the point, what cave-dwelling relatives of modern humans?**

ANSWER: **Neanderthals** (or Homo **Neanderthalis**; accept pronunciations which replace the "TH" with a "T" sound; prompt on "Neander Valley")

(6) **The vaccinia [[vak-SIH-nee-ah]] virus is used to inoculate against this disease and was first harvested from sores on the hands of milkmaids. During a 1763 siege, British and American soldiers (+) used this disease as a bioweapon by distributing contaminated blankets. The world's first vaccines were produced by Edward (*) Jenner to prevent this disease. For the point, name this deadly disease caused by *Variola* viruses, which was eradicated in the 1970s.**

ANSWER: **Smallpox** (prompt on "Variola Major" or "Variola Minor" before mentioned)

(7) **With theophylline [[thee-AH-fih-leen]], this compound is often used as a treatment for sleep apnea among premature babies. This stimulant is often extracted using supercritical (+) carbon dioxide. Due to being an adenosine [[ah-DEH-noh-seen]] antagonist, this alkaloid compound is commonly used to prevent (*) drowsiness. For the point, name this stimulant found in tea and coffee.**

ANSWER: **Caffeine** (accept **Guaranine**; accept **Methyltheobromine**)

(8) **A solution of ferrous iron and this compound is used to treat drinking water as Fenton's reagent. Within eukaryotic [[yoo-"care"-ee-AH-tik]] cells, specialized vacuoles use catalase [[KAT-ah-"lace"]] to (+) break down this compound into water and oxygen. Often used as a first aid antiseptic (*), for the point, what is this compound with formula H₂O₂?**

ANSWER: **Hydrogen Peroxide** (accept **H₂O₂** before mentioned; prompt on "peroxide")

(9) **Common ores of this element include nagyágite [[nahg-YAH-gite]], petzite and krennerite, from which this element can be extracted through (+) cyanide leaching. Iron pyrite superficially resembles this element, lending it the nickname (*) "fool's" this element. High conductivity and malleability characterize, for the point, what precious metal known for its yellow color?**

ANSWER: **Gold** (accept **Au**)

(10) **In a wheel and axle system with equal wheel and axle mass, this quantity for the wheel is equal to mass times radius squared. For a belt and pulley system, this quantity is equal to the (+) axial force on the belt multiplied by the radius of the drive pulley. This quantity, symbolized τ , is the time derivative of angular (*) momentum.** For the point, name this rotational analogue of linear force.

ANSWER: **Torque** (accept **Moment**, **Moment of force**, **Rotational force**, or **Turning effect**)

(11) **This thinker was the first to note the color-changing camouflage of octopuses. In *On the Heavenly Spheres*, this thinker claimed that the stars were suspended in an imperishable aether [[AY-ther]]. This (+) thinker posited the prime mover in his *Physics*. The *Nicomachean* [[nih-koh-mah-KEE-an]] *Ethics* were written by, (*) for the point, what Greek philosopher who tutored Alexander the Great?**

ANSWER: **Aristotle** (or **Aristoteles**)

(12) **This type of radiation creates free radicals by reacting with CFCs, which can damage the ozone layer. This kind of radiation creates vitamin D from ergosterol [[er-GAH-steh-rol]] and (+) 7-dehydrocholesterol [[dee-hy-dro-"cholesterol"]]. The primary cause of (*) sunburns, for the point, what is this type of electromagnetic radiation which has wavelengths longer than x-rays, but shorter than visible light?**

ANSWER: **Ultraviolet** Radiation (or **UV** Radiation; prompt on "radiation")

(13) **A type of crystallography using this radiation was used by Rosalind Franklin to take a photo of the structure of DNA. The discovery of this type of (+) radiation earned Wilhelm Röntgen [[RENT-gen]] a Nobel Prize in Physics. With a lower frequency than gamma (*) rays, for the point, what is this type of radiation which can be used to image bones?**

ANSWER: **X-rays** (or **X-Radiation**; accept **Röntgen Radiation** before "Röntgen")

(14) **The pika [[PIE"-kah]] is a close rabbit relative found in these biomes. Guanacos [[gwah-NAH-kohs]] and vicuñas [[vih-KOO-nyahs]] are two South American (+) camelids [[KAM-eh-lids]] noted for living in these biomes. Plant-life on these biomes typically stops above the snow line (*). For the point, name these high-altitude biomes found in places such as the Himalayas.**

ANSWER: **Mountains** (accept **Alpine**; accept **Mountain** range; accept **Highlands**; accept Himalayan **Mountains**)