QQBC Packet 9

1.  **This character narrates a novel in which he helps investigate Jake and Jubiter Dunlap, and another novel in which he flies to Africa in a hot air balloon. This character comes between the Shepherdsons and Grangerfords in one novel, in which he meets the (\*)** Duke and the Dauphin. This boy runs away from the Widow Douglas by rafting down the Mississippi River with a former slave, Jim. For 10 points, name this character created by Mark Twain, a friend of Tom Sawyer.  
  
Answer: Huckleberry Finn  
  
<LIT, AMER>

This mythical figure’s parents were either King Lot and Morgause or Morgaine and her half-brother. For ten points each,  
  
Name this figure from British legend, who mortally wounded a king at the Battle of Camlann, where this man was killed.  
  
ANSWER: Mordred (accept Medraut; accept Modred)  
  
Mordred betrayed this legendary king, who established the Round Table, went to war with Lancelot over his wife Guinevere, and was transported to Avalon after being mortally wounded at the Battle of Camlann.  
  
ANSWER: King Arthur Pendragon  
  
This mystic was unable to protect Arthur at the Battle of Camlann because he had been imprisoned in a cave by the sorceress Nimue, who had been this man’s student.  
  
ANSWER: Merlinus Ambrosius (accept Myrddin Emrys; prompt on “Emrys” or “Ambrosius”)  
  
<RMPSS, MYTH>

2.  **The production of substances with this property is predicted by Zaitsev's rule, and sulfur has this interaction in a thial group. Oxygen forms one of these with carbon in carbonyls, as seen in acetone and formaldehyde. (\*)** Alkenes are defined by having this structure, represented in Lewis diagrams by an equals sign. For 10 points, name this type of covalent bond that requires four valence electrons, and that is stronger than a single bond.  
  
Answer: double bonding (accept carbon-carbon double bond until "thial" is read; prompt on "bond;" until "thial")  
  
<SCI, CHEM>

This leader was attacked and denounced in the "Secret Speech." For 10 points each,  
  
[10] Name this ruler, who outmaneuvered Leon Trotsky to succeeded Vladimir Lenin. This man led his country through World War II.  
  
Answer: Joseph Stalin (accept Ioseb Dzhugashvili)  
  
[10]The "Secret Speech" was given by this successor to Stalin. During a meeting with the United Nations, this leader allegedly banged his shoe on a table in protest.  
  
Answer: Nikita Sergeyevich Khrushchev  
  
[10] Both Stalin and Khrushchev were leaders of this communist state, whose last leader was Mikhail Gorbachev.  
  
Answer: United Soviet Socialist Republics (accept Soviet Union; accept CCCP)  
  
<HIST, EURO>

3.  **The protagonist of this work is invited to a witches' sabbath by Mistress Hibbins. A child in this work notices that the sunlight avoids her mother when they go to the forest. In this novel, Roger (\*)** Chillingworth arrives in New England to find his wife has been imprisoned for having an affair with Reverend Arthur Dimmesdale. Pearl is the daughter of Hester Prynne, who is forced to wear the title symbol as a sign of her adultery in, for 10 points, what novel by Nathaniel Hawthorne?  
  
Answer: The Scarlet Letter  
  
<LIT, AMER>

Answer these questions about key properties of seawater, for ten points each.  
  
The ability for organisms to live in seawater is highly dependent on this quantity, which is higher in brackish water than fresh water. The Dead Sea has a value over 30% for this quantity, and ocean water is usually 3 . 5%.  
  
ANSWER: salinity (prompt on descriptive answers related to “how much salt is in the water”)  
  
The dissolved salts in the ocean give seawater a higher value for this property of mass per unit volume, making it easier to float in seawater compared to freshwater.  
  
ANSWER: density  
  
Both the salinity and density of seawater are greatly affected by this quantity, which rapidly decreases in the thermocline.  
  
ANSWER: temperature  
  
<SCI, OTHER>

4.  **The use of ruthenium in the Grubbs’ type of this substance makes it resistant to poisoning, while titanium is needed to polymerize alkenes in the Ziegler-Natta type. The production of sulfuric acid uses vanadium as one of these substances to (\*)** increase the rate of the oxidation step. Enzymes are biological examples of, for ten points, what chemicals that lower activation energy, thereby speeding up a reaction, without being consumed?  
  
ANSWER: catalysts  
  
<SCI, BIO>

This principle is often stated as the inability to exactly measure a particle’s position and momentum at the same time. For ten points each,  
  
Name this quantum physics principle. It was first introduced by Werner Heisenberg in 1927 . ANSWER: Heisenberg’s uncertainty principle (accept indeterminacy principle)  
  
Heisenberg’s uncertainty principle can be written as an inequality with this scientist’s reduced constant on the right side. This constant is the ratio of a photon’s energy to its frequency.  
  
ANSWER: Planck’s constant (prompt on “h”)  
  
Heisenberg’s uncertainty principle is one tenet of this theory of quantum mechanics co-developed with Niels Bohr. This theory uses wave functions to show all possible states of a particle before its observation, and is named for the Danish city where Bohr and Heisenberg developed it.  
  
ANSWER: Copenhagen interpretation  
  
<SCI, PHYS>

5.  **A character in this work is traumatized by the drowning of her son Grisha. Another character in this play is nicknamed the “eternal student” and is loved by Anya. Lopakhin purchases the title (\*)** estate from Madame Ranevskaya in this play, and the servant Firs is left to die in the title location. For ten points, name this Anton Chekov play that ends with the title fruit-producing trees being chopped down.  
  
ANSWER: The Cherry Orchard (accept Vishnevyi sad)  
  
<LIT, EURO>

This event was fictionalized in Inherit the Wind. For 10 points each,  
  
[10] Name this event in which a Tennessee school teacher was accused of violating the Butler Act. During this trial, Clarence Darrow argued that the Butler Act was unconstitutional  
  
Answer: The Scopes Monkey trial (accept The State of Tennessee vs John Thomas Scopes)  
  
[10] John Scopes violated the Butler Act by teaching this scientific theory. According to the law, teaching this theory denied the Bible's origin of man.  
  
Answer: human evolution  
  
[10] The prosecutor in the Scopes Monkey Trial was this man. This former Secretary of State had resigned after Woodrow Wilson's aggressive stance towards Germany.  
  
Answer: William Jennings Bryan  
  
<HIST, AMER>

6.  **This constellation includes the star most likely to produce the next daytime visible supernova. With Gemini and Auriga, this constellation lies entirely within the Winter Circle. This constellation, which is notably never seen in the sky at the same time as Scorpius, includes a (\*)** shield west of its third-brightest star, Bellatrix. The supergiants Rigel and Betelgeuse are found in, for ten points, what constellation whose three central stars make up the hunter’s belt?  
  
ANSWER: Orion (accept Orion’s Belt after “belt” is read)  
  
<SCI, OTHER>

This substance's pH level is maintained by a carbon dioxide and bicarbonate buffering system. For 10 points each,  
  
[10] Name this red bodily fluid that transports oxygen and other life-sustaining compounds throughout the body. Tt contains erythrocytes, leukocytes, and platelets, which clot it.  
  
Answer: blood  
  
[10] This protein within red blood cells carries oxygen in its namesake iron-containing group. At low pressures, it is less saturated with oxygen than the similar myoglobin.  
  
Answer: hemoglobin  
  
[10] Blood coagulation requires this fat-soluble vitamin that also allows calcium ions to bind to bone. Answer: Vitamin K  
  
<SCI, BIO>

7.  **This author asks “Doth God exact day-labour, light denied?” in a poem that ends “They also serve who only stand and wait.” In another work by this author of “When I Consider How my Light is Spent,” a character proclaims “Better to (\*)** reign in Hell, than serve in Heaven” after failing in his rebellion against God. Adam and Eve are banished from Eden in a work by, for ten points, what English author who was blind when he wrote Paradise Lost?  
  
ANSWER: John Milton  
  
<LIT, BRIT>

These substances can be anodized, such as by galvanizing, in order to build a strong oxide layer around them. For 10 points each,  
  
[10] Name these substances that have high electrical and thermal conductivities because valence electrons in these substances are entirely delocalized in a "sea of electrons."  
  
Answer: metals  
  
[10] Metals are often malleable and have this property, the ability to be stretched into a thin wire. This property refers to a solid's ability to deform in response to tensile stress.  
  
Answer: ductility (accept word forms, such as they are ductile)  
  
[10] Metals cannot be ductile in this state of matter, as their atoms move too freely to form a rigid shape. This state of matter is achieved by melting solids or by condensing gases.  
  
Answer: liquid  
  
<SCI, CHEM>

8.  **This sculpture, once nicknamed “The Poet,” was designed to sit below The Three Shades and above two representations of Paolo and Francesca da Rimini. This bronze sculpture is part of a large sculpture group that includes The (\*)** Kiss, and represents Dante resting on a rock and contemplating sinners in Hell. For ten points, name this sculpture by Rodin [roh-DAN] of a pensive man who sits hunched over, resting his head on his hand.  
  
ANSWER: The Thinker (accept Le Penseur)  
  
<FA, VISUAL>

In June 1940, this man proclaimed “we shall defend our island, whatever the cost may be. We shall fight on the beaches...” For ten points each,  
  
Name this British Prime Minister. ANSWER: Sir Winston Churchill  
  
Churchill’s “We shall fight on the beaches” speech was given after Operation Dynamo, a week-long evacuation of Allied forces off the continent from this French harbor town. Hundreds of thousands of troops were rescued, many by “little boats.”  
  
ANSWER: Dunkirk (accept extra information, like the Dunkirk evacuation)  
  
In a speech two weeks later, Churchill noted that “...the Battle of France is over, the Battle of Britain is about to begin.” The speech encouraged listeners with the declaration “Let us...bear ourselves that if the British Commonwealth and Empire lasts for a thousand years, men will still say” this five word phrase.  
  
ANSWER: “This was their finest hour.”  
  
<HIST, EURO>

9.  **With his nephew, this god was commanded by Laomedon to build the walls of Troy, and he gave the gift of a freshwater spring to Athens. He captured Demeter by transforming into a stallion, and this god of horses cursed Odysseus for blinding his son (\*)** Polyphemus. This son of Cronos and Rhea was an Olympian god who wielded a trident. For 10 points, name this brother of Zeus, the Greek god of the sea.  
  
Answer: Poseidon (accept Apollo before "nephew" is read; do not accept Neptune)  
  
<RMPSS, MYTH>

This novel’s protagonist is raised by the Reeds, and goes to stay with the St John family after discovering that her husband-to-be was already married. For ten points each,  
  
Name this Charlotte Bronte¨ novel whose title character attends Lowood School and enters into a romantic  
  
relationship with Edward Rochester. ANSWER: Jane Eyre  
  
Edward Rochester’s relationship with Jane is complicated by his previous marriage to this woman. At the end of the novel, this “madwoman in the attic” kills herself by jumping off the roof of Thornfield Hall.  
  
ANSWER: Bertha Mason (accept either name; accept either name of Antoinette Cosway)  
  
Before jumping off of the roof, Bertha Mason destroys Thornfield Hall in this manner. Bertha had started one of these events earlier in the novel but was foiled when Jane doused Rochester with water.  
  
ANSWER: fire  
  
<LIT, BRIT>

10.  **The Gospel of James lists this figure’s parents as Joachim and Anne, who presented this Theotokos at the Temple in Jerusalem. When Elizabeth saw this figure, her baby jumped in her womb, foretelling (\*)** John the Baptist’s relation to this immaculately conceived woman’s son. Gabriel said “be not afraid” to this woman, who traveled to Bethlehem with her husband, Joseph. For ten points, name this biblical mother of Jesus.  
  
ANSWER: Mary (accept Mother Mary; accept Blessed Virgin Mary)  
  
<RMPSS, REL>

For 10 points each, answer the following about literary works that feature characters retreating from illness.  
  
[10] Prince Prospero holds a colorful ball for nobles fleeing the title disease in "The Masque of the Red Death," a short story by this American author of "The Black Cat" and "The Cask of Amontillado" [ah-mon-tee-YAH-doh].  
  
Answer: Edgar Allan Poe  
  
[10] Thomas Mann's The Magic Mountain takes place in a Swiss sanitorium that treats patients with this lung disease, also called "consumption."  
  
Answer: tuberculosis (accept TB)  
  
[10] Ten young people tell each other stories after retreating to the country to escape the Black Death in this story collection written by Boccaccio [boh-KAH-chee-oh].  
  
Answer: The Decameron (accept Decamerone)  
  
<LIT, OTHER>

11.  **Rulers of this city included Nabopolassar, who allied with the Medes to fight the Assyrians in the 7th century BCE. Although archaeologists haven’t found evidence of it, a terraced building in this city was legendarily built on the orders of (\*)** Nebuchadnezzar II, whose wife was homesick for greenery. “An eye for an eye” inspired many of Hammurabi’s laws for, for ten points, what ancient Mesopotamian city that was home to the Hanging Gardens?  
  
ANSWER: Babylon  
  
<HIST, OTHER>

In an opera by Puccini [poo-CHEE-nee], Musetta, Colline, and Marcello sell their possessions to buy this character some medicine, but she dies before they return. For 10 points each,  
  
[10] Name this operatic character, who asks Rodolfo to help light her candle.  
  
Answer: Mimi  
  
[10] Mimi dies of tuberculosis in this Puccini opera, which inspired the musical Rent.  
  
Answer: La Boheme  
  
[10] La Boheme is set in the Latin Quarter and near the Barriere d'Enfer in this French capital city.   
  
Answer: Paris  
  
<FA, AUDIO>

12.  **This party sponsored John C. Fremont in its first presidential election. Thaddeus Stevens led a Radical faction of this political party that attempted to impeach Andrew Johnson. After the Civil War, this party supported (\*)** Reconstruction, in contrast to its Southern-based rivals. For ten points, name this political party that elected Abraham Lincoln President over John Breckenridge and Stephen Douglas, a pair of Democrats.  
  
ANSWER: Republican Party (accept Grand Old Party; accept GOP)  
  
<HIST, AMER>

Answer the following about revolutionary bronze sculptures, such as Donatello’s Gattamelata, for ten points each.  
  
Gattamelata commemorates Erasmo da Narni’s military prowess by showing him riding one of these animals. The statue inspired a trend of depicting military leaders riding these animals.  
  
ANSWER: horses  
  
This virtuosic French sculptor’s The Age of Bronze was so realistic that he was accused of making the cast for it from a live model. To prove the claim false, this artist cast his statue of John the Baptist to be seven feet tall.  
  
ANSWER: (Franc¸ois) Auguste (Rene´) Rodin  
  
Constantin Brancusi inspired a lawsuit over the nature of art when he tried to transport a sculpture depicting this animal in Space through customs, and was ordered to pay a tax for a “manufactured metal object.”  
  
ANSWER: Bird in Space  
  
<FA, VISUAL>

13.  **In this novel, a group of immortals called struldbrugs are identified by a color-changing spot above their left eyebrow. This novel’s title character scorns human “Yahoos” in favor of horse-people called (\*)** Houyhnhnms [HWIN-hums], and observes a war between Big Endians and Little Endians over the right way to crack an egg. The title man visits the giants of Brobdingnag and the tiny people of Lilliput in, for ten points, what satirical Jonathan Swift novel?  
  
ANSWER: Gulliver’s Travels  
  
<LIT, BRIT>

The official definition of the meter is based on this constant. For 10 points each,  
  
[10] Name this constant, symbolized c, that is the upper limit on the velocity of any object in the universe. Photons travel at this velocity.  
  
Answer: speed of light in a vacuum  
  
[10] The photon is able to move at the speed of light because it has this property, indicating that it would have no rest energy.  
  
Answer: massless (accept descriptions like "it has no mass")  
  
[10] This experiment disproved the "luminiferous aether" theory because, when this experiment's two namesake scientists adjusted their interferometer, the speed of light did not change.  
  
Answer: Michelson-Morley experiment (accept any answer with the names Albert Michelson and Edward Morley)  
  
<SCI, PHYS>

14.  **Rho, phi, and z define points in a coordinate system named after these shapes. This shape can be created in three-dimensional Cartesian coordinates by setting the sum of the squares of any two of the three variables equal to a constant. Their surface area is found by summing their lateral area, which is a (\*)** rectangle, with their two circular bases. For 10 points, name these three dimensional shapes with volume equal  
  
to pi times radius squared times height, commonly exemplified by cans. Answer: cylinders  
  
<SCI, OTHER>

An increase in sulfur dioxide and nitrogen dioxide in the atmosphere can cause this weather phenomenon. For 10 points each,  
  
[10] Name this type of precipitation that causes metal corrosion and the erosion of stone statues, and has a low pH.  
  
Answer: acid rain (accept acid precipitation; prompt on "acid" or "rain")  
  
[10 ] Hourly pollution reports issued on Twitter by the US embassy in this country once described its air as "crazy bad." This Asian country's air pollution is a result of its many coal-burning factories and the second-highest number of cars in the world.  
  
Answer: People's Republic of China (do not accept Republic of China)  
  
[10] Both acid rain and smog may result from this controversial drilling technique that pumps water and chemicals into the ground to release natural gas and oil.  
  
Answer: hydraulic fracturing (accept hydrofracturing or hydrofracking; accept fracking)  
  
<SCI, OTHER>

15.  **An enzyme’s turnover number can be calculated as V max over this quantity for the enzyme. Colligative properties are only dependent on this quantity of the solute, and not its identity. This quantity for an acid can be determined via (\*)** titration, and pH is equal to the negative logarithm of this quantity for hydrogen ions in a given solution. For ten points, name this quantity, expressed in units of molarity or parts per million, that indicates how strong a chemical is.  
  
ANSWER: concentration  
  
<SCI, CHEM>

For 10 points each, give the following about the "Mighty Handful."  
  
[10] Mily Balakirev led the Mighty Handful at meetings in St Petersburg in this home nation of the Handful. Answer: Russian Empire (do not accept USSR)  
  
[10] This member of the Mighty Handful described the transformation of Guidon in his The Tale of Tsar Saltan, which includes the Flight of the Bumblebee.  
  
Answer: Nikolai Andreyevich Rimsky-Korsakov  
  
[10] This other member of the Mighty Handful was inspired by Viktor Hartmann paintings, like "The Great Gate of Kiev" and "The Hut on Fowl's Legs," for his Pictures at an Exhibition.  
  
Answer: Modest Pyotrovich Mussorgsky  
  
<FA, AUDIO>

16.  **These entities occupy a belt extending nine degrees on either side of the ecliptic and, because of precession, Ophiuchus [oh-FYE-ah-kus] should count as one of them. Bright stars within these objects include Aldebaran, Spica, and Pollux, while (\*)** fifteen stars make up the largest example, Virgo. For 10 points, name this collection of twelve constellations, including Taurus, Scorpio, and Pisces, that mark divisions along the Sun's path across the sky and are used for horoscopes.  
  
Answer: zodiacal constellations (prompt on "constellations" before it is read; prompt on "zodiac signs")  
  
<SCI, OTHER>

During this war, a road in Verdun became known as the "Sacred Way." For 10 points each,  
  
[10] Name this war caused partly by the recent formation of the German Empire. During this war, Russia, Great Britain, and France formed the Triple Entente.  
  
Answer: World War I (accept First World War)  
  
[10] The bloodiest battle in World War I was this Douglas Haig-led battle that took place by a French river. This battle saw the first appearance of a tank and concluded with over one million casualties.  
  
Answer: Battle of the Somme (accept Somme Offensive)  
  
[10] America joined World War I in 1917 by sending this John Pershing-led army, which was composed of two million "doughboys."  
  
Answer: American Expeditionary Force  
  
<HIST, EURO>

17.  **This author wrote about Trigorin and Nina in one play, and about Serebryakov's attempted murder at the hands of the title character in another. In another play by this man, Madame Ranevski sells the title (\*)** location to Lopakhin. A dramatic foreshadowing device is called this man's "gun." Three Sisters and The Seagull are by, for 1O points, what Russian playwright, who wrote Uncle Vanya and The Cherry Orchard? Answer: Anton Pavlovich Chekhov  
  
 <LIT, EURO>

The egg-rolling done by geese and the spinning of webs by spiders can be described with this term. For ten points each,  
  
Name this type of behavior that is genetically hardwired from birth and done without any prior experience. ANSWER: instinctive (accept innate; accept word forms, like instinctual)  
  
Many non-instinctual behaviors are learned through this process, in which rewards reinforce a behavior while punishments discourage it. During World War II, B. F. Skinner used this type of learning to train pigeons to guide navy missiles.  
  
ANSWER: operant conditioning (prompt on conditioning; do not accept “classical conditioning”)  
  
In between purely innate and conditioned responses is this type of animal behavior that can only occur during a critical period of time. Newly hatched goslings recognized Konrad Lorenz as their mother and continuously followed him because of this type of learning.  
  
ANSWER: filial imprinting  
  
<RMPSS, SOC SCI>

18.  **For reporting on this goddess, Ascalaphus was turned into an owl. Pirithous was punished for eternity for trying to kidnap this goddess, who was celebrated with her mother in the Eleusinian Mysteries. This goddess lived with her mother in the (\*)** summer, but was forced to spend part of each year with her husband after consuming pomegranate seeds. For ten points, name this “Queen of the Underworld,” the daughter of Demeter and wife of Hades.  
  
ANSWER: Persephone (accept Kore)  
  
<RMPSS, MYTH>

A statue of this story’s title character sits on a coastal rock in Copenhagen. For ten points each,  
  
Name this short story in which the youngest daughter of the Sea King bargains with a witch to get legs so that she can fall in love with a human prince.  
  
ANSWER: The Little Mermaid (accept Den lille havfrue)  
  
“The Little Mermaid” is a fairy tale by this Danish author of “The Ugly Duckling” and “The Emperor’s New Clothes.”  
  
ANSWER: Hans Christian Andersen  
  
In this other Andersen tale, a tiny girl escapes from a toad, a beetle, and a mole, and eventually marries a flower-fairy prince, who gives her wings.  
  
ANSWER: Thumbelina (accept Tommelise)  
  
<LIT, EURO>

19.  **This species was infected with T2 phage DNA in the Hershey-Chase experiment. The lac [lack] and trp [trip] operons were first discovered in this species, which generates vitamin K for its hosts. Undercooked beef may be (\*)** contaminated with this prokaryote that can divide every 20 minutes in a Petri dish. For ten points, name this Gram-negative, rod-shaped species that is normally found in the human large intestine, the most important bacterial model organism.  
  
ANSWER: Escherichia coli  
  
<SCI, BIO>

The Gibbs free energy of a chemical reaction is minimized once this condition is reached. For ten points each, Name this state that is achieved when the forward and reverse rates of a reaction are equal.  
  
ANSWER: (dynamic) chemical equilibrium  
  
When a reaction is upset, because of changes in temperature or other conditions, this French chemist’s principle states that the equilibrium will shift to counteract the change.  
  
ANSWER: Le Chatelier’s [shat-lee-ay’s] principle  
  
Le Chatelier’s principle allows the Haber process to maximize production of this base by combining hydrogen and nitrogen gases at high pressure.  
  
ANSWER: ammonia (accept NH3)  
  
<SCI, CHEM>

20.  **This poet wrote about a bird who "bit an Angle Worm in halves / And ate the fellow, raw," and about another creature who "never - in Extremity, / [asked] a crumb - of me." This poet of (\*)** "'Hope' is a thing with feathers" wrote about "the Stillness in the Room" around her deathbed, and about a figure who "kindly stopped for me." The reclusive "Belle of Amherst" who wrote "I heard a Fly buzz -- when I died" is, for 10 points, what American poet who wrote "Because I could not stop for Death?"  
  
Answer: Emily Elizabeth Dickinson  
  
<LIT, AMER>

This man fought his emotions while announcing the failure of a national merger. For 10 points each,  
  
[10] Name this founding father of an Asian city-state that became independent from Malaysia in 1965 . This leader passed away in March 2015 .  
  
Answer: Lee Kuan Yew  
  
[10] Lee Kuan Yew was the first Prime Minister of this Asian city-state. Tts booming economy and population of less than six million people gives this city the second-highest GDP per capita of any Asian country.  
  
Answer: Republic of Singapore  
  
[10] Lee Kuan Yew supported corporal punishment, usually given in this form in schools and prisons. Preston Brooks used this specific attack on Charles Sumner in the House of Representatives in 1856 .  
  
Answer: caning (accept descriptions like "using a cane to beat someone;" prompt on "beating" or similar answers)  
  
<HIST, WORLD>