

Bulldog High School Academic Tournament XXII (2013): *Praxis?* We Talkin' Bout *Praxis*, Man
By Yale Student Academic Competitions
Edited by Matt Jackson and Ashvin Srivatsa, with Kevin Koai and Spencer Weinreich
Special Thanks to John Lawrence and Mike Cheyne

Round Four Tossups

1. One girl created by this author opines “He could do so much for me if he just would,” and gets pills filled with talcum powder at a pharmacy. This man created Abner, who ruins a rug and slaps his son Sarty in his short story “Barn Burning,” one of many about the Snopes family. In a book by him, Cora Tull judges a family whose father wants a new set of dentures, and whose youngest son, Vardaman, states “My mother is a fish.” He also wrote of a Harvard freshman’s suicide and Quentin’s retarded brother Benjy Compson. For 10 points, name this author who used his Yoknapatapha County, Mississippi setting for *As I Lay Dying* and *The Sound and the Fury*.

ANSWER: William Cuthbert Faulkner <MJ>

2. The end of this phase is marked by terminalization of chiasmata. In animal cells, asters appear during this phase and bind to the chromatids. Human oocytes remain frozen in the fourth part of this phase until they are released during a monthly ovulation. Synaptonemal complexes begin to form during the leptotene part of this phase, causing chiasmata to become visible. Towards the very end of this phase, centrosomes migrate to opposite ends of the cell. In this phase, chromatin condenses into chromosomes, and crossing over occurs. For 10 points, name this stage of meiosis I that follows the G2 checkpoint and precedes metaphase I.

ANSWER: prophase I [do not accept “prophase II”; do not prompt on or accept “meiosis” or “mitosis”] <DL>

3. This author created the Italian Turati, against whom an elaborate chess strategy is planned by Luzhin, in *The Defense*. One novel by this author is constructed as a commentary by Charles Kinbote, and another of his unreliable narrators contemplates killing his wife Charlotte. The King of Zembla is a nonexistent position in his novel about John Shade’s 999-line title poem, *Pale Fire*. Clare Quilty dies in this man’s novel about Humbert Humbert, who describes his relationship with Dolores Haze, a “nymphet”. For 10 points, name this Russian-born author of *Lolita*.

ANSWER: Vladimir Vladimirovich Nabokov [accept V. Sirin] <SJW>

4. *Conditura* and *mulsum* were two Roman variants of this good. After an exhortation to be wise, Leuconoe is told to “strain” this substance in Horace’s “Carpe Diem” ode. The Ancient Greek *kylix* and *krater* were used to handle this good, over which Athenian women swear to stop pleasing their husbands in the play *Lysistrata*. According to a Roman adage, in this good there is “veritas,” or truth, and Homer describes the sea as “dark” like this good, which was made in Roman villas with screw-presses. This consumable good was served at a symposium. For 10 points, name this liquid which ancient men diluted before drinking, and was made from fermented grapes.

ANSWER: wine [or vinum; accept “In vino veritas”] <MJ>

5. In this region, a corrupt era called the Great Darkness was succeeded by the creation of CEGEP (“SEE-jep”) schools and a transfer of church power to state health care programs. The Meech Lake accords failed due to the demands of this site of the Quiet Revolution. Its populace voted in 1980 and 1995 on referendums brought by its provincial “Parti”, and a namesake “Bloc” represents it federally. Troops dealt with the October Crisis in this province during Pierre Trudeau’s ministry by targeting militant separatists. For 10 points, name this eastern, French-speaking province of Canada.

ANSWER: Québec <MJ>

6. This character owns a base in the Sargasso asteroid belt, and his theme music starts playing on the icy world of Fortuna as a ticking time bomb is discovered. His team includes the green-skinned Leon Powalski, and he dismisses

a reward-obsessed member of his team before that member, Pigma, is assimilated by Aparoids. In his N64 and 3DS appearance, his crew fights you in the harder level on planet Venom, and he introduces himself by saying “Can’t let you do that” to his rivals. In *Super Smash Bros. Brawl*, a red Landmaster tank is his Final Smash. For 10 points, name this rival of Fox McCloud in the *Star Fox* games, who has the head of a gray canine.

ANSWER: Wolf O'Donnell [accept either underlined name; DO NOT accept “Star Wolf,” which is the name of his entire team and not just him] <MJ>

7. This empire had a class of official merchant-spies who traded expensive bird feathers, and warriors of this empire who took four captives alive could then use the lodge of the “Eagle Knights,” as described in the Florentine Codex. This empire took in captives through non-conquering “flower wars.” The Noche Triste was a massacre in its capital city, which contained “floating gardens” and canals in Lake Texcoco. This empire built two sacred pyramids on the spot where an eagle perched atop a cactus, which became Tenochtitlan. For 10 points, name this American empire led by Montezuma, and defeated by Hernan Cortes’s conquistadors.

ANSWER: Aztec Empire [or Aztec Triple Alliance; or Nahuatl] <MJ>

8. Hideki Yukawa estimated the range of this phenomenon to be about one fermi by modeling it as an exchange of neutral pions. It imparts over 99% of the mass of a certain 938-MeV particle. It is described by the gauge group SU(3). Since the theory describing it has running coupling constants, it cannot be solved perturbatively at low energy, giving rise to asymptotic freedom. At high energies, it exhibits confinement. Its bosons carry color charge and might couple to one another, forming glueballs. For 10 points, name this fundamental force described by quantum chromodynamics, which is mediated by gluons and holds protons and neutrons together in the nucleus.

ANSWER: strong nuclear force [or strong interaction; or quantum chromodynamics or QCD until “force” is read] <BH>

9. In this body of water, the Devil’s Hole trench causes the loss of many trawling nets. Stavanger is a town on this sea, which is made shallow by a large underwater moraine and former landmass called Doggar Bank. The Bates family controls an abandoned pontoon base with a helipad in this sea, where they demand national recognition as the Principality of Sealand. The western end of the Skaggeak empties into this sea whose southern part, the Wadden sea, is north of the Frisian islands and the Zuiderzee. It contains profitable oil rigs at Statfjord. For 10 points, name this sea abutting the English Channel between Great Britain, the Netherlands, and Norway.

ANSWER: North Sea <MJ>

10. This leader reacted to the Ecône consecrations by kicking out Marcel Lefebvre. He took the name of his immediate predecessor, who had held office for only 33 days. This man made a prison visit to forgive Mehmet Ali Agca, a member of the Grey Wolves who tried to kill him. This author of an *Instruction* against liberation theology and the encyclical *Evangelium Vitae* issued a “reference text” called the Catechism of the Catholic Church and broadcasted sermons against Communism. For 10 points, name this first Polish-born Pope, who died in April 2005.

ANSWER: Pope John Paul II [or Karol Józef Wojtyła /voy-TEE-wah/] <MPG/MJ>

11. This poet wrote asking “Is my verse alive?” to Thomas Higginson, and wrote a series of “Master” poems addressed to a “lover for all eternity.” In one poem, this writer described “a House that seemed / A Swelling in the Ground” along a long, slow journey, and the title of another poem claims, “There is no frigate like a book.” Another poem by this woman, a frequent user of “slant rhyme,” describes “The Stillness in the Air” when she died, and ends “I could not see to see.” For 10 points, name this woman whose wrote “I heard a Fly buzz” and “Because I could not stop for Death” while living in Massachusetts as a recluse.

ANSWER: Emily Elizabeth Dickinson <SJW>

12. Reactions in which the reagents undergo this process may be conducted at reflux to prevent a loss of product. Theoretical plates arise when this endothermic process exactly balances its inverse. “Chips” made of alumina are used to promote one type of this process in the laboratory. This process is forbidden beyond the critical point. Distillation separates mixtures based on differences in the way this process occurs. The temperature at which one type of it occurs is colligatively raised by solutes. Substances may undergo the “flash” type of this process if nucleation sites are suddenly added. For 10 points, name this phase change in which a liquid turns into a gas.

ANSWER: vaporization [or boiling; or evaporation; or word forms] <AS>

13. In one of this man’s paintings, a blue-and-gold-clad Saint Barbara looks toward her shoulder across from a haloed pope, and a woman’s bare feet stand on clouds above two cherubs resting their arms on the bottom edge in boredom. In another work, he showed two men holding globes and others writing under barrel vaults and a giant arch-shaped frame. This artist of the *Sistine Madonna* painted Michelangelo’s face on Heraclitus at his desk. He showed two bearded men who each hold a book and gesture in the center of a crowded scene of ancient thinkers. For 10 points, name this Italian Renaissance painter who depicted Plato and Aristotle in *The School of Athens*.

ANSWER: Raphael Sanzio <MJ>

14. The dying Peter Featherstone tries to alter his will in this book, but Mary Garth refuses to help him. This book includes the vicar and amateur naturalist Mr. Farebrother. John Raffles blackmails Mr. Bulstrode in this novel, whose protagonist reconciles Rosamond and her husband after they nearly go bankrupt. Fred Vincy runs into financial difficulties in this novel, in which another character dies before finishing his *Key To All Mythologies*. Dr. Lydgate features in this novel, in which the scholar Mr. Casaubon alters his will to prevent Will Ladislaw from marrying his widow, Dorothea. For 10 points, name this “Study in Provincial Life,” a George Eliot novel.

ANSWER: Middlemarch: *A Study in Provincial Life* <SJW>

15. This provision was divided into a “prefatory” and thus ancillary section and an “operative” section according to Antonin Scalia, and its application is limited only to “law-abiding, responsible citizens” according to John Paul Stevens, who argued from the word “well-regulated” in its first clause. This provision was incorporated against the states in *McDonald v. Chicago*, a year after the ruling in *DC v. Heller* that this amendment guaranteed an individual right. For 10 points, name this Constitutional amendment which prevents infringement of the “right of the people to keep and bear arms.”

ANSWER: the Second Amendment to the Constitution of the United States <IP>

16. In 2007, an unrecognized “Republic” named for this people was declared by Russell Means. One leader of these people was a foe of George Crook who led military victories at the Wagon Box fight and the Fetterman massacre. Fort Laramie was built on these people’s land. The 7th Cavalry Regiment targeted a group of these people who followed a Paiute priest in the Ghost Dance movement. A vision of soldiers falling like grasshoppers inspired their victory at Little Bighorn over George Custer’s last stand. For 10 points, name this people massacred at Wounded Knee, teepee-dwellers of the Black Hills whose leaders included Crazy Horse and Sitting Bull.

ANSWER: Lakota [or Sioux; or Teton Sioux; or Ogalala Lakota; or Hunkpapa Lakota; do not accept or prompt on less-specific answers describing native Americans] <MJ>

17. One member of this group had small crab claws for horns and was wed to another with small wings on her forehead; a third fought alongside his son Menoetius (“me-NEE-tee-us”). Their army suffered barrages of rocks thrown by three giants with a hundred hands each, according to Hesiod, who attributed a base on mount Othrys to them. The leader of this group used an unbreakable sickle on his father, and was tricked by his wife into swallowing a stone as his paranoia led him to eat his children. Oceanus, Tethys, and Prometheus are among, for 10 points, what old divinities led by Cronus, who were defeated and replaced by Zeus’s Olympian gods?

ANSWER: the Titans [or Titanes] <MJ>

18. One orchestral work by this composer opens with a “piece in the form of a sonatina” and imitates the style of Mozart. The soloist of another of his works in B-flat minor enters with crashing D-flat major chords, and Van Cliburn's performance of that piece won him the piano competition named for this composer. Those pieces are his Serenade for Strings and his first piano concerto. A waltz-like movement in 5/4 time appears in his sixth and final symphony in B minor, and his best-known stage work includes the “Dance of the Sugar Plum Fairy.” For 10 points, name this Russian composer of the “Pathétique” Symphony, as well as the ballets *Swan Lake* and *The Nutcracker*.
ANSWER: Pyotr Ilyich **Tchaikovsky** <KK>

19. In one sense, this figure is equal to the product of S1 and a subset of the real line. A Steinmetz solid is produced from the intersection of these objects. The volume of a solid of revolution can be computed by decomposing it into a number of shells of these objects and integrating. A system of coordinates named for this figure is useful for solving problems that have an axial symmetry, and is constructed by adding a z-axis to polar coordinates. The intersection of a plane with this figure will create an ellipse, since it is formed by translating a circle along a perpendicular axis. For 10 points, name this three-dimensional shape whose volume is given by “pi times radius squared times height”.
ANSWER: **cylinder** <BH>

20. This city's diplomat Antalcidas signed a peace ceding many territories to Persia two decades before its leader Agesilaus lost the Boeotian (“bee-OH-shin”) war at Leuctra. This city is attributed a sluggish and cautious character by Thucydides. This city's old men joined the *gerousia*, and it was led by two kings and five ephors. This city's new navy won the battle of Aegospotami in 404 BCE. It put down revolts of its serf-like helots, and its *agoge* system trained young boys in a standardized manner. For 10 points, name this Greek city-state whose military focus helped it win the Peloponnesian War against Athens.

ANSWER: **Sparta** [or **Lacedaemonia**]/[in the official opinion of the BHSAT editing team, the acceptable answer “THIS. IS. **SPARTA!**” isn't funny anymore] <MJ>

[STOP HERE]

[You have reached the end of the round. Do not continue reading unless the game is tied or a tossup was thrown out earlier in the round.]

21. Julian the Apostate wrote a tract about a “hater” of these entities, and Epictetus stated that he would prefer being beheaded to losing his. Alexander the Great banned his soldiers from maintaining these things, whose varieties include the Hulihee and a type named for the painter of *Charles I at the Hunt*, Anthony Van Dyck. In Act I of *Macbeth*, Banquo gets confused by this feature of the three witches, and Peter the Great tried to eliminate them in Russia by taxing those who displayed them. For 10 points, name this type of growth seen in most photographs of Marx and the aging Charles Darwin, a type of non-mustache facial hair.

ANSWER: **beards** <IP>

Bonuses

1. The apical meristem in this part of a plant is protected by a namesake “cap”. For 10 points each:

[10] Name this usually-subterranean part of a plant that gathers water and soil nutrients.

ANSWER: roots

[10] Plant roots often form symbiotic associations with fungi that are referred to by this name. When fungi physically penetrate the plant roots, these complexes are said to be arbuscular.

ANSWER: mycorrhizae

[10] This part of a fungus makes up the mycorrhizae. A mass of them is called a mycelium, and their cells are sometimes divided by septa. Fungi typically grow by lengthening these filamentous structures.

ANSWER: hyphae <AS>

2. Important women in this thinker's life included Elizabeth of Bohemia, with whom he argued about the physical "seat of the soul," and Princess Christina of Sweden, whom he tutored. For 10 points each:

[10] Name this rationalist French thinker, whose namesake dualism is the idea that the immaterial mind is a different thing from the body.

ANSWER: Rene Descartes [or Renatus Cartesius]

[10] In *Discourse on Method*, Descartes stated this principle which made himself into a foundation to ensure that he could not rationally doubt everything his senses told him.

ANSWER: "I think, therefore I am" [or "Cogito ergo sum", or "Je pense donc je suis"; or "the cogito"; or "I am a thinking thing;" or "I am a thing that thinks"; prompt "I am" or "I am, I exist"]

[10] This earlier Frenchman asked “What do I know?” and argued that our senses can’t obtain firm knowledge in *Apology for Raymond Sebond*. He argued that European warfare was worse than eating people in “On Cannibals.”

ANSWER: Michel de Montaigne <MJ>

3. Answer these questions about the history of an oft-overlooked minority -- black Canadians. For 10 points each:

[10] Many blacks took this network of routes and abolitionist households to come to Canada, where they stayed. Its operation was aided by William Still and Harriet Tubman.

ANSWER: the Underground Railroad

[10] This post was held by the highest-ranking black Canadian ever, Michaelle Jean, until 2010. This person is the Queen’s liaison to Canada and technically outranks the Prime Minister.

ANSWER: Governor-General of Canada

[10] The black community of Nova Scotia included resettled maroons from this British slave colony. Cromwell seized it from Spain in 1655 with the help of privateers at Port Royal.

ANSWER: Jamaica <MJ>

4. Geography isn’t limited to the Earth. Answer these questions about the geography of the nearest spherical body to the Earth, for 10 points each.

[10] This extraterrestrial region is home to the Mare Moscoviense and the largest crater on its satellite, the South Pole-Aitken Basin. This extremely cold lunar region is never visible from Earth.

ANSWER: dark side of the Moon [or far side of the Moon; accept equivalents]

[10] This lunar sea, the site of the Rima Sosigenes, includes the Sinus Concordiae and lies next to the Palus Somni. This lunar sea is where Collins, Aldrin, and Armstrong landed.

ANSWER: Sea of Tranquility [or Mare Tranquillitatis]

[10] This southern lunar crater next to the Pictet and Street Craters is surrounded by a large ray system that extends into the Mare Nubium. This eponymous crater is the most prominent one on the near side of the Moon.

ANSWER: Tycho Crater <JW>

5. This man described the uniforms of the title figures with the line “Their skulls are leaden, which is why they do not weep” in his “Romance of the Spanish *Guardia Civil*.” For 10 points each:

[10] Identify this Spanish playwright and poet, who depicted the tyranny of the title matriarch over her daughters in his play *The House of Bernarda Alba*.

ANSWER: Federico del Sagrado Corazón de Jesús **García Lorca** [accept **Lorca**]

[10] Lorca’s poetry collections include one titled for the ballads of this ethnic group, whose literary examples include Victor Hugo’s *Esmeralda*.

ANSWER: **gypsies** [or **Romani**; or **gitanos**]

[10] This Lorca play, part of his “Rural Trilogy,” includes characters like Death, who appears as a beggar, and the Moon, who witness some super-violent relationships.

ANSWER: **Blood Wedding** [or **Bodas de Sangre**] <SJW>

6. Henri Cartier-Bresson used a 35-millimeter implement of this art form to show a boy hopping in a puddle outside Paris’s Saint-Lazare train station. For 10 points each:

[10] Name this art form also used in France to capture a detailed, in-the-moment image of a Nazi flag draped over the Arc de Triomphe in black-and-white.

ANSWER: **photography** [or taking/shooting **photographs**; prompt on “photo” or “taking pictures”]

[10] This Frenchman’s namesake “types” were a form of early photograph developed on a silvered plate.

ANSWER: Louis Jacques-Mandé **Daguerre**

[10] This uxoricidal Englishman was inspired by Frenchman Etienne Marey’s stop-motion photos to create the zoopraxiscope. He used stop-motion to present the leg movements of horses in detail.

ANSWER: Eadweard **Muybridge** <MJ>

7. The command “over the top” was often heard in these constructions, whose protection by barbed wire became less effective when the first tanks rolled onto the scene. For 10 points each:

[10] Name these long, often rat-infested edifices separated by “no man’s land.” Stalemates of machine gun fire between these earthworks defined the warfare of World War I’s Western front.

ANSWER: **trenches**

[10] After a stalemate at this early battle of the war, in September 1914, Germans dug the first trenches. Joffre’s French reservists were driven to this battle in taxicabs.

ANSWER: First Battle of the **Marne**

[10] These spontaneous ceasefires broke out in winter 1914. They often involved both sides singing to each other, or men walking between trenches to trade goods, before commanders insisted on resuming the killing.

ANSWER: **Christmas truces** [or **Christmas peaces**; accept any answer involving a cessation of fighting on **Christmas**] <MJ>

8. In Jewish communities, this action must be performed by a professional called the *shochet*. For 10 points each:

[10] Name this practice which, in another religion, can be done by any sane People of the Book who say the name of Allah beforehand. Debates rage over whether pre-stunning violates the religious ethics of this process.

ANSWER: ritual **slaughter** [or **killing** an **animal** for consumption]

[10] In this religion, the *dhabihah* form of ritual slaughter is required to ensure that food is *halal*. Its adherents use Arabic to pray in mosques.

ANSWER: **Islam**

[10] This form of Islamic law, whose consideration is banned in Oklahoma courts, defines slaughter practices further. It is interpreted by a form of jurisprudence called *fiqh*.

ANSWER: **shari’a** <MJ>

9. In this novel's climax, Myrtle Wilson is killed by a car, leading her husband, George, to shoot the title character. For 10 points each:

[10] Name this F. Scott Fitzgerald novel, in which Nick Carraway becomes the confidante of the title party-thriller on Long Island during the Jazz Age.

ANSWER: The **Great Gatsby**

[10] Gatsby dedicates his life to winning the love of this woman. This wife of Tom and cousin of Nick has a green light at the end of her dock, which Gatsby spends every evening looking at.

ANSWER: **Daisy** Buchanan [or **Daisy Buchanan**; or **Daisy** Fay; prompt on "Buchanan"]

[10] This Jewish gambler, modeled on Arnold Rothstein, colludes with Gatsby on shady dealings. This man wears cufflinks made of human molars and is rumored to have fixed the World Series.

ANSWER: **Meyer Wolfsheimer** [accept either underlined name] <SJW>

10. One form of this thing used on the Apollo spacecraft is described by the acronym LOL, for "little old lady". For 10 points each:

[10] Name this component of a computer. Data stored in it can be accessed in any order, and in general, its contents are lost when it ceases to receive power.

ANSWER: **RAM** [or **random access memory**; prompt on "memory"]

[10] When data that is frequently read is loaded into RAM, the RAM is acting as one of these things. In general, these things, which are distinct from buffers, duplicate data that is stored elsewhere to allow it to be served faster.

ANSWER: **cache**

[10] Dynamic RAM is made of capacitors and these semiconductor devices, which must have at least three terminals. Integrated circuits are made of many of them. Bardeen et al won the 1956 Nobel Prize in Physics for work on them.

ANSWER: **transistor**s <JG>

11. This epic includes the love story of Paridell and Hellenore, and the female knight Britomart, who is searching for the man she is destined to marry, named Arthegall. For 10 points each:

[10] Name this epic poem about the Redcrosse Knight and two analogues of Elizabeth I named Belpheobe and Gloriana, written by Edmund Spenser.

ANSWER: The **Faerie Queene**

[10] Edmund Spenser also penned the *Amoretti*, a sequence of these poems addressed to his wife, Elizabeth Boyle. Shakespeare wrote about 150 of these fourteen-line poems.

ANSWER: **sonnet** [or **sonetto**]

[10] This composer of sonnets, a contemporary and friend of Spenser's, wrote the sequence *Astrophil and Stella*, as well as a prose work dedicated to his sister, the Countess of Pembroke, called *Arcadia*.

ANSWER: Sir Philip **Sidney** <SJW>

12. This color serves as background to Giotto's Arena Chapel frescoes, and an English portrait of Jonathan Buttol wearing clothes of this color is called this color's namesake *Boy*. For 10 points each:

[10] Name this primary color. It names the era in which Picasso painted *La Vie* and *The Old Guitarist* after the cheerier Rose period.

ANSWER: **blue** [or **azul**; or **Blue Period**]

[10] This British portraitist showed a married couple with a shotgun on their estate in *Mr. and Mrs. Andrews*. He painted *The Blue Boy*.

ANSWER: Thomas **Gainsborough**

[10] This president of the Royal Academy of Art was a rival of Gainsborough. He advocated the "grand style" of history painting, and painted actress Sarah Siddons as the Tragic Muse.

ANSWER: Sir Joshua **Reynolds** <MJ>

13. Answer these questions about the ten-headed demon lord Ravana (“RAH-vuh-nuh”), as told by a Hindu epic, for 10 points each.

[10] This Ayodhyan prince’s namesake epic features Ravana as the villain. This man, Vishnu’s seventh avatar, takes up his bow and sets out to destroy Ravana after Ravana kidnaps his wife Sita.

ANSWER: **Rama** [or **Ram**; or **Sriram**]

[10] Along with bears, these animals build a bridge to Ravana’s base on the isle of Lanka to help Rama. The god Hanuman took this animal form, and three Japanese ones hear no evil, see no evil, and speak no evil.

ANSWER: **monkeys**

[10] A container of this substance in Ravana’s stomach made him more powerful. The devas and asuras attempted to obtain this substance by churning the ocean of milk.

ANSWER: **nectar** of immortality [or **amrit**; or **amrta**; prompt “elixir of immortality” and such answers] <MJ>

14. Her most recent novel contains an environmental activist who is quarantined for sixteen days after cancer therapy named Paul Bannerman. For 10 points each:

[10] Name this South African author of *Get a Life*. She wrote about Rosa’s struggle with the legacy of her dead parents’ activism in *Burger’s Daughter* and created the character Maureen Smales.

ANSWER: Nadine **Gordimer**

[10] In *Burger’s Daughter*, Lionel protested this segregation system with an Afrikaans name. South African banned Gordimer’s book *July’s People* for depicting its end in a violent race war.

ANSWER: **apartheid**

[10] In *July’s People*, a yellow example of these trucks is controlled by the black servant July, much to Maureen Smales’s horror. This vehicle is eventually stolen by Daniel.

ANSWER: a **bakkie** <GL>

15. Answer these questions about blood cells...*in popular culture*, for 10 points each.

[10] In one educational adventure, this vehicle shrinks to go inside the human body and drives by the cells in a blood vessel with Mrs. Frizzle’s elementary school class.

ANSWER: The **Magic School Bus**

[10] This black comedian voiced a white blood cell that fights infection with Drix in *Osmosis Jones*. He also voiced Marty the zebra in *Madagascar* and narrated a show in which “Everybody Hates” a young version of him.

ANSWER: Chris **Rock** [or Christopher Julius **Rock** III]

[10] These caramel-flavored treats are the world’s most erythrocyte-like candy due to their shape, resembling a filled inner tube. They’re named for a German town.

ANSWER: **Werther’s** Originals [or **Werther’s** Echte] <MJ>

16. These compounds undergo conformational changes as the pH of their environment changes. For 10 points each:

[10] Name these compounds that are often used to study the progress of a chemical reaction. Litmus paper and phenolphthalein are examples of them.

ANSWER: (pH) **indicators**

[10] Indicators are important to this analytical technique, in which a reagent of known concentration is slowly dripped into an analyte to determine its concentration. A buret is often used to store that reagent.

ANSWER: **titration**

[10] To ensure full mixing of the titrant and the analyte, you might want to add one of these magnetic devices to the analyte beaker and then set it in motion. They are often used to prevent bumping in heated liquids.

ANSWER: **stir bar** [or **spin bar**] <AS>

17. Answer these questions about the first struggle for Scottish independence, for 10 points each.

[10] This Scots rebel defeated the English at Stirling Bridge, but later lost at Falkirk. This man's execution by England's Edward I enraged Robert the Bruce.

ANSWER: William **Wallace**

[10] Robert the Bruce later won this 1314 battle against Edward II. His victory here cemented his claim to an independent Scots monarchy.

ANSWER: Battle of **Bannockburn** [or Battle of **Bhonnaich**]

[10] These ancient Celtic people, whose men wore blue war-paint, were displaced by the Scots in the 800s. Scotland's mytho-historical founder, Kenneth mac Alpin, defeated, absorbed, and/or renamed these people.

ANSWER: **Picts** [or **Picti**] <MJ>

18. They are created when a mass is compressed to a size smaller than its Schwarzschild radius. For 10 points each:

[10] Name these extremely dense objects which have an escape velocity greater than the speed of light.

ANSWER: **black holes**

[10] The center of a black hole is believed to contain one of these points, at which the strength of gravity becomes infinite. The cosmic censorship hypothesis posits that "naked" ones can never be observed.

ANSWER: **singularity**

[10] This scientist lends his name to a form of radiation that is produced by all black holes, eventually causing them to evaporate. He also originated the idea of "turtles all the way down" in his *A Brief History of Time*.

ANSWER: Stephen (William) **Hawking** <BH>

19. The text of this hymn was probably written by Thomas of Celano, and its last stanza provides the text for the soprano solo in Fauré's Requiem, "Pie Jesu." For 10 points each:

[10] Name this hymn used as the sequence for the Roman Catholic Requiem Mass. It describes a "day of wrath" that will "dissolve the world in ashes."

ANSWER: **"Dies irae"**

[10] The original plainchant melody for the "Dies irae" is quoted in a number of works by this Russian composer, including *Isle of the Dead* and the *Rhapsody on a Theme of Paganini*.

ANSWER: Sergei **Rachmaninoff**

[10] The "Dies irae" chant is also quoted in "Dream of a Witches' Sabbath," the final movement of this programmatic symphony by Hector Berlioz featuring a recurring *idée fixe*.

ANSWER: **Symphonie fantastique** <KK>

20. Answer these questions about the career of America's most notable UN Ambassador and sufferer of Graves' disease - George H.W. Bush. For 10 points each:

[10] Under Ford, Bush the Elder served as director of this federal agency, which conducts espionage abroad.

ANSWER: **CIA** [or **Central Intelligence Agency**]

[10] During his 1980 presidential bid, Bush used the term "voodoo economics" to dismiss this Reaganomics idea, that reducing taxes on the rich would eventually benefit all of society. Bush then endorsed it as VP.

ANSWER: **supply-side** economics [or **trickle-down** economics]

[10] This black felon appeared in Pappy Bush's campaign ads against Michael Dukakis. Dukakis's weekend furlough program let this Massachusetts prisoner out, during which time he committed a rape.

ANSWER: William R. "Willie" **Horton** <MJ>

21. Charles Darwin once remarked that "the distinction between" these things and "varieties" was "vague and arbitrary." For 10 points each:

[10] Name this taxonomic rank. Conventionally, it is defined as a group of organisms that can breed amongst themselves but not with any other group.

ANSWER: **species**

[10] If parapatric speciation occurs in a populations extended over a long physical range, the resulting species may be described by this term. In this situation, adjacent species can breed, but species at either end of the range cannot.

ANSWER: **ring** species

[10] Stephen Jay Gould proposed this temporal model of speciation as an alternative to gradualism. It predicts that species will remain relatively evolutionarily static for most of their existence.

ANSWER: **punctuated equilibrium** <AS>