

1. Its Department of Energy branch is headed by Ari Patrinos, head of the Office of Biological and Environmental Research, while Francis Collins is in charge of the National Institute of Health branch. Formally begun in October of 1990 it was planned to take 15 years but recent technological developments in computing have cut the predicted finish to 2003. FTP – identify this international project whose goal is the map out the complete genetic structure of human DNA.

Answer: **Human Genome Project**

2. He is sometimes referred to as the “Prodigy of Nature,” a title bestowed upon him by Miguel de Cervantes. His skill was considered so highly that saying “Es de [his name]” became a Spanish expression for perfection. According to his contemporary biographer, Montalban, he wrote about 1800 *comedias* and another 400 *autos sacramentales*. FTP identify this playwright who managed to deter Cervantes from pursuing drama, and who is considered by many to be singlehandedly responsible for creating the Spanish national drama.

Answer: Lope Felix de **Vega** Carpio

3. He himself translated Gregory I's *Pastoral Care* and *The Consolation of Philosophy* by Boethius, and he had Bede's *Ecclesiastical History of the English People* translated, one of his many projects involving the translation of Latin texts to Old English. He also succeeded in codifying the laws and developing a courts system. But he's better remembered for saving his homeland from the Danes. FTP, identify this King of Wessex from 871 to 900.

Answer: **Alfred the Great** or **Alfred**

4. They are represented as three women, Urd, Verdandi and Skuld, sisters that live at the base of Yggdrasil. They continuously pour water and mud from the Well of Fate onto Yggdrasil's branches in an attempt to prolong its life, which manages to prevent its rot. FTP – identify these Norse demi-goddesses, the controllers of the fate of men and gods.

Answer: **Norns**

5. It resulted when in December 1970 Mujibur Rahman won a majority of seats in parliament, but the legislators were not allowed to meet. Civil war erupted, resulting in the formation of this nation. After civilian massacres by Pakistani soldiers, India extended it formal recognition and entered the war on its side, ending it in two weeks. FTP identify this nation, made up mostly of the deltas of the Meghna, Brahmaputra and Ganges rivers, whose capital is Dhaka.

Answer: **Bangladesh**

6. Researching from the issuing of greenbacks during the Civil War on and comparing its quantity to the average prices, he developed, along with two other economists, the idea of the velocity of money. It was his development of an equation relating money supply and nominal GDP to this velocity that founded the basis of modern monetary theory, and won him the Nobel Prize in 1976. FTP – identify this retired University of Chicago economics professor.

Answer: **Milton Friedman**

7. Set in the hedonistic post-World War I European environment, one of the central characters descends into alcoholism after being abandoned, perhaps a reflection of the author's own life experiences with his wife Zelda Sayer. FTP – identify this novel about Nicole and her love for and abandonment of Dick Diver, written by F. Scott Fitzgerald.

Answer: **Tender is the Night**

8. It is a consequence of the law of conservation of energy, a fact that was not realized until 1842, two years after its inception. It relies on the knowledge that enthalpy is a state function, and therefore regardless of the path taken its net effect is the same. FTP – identify this law of thermochemistry which states that in going from a particular set of reactants to a particular set of products the enthalpy change is constant regardless of the steps of the reaction.

Answer: **Hess's Law**

9. There are over eight million of them, divided between the heavenly Amatsu and the earthly Kunitsu. The name literally translates as “the superior ones” and they are commonly worshipped as gods of all things incomprehensible to men, or are alternately considered ancestral spirits. FTP – identify these spirits central to Shintoism.

Answer: **Kami**

10. He only had 24 at bats in the American League, all with the A's in 1976, but a year later he was Comeback Player of the Year. This was eighteen years after he was the NL rookie of the year in '56 and 8 after he was MVP in '69. A career .270 hitter, he is tied for 12th place on the all-time home-run list with Ted Williams at 521, and he's third in career grand slams with 18. FTP, name this San Francisco Giants first baseman who will soon be honored by a statue in a public park across his namesake cove from Pacific Bell Park.

Answer: **Willie McCovey**

11. He achieved fame in Venice by emulating Archangelo Corelli's Opus 6, a collection of twelve violin concertos. Estienne Roger published over 500 of this composer's works in his lifetime. One of these, his Opus 3, *The Musical Inspiration* (1711), established his style of utilizing fast-slow-fast movements and dazzling instrumental solos. FTP – identify this composer most famous for a collection of four concerti: "Spring," "Summer," "Autumn," and "Winter."

Answer: **Antonio Vivaldi**

12. It was under his direction that a walled route to the port city of Piraeus was constructed, as well as the rebuilding of the city walls. After the Persian invasion ended, he became unpopular and was exiled to Argos, where he was accused of treason, and was forced to flee yet again, this time to Persian court of Artaxerxes. While there, he was awarded the Asian kingdom of Magnesia in Asia Minor, where a statue to the "Savior of Greece" was erected. FTP – identify this Athenian general who successfully led the Greek forces to victory at the battle of Salamis.

Answer: **Themistocles**

13. He related the friendship between a Japanese boy and a black American POW in his first novel, *The Catch in the Shadow of the Sunrise*, which won him the Akutagawa award. Not exactly an upper, his early works are filled with violence, insanity, and sexual perversity, while his later works, such as *A Personal Matter* and *The Silent Cry*, relate his experiences as father of a brain-damaged child. FTP identify this Japanese author, the recipient of the 1994 Nobel Prize in Literature.

Answer: **Oe Kenzaburo**

14. The 19th brightest star in the sky, it appears in the tail of the constellation Cygnus, appropriate as its name means "tail" in Arabic. Classified as an A2 supergiant, and is estimated to be approximately 2600 light years away, as opposed to its other companions in the Summer Triangle, which are probably only 25 light years away. FTP, identify this star, known also as Alpha Cygni, whose Summer Triangle companions are Altair and Vega.

Answer: **Deneb** (accept **Alpha Cygni** on early buzz)

15. Bernoulli's equations apply to laminar flow, which occurs for values below 2000, but as velocity increases the flow becomes more turbulent, as expressed by a value about 3000. In between the two the fluid's flow is unstable and will fluctuate between laminar and turbulent flow. FTP – identify this dimensionless scalar, equal to 2 times the radius of flow times the density times the velocity of the fluid all divided by the coefficient of viscosity.

Answer: **Reynolds number**

16. His ambivalence towards his native land, the sentimental love of the people combined with satirical irony towards its institutions, is reflected in such early works as *Travel Sketches*. Attracted to Paris by the rise of Saint-Simonianism, he moved to Paris in 1831 and spent the rest of his life there, while the conservative Prussian regime banned his works on the grounds that he was the leader of the Young Germany movement, of which he only had minor ties to. FTP – identify this Jewish-descended author of *The Book of Songs* which contains a famous ballad on the theme of Lorelei.

Answer: **Heinrich Heine**

17. Following the Union defeat at Chickamauga, General Rosecrans fortified this city, abandoning nearby high ground, but instead of shelling him out General Bragg chose to attempt to starve him out. Dissent within Bragg's ranks allowed supply lines to get through to Rosecrans, and on October 19th, Grant arrived with reinforcements. Resupplying by river, Grant was able to retake Lookout Mountain and Missionary Ridge and FTP, identify this 1863 battle which, at the conclusion, opened the Deep South up for Sherman's March to the Sea.

Answer: **Battle of Chattanooga**

18. After earning a B.A. in drama from the University of Puerto Rico, this man headed for Broadway, where in 1978 he was nominated for a Tony as Macheath in a revival of Brecht's "The Threepenny Opera". Moving into film, he appeared in movies such as *The Rookie*, *Tequila Sunrise*, and *Kiss of the Spider Woman*. Sadly, he passed away while a few days before his last movie was finished. FTP, what man, who last appeared as General M. Bison in *Street Fighter*, is most recognized as Gomez in the *Addams Family* movies?

Answer: Raul **Julia**

19. He began his education at MIT, then worked for Frank Furness and William LeBaron Jenney before concluding his education at the Ecole des Beaux-Arts in Paris. Returning to Chicago in 1881 he found himself with a great deal of work in reconstructing the city after the Chicago Fire a decade before. His designs there included the Auditorium Building and the Chicago Stock Exchange, both marked by his subdued organic designs. FTP – identify this architect who, for a time, employed Frank Lloyd Wright in his architecture firm.

Answer: Louis **Sullivan**

20. It started with the firing of Archibald Cox, with the forced resignation of Elliot Richardson and William French Smith. Richardson was forced to resign after refusing to fire Cox, and with Richardson and French Smith gone, Robert Bork became attorney general and fired Cox himself. FTP – identify this event, in which Richard Nixon abolished the office of special prosecutor and left the Justice Department in charge of the Watergate investigation.

Answer: **Saturday Night Massacre**

21. Masses listed for these particles are educated guesses, as it appears that as the distance between two of these particles increases so too does the force of attraction between them, therefore requiring an infinite amount of energy to separate them. All have one half spin, and, strangely enough, fractional charges of either $+2/3$ or $-1/3$. FTP, identify these fermions, which can only be found in baryon or meson form.

Answer: **Quarks** (accept **Antiquark** until $+2/3$)

22. His father, a tax collector, paid for his attendance at the University of Athens, where word had arrived that Caesar had been assassinated. As with many of the other contemporary intellectuals, he joined with the side of Brutus and fought as a military tribune in the Senatorial army. After the defeat at Philippi, he returned to Rome penniless where he found work as a clerk. However, he is better known for his writings under his patron Maecenas. FTP, identify this Roman lyric poet and satirist, author of such works as *Ars Poetica* and *The Epistulae*.

Answer: **Horace** or Quintus **Horatius Flaccus**

23. He traveled throughout Germany, living in Mainz where he was court painter to the Elector, and in Halle, where he died after painting a series of pictures for the local cathedral. His masterpiece is a set of ten paintings intended to be seen in three groups which changed as panels were open and shut. FTP identify this German artist of the Isenheim altar.

Answer: Mathias **Grunewald** or Mathis Gothart **Nithart**

24. Combining Protestant beliefs with Pre-Confucian utopian ideals, its leader, a village school teacher named Hong Xiuquan, recruited several thousand villagers into a paramilitary group. In 1851 he launched a surprise attack on Guizhou Province, and, upon victory, proclaimed the Heavenly Kingdom of Great Peace. FTP – identify this Chinese rebellion against the Qing dynasty that was finally crushed with the assistance of Western nations and the military leadership of Zeng Guofan.

Answer: **Taiping** Rebellion

25. They were organized by Comintern, and fought along with around 35,000 others from fifty-two different countries. British, Irish and Canadians were also members of this group of 2800 volunteers organized as the Fifteenth International Brigade; their name is actually a misnomer from their original American support society. FTP, identify this brigade of soldiers who fought against the spread of Fascism in Spain, named after a president of the United States.

Answer: **Abe Lincoln** Brigade

BONI – GEORGIA TECH CENTER OF THE KNOWN UNIVERSE OPEN 2002 -- UTC
Questions by Stephen Webb

1. They were a group of social reformers receiving their name from an allusion by Teddy Roosevelt to a character in *Pilgrim's Progress*. FTPE:
 - (a) Name this group of authors who spearheaded their movement through *McClure's Monthly*.
Answer: **Muckrakers**
 - (b) Identify this muckraker, born in San Francisco then moving to New York, who wrote *The Shame of the Cities* and *The Upbuilders*.
Answer: **Lincoln Steffens**
 - (c) Emigrating from Denmark, his *How the Other Half Lives* attracted the attention of Teddy Roosevelt, resulting in a campaign to improve the living conditions of slums in New York.
Answer: **Jacob Augustus Riis**
2. Given a description of the structure of an amino acid, identify it FTPE.
 - (a) Attached to the standard amino acid base group is a butyl amine group.
Answer: **Lysine**
 - (b) This simplest amino acid has only a hydrogen atom attached to the base structure.
Answer: **Glycine**
 - (c) The simplest Polar R group amino acid, it has a methyl alcohol group attached.
Answer: **Serine**
3. Given a definition of a term from classical music, identify it FTPE.
 - (a) It comes from two German words, and is a musical symbol that recurs in its original or slightly altered form though the course of the composition.
Answer: **Leitmotif**
 - (b) This is a composition or technique in which a theme or themes are extended and developed by imitative counterpoints. One example is Bach's *Well-Tempered Clavier*.
Answer: **Fugue**
 - (c) This term refers to a song that is part of or independent of a larger work, and comes from the Italian for "air."
Answer: **Aria**
4. Abstract algebra has some neat stuff. So, FTPE, identify the following things from this subject.
 - (a) This is a non-empty closed set with a binary operator such that there exists an identity element e , an associative property, and an inverse value for all values of the set.
Answer: **Group**
 - (b) This special type of group has the unique property that $ab = ba$ for all values a and b within the set.
Answer: **Abelian Group**
 - (c) This is a set of two binary operators that is closed under the operations, associative, commutative, distributive, and has an identity element by which an operation on value x and the identity value yields x .
Answer: **Field**
5. It was published in 1901 and chronicles the decline of a patrician German family. FTSNOP each, identify:
 - (10) The name of this novel, whose title comes from the last name of the family.
Answer: **Buddenbrooks**
 - (5) The author of *Buddenbrooks*.
Answer: **Thomas Mann**
 - (5) The first name of the patriarch of the *Buddenbrooks* family, also the name of his son.
Answer: **Johann**
 - (10) This is the name of the family member who takes over the family business, who has a propensity for decadence and fails to hold up the family fortune.
Answer: **Thomas**

6. Given the inorganic chemical, give its chemical formula FTPE.

1. Ferric Chloride

Answer: **Fe₂Cl₃**

2. Sodium Chlorate

Answer: **NaClO₃**

3. Arsenic Tribromide

Answer: **AsBr₃**

7. Name the following battles from World War I FTPE.

a) During this 1916 battle was the first time the tank was deployed on the modern battlefield.

Answer: **Somme**

b) In another first, this 1915 battle marked the first time poison gas was deployed in the war.

Answer: **Second Ypres** (EEPs) (prompt on Ypres)

c) With French soldiers shipped to the front using taxis, this 1914 Allied victory turned back the German offensive towards Paris and began trench warfare on the Western front.

Answer: **First Marne** (prompt on Marne)

8. Identify the following works by the Greek tragedian Aeschylus FTPE.

(a) This trilogy tells the story of the betrayal of Agamemnon and his son's revenge and subsequent trial before the Furies.

Answer: **Oresteia**

(b) Part of a tetralogy with Pericles as the Choragos, this only existing Greek dramatic account of a contemporary subject centers on the terrible costs of war suffered by the namesake nation.

Answer: **The Persians**

(c) The oldest surviving of Aeschylus' works, and therefore the oldest extant drama in Western history, it was the first part of a tetralogy and is based upon the legends of the fifty daughters of Danaus and the establishment of the house of Danaus as the royal house of Argos.

Answer: **The Suppliants**

9. Persia has been the source of religious ideas for the West for millennia. FTSNOP each, identify the following about religions originating in Persia.

(5) This religion contained three commandments, good thoughts, good works, good deeds, and is still held by thousands in Iran and India.

Answer: **Zoroastrianism**

(5/5) Name the two dualistic entities of Zoroastrianism, one the principle of light and goodness, the other of evil and darkness.

Answer: **Ormuzd** (or **Ahura Mazda**) and **Ahriman** (or **Angra Mainyu**)

(5) This is the term for the modern-day descendant religion of Zoroastrianism.

Answer: **Parseeism** or **Parsees**

(10) On a related note, this entity achieved prominence within the Zoroastrian pantheon, and the cult of worship eventually became an independent religion very similar to Christianity.

Answer: **Mithras**

10. Identify these St. Louis Cardinal third baseman FTPE:

a) This man, a midseason pickup in 2002, hit over 30 home runs again this season but was injured early in the postseason.

Answer: **Scott Rolen**

b) This former Cub and Devil Ray replaced Rolen and wound up going 3-for-3 in the division series-clinching game.

Answer: **Miguel Cairo**

c) This hot corner minder, whom the Cardinals exiled... er, traded to Montreal, is the last player in the majors to hit two grand slams in the same inning.

Answer: **Fernando Tatis**

11. Given a definition identify the feature of Gothic architecture FTPE.

(a) This is a gallery of arches above the longitudinal arches along the nave of a church.

Answer: **triforium**

(b) This is a load-bearing structure that supports the masonry curtains in the walls.

Answer: **buttress**

(c) This is the terminal point for a spire, pinnacle or gable.

Answer: **finial**

12. It is an 1868 short story about a prostitute named Cherokee Sal who frequents a gold mining camp and, dying, gives birth to a child the miners adopt. FTPE:

(a) Name this short story.

Answer: **The Luck of Roaring Camp**

(b) Identify the author of *The Luck of Roaring Camp*.

Answer: **Bret Harte**

(c) The name of the miner who dies when the camp is flooded holding Thomas Luck in his arms.

Answer: **Kentuck**

13. This is what you get when you edit two 19th century U.S. history questions into one. Answer the following FTSNOP:

(10) Henry Clay and Felix Grundy were leaders of what group of young Congressmen brought into office in 1810 who desired to defend American honor and gain control of Canada, thus contributing to the start of the War of 1812?

Answer: **War Hawks**

(5) At Horseshoe Bend in 1812 Andrew Jackson defeated which key British ally and Native American tribe in Alabama?

Answer: **Creek**

(10) Founded in 1869 as a secret society to avoid detection by employers, it went public in 1881 under Terence Powderly.

Answer: **Knights of Labor**

(5) This was the site of a riot in which 80,000 Knights were demonstrating in 1886 when an anarchist set off a bomb, causing public opinion to sway against the labor movement.

Answer: **Haymarket Square or McCormick Harvester Plant**

14. On a 5-10-20-30 basis, give the names of the following phases of mitosis.

a. Chromosomes line up along the spindle.

Answer: **Metaphase**

b. Duplicated chromosomes separate and begin to move to opposite ends of the cell.

Answer: **Anaphase**

c. Doubled strands of DNA become visible under a microscope as thickened chromosomes. Centrioles move to opposite ends of the cell.

Answer: **Prophase**

d. Nuclear area becomes pinched in the middle until two new nuclei form.

Answer: **Telophase**

15. Identify the following related anthropologists FTPE.

(a) This Columbia University anthropologist studied primitive North American tribes, and published the works *The Mind of Primitive Man* and *Anthropology and Modern Life*.

Answer: **Franz Boas**

(b) This student and colleague of Boas published *The Chrysanthemum and the Sword*.

Answer: **Ruth Benedict**

(c) This student of Benedict studied the development of adolescent girls in a permissive noncompetitive society in the South Pacific, published a classic of anthropology on the topic.

Answer: **Margaret Mead**

16. Published in 1967, this Gabriel Garcia Marquez novel was translated into English in 1970. FTPE.

(a) Name this novel about a tragic family plagued by incest and isolation, which features the mystical Melquiades.

Answer: **One Hundred Years of Solitude or Cien anos de soledad**

(b) This is the fictitious town where One Hundred Years of Solitude is set.

Answer: **Macondo**

(c) This is the name of the family whose seven generations of tragedy are chronicled in the novel.

Answer: **Buendia**

17. Given a brief description of a Southeast Asian city identify it FTPE, five if you need the country.
- (10) It began as an ancient Khmer settlement, and was captured by the French in 1859. By contrast to Cholon, which was combined with it in 1932, this city reflected a great deal of European influence.
- (5) Vietnam
Answer: **Saigon**
- (10) Its name in its native language is Krung Thep, and it was established by Rama I in 1782 to defend against the Burmese, who had destroyed the old capital of Ayutthaya in 1767.
- (5) Thailand
Answer: **Bangkok**
- (10) Located at the confluence of the Mekong and Tonle Sap rivers, it became the Khmer capital in 1434 and was forced to be abandoned by the Communist government in 1975 before returning in 1979.
- (5) Cambodia
Answer: **Phnom Penh**
18. Given a brief description identify the following art movements that had some association with that center of the artistic world, France, FTPE.
- (a) This "anti-art" movement's most famous exponent caused an uproar at the Armory Show with his own bit of cubist experimentation.
Answer: **Dadaism**
- (b) This group of landscape painters took their name from a town near the forest of Fontainebleau, with Charles Francois Daubigny as one of its principal figures.
Answer: **Barbizon School**
- (c) Founded around 1886 and based upon the scientific research of color by Edouard Root and Michel Chevreul, it attempted to use a scientific method for the divisions of tones of its precursor. Its leading spokesman was Paul Signac.
Answer: **Neoimpressionism** (do not accept or prompt on **Impressionism**)
19. Given a quark configuration identify the hadron FTPE.
- (a) up, anti-down
Answer: **Pion**
- (b) up, down, strange
Answer: **Lambda**
- (c) strange, anti-up
Answer: **Kaon**
20. Identify the following colonies carved out of Africa by European nations FTPE.
- (a) It was first taken by the Portuguese in the early 1600s, but an 1868 treaty made this island officially a protectorate of France, where it remained until it was granted independence in 1960.
Answer: **Madagascar**
- (b) In 1890 a colonizing party of British settlers arrived from the neighboring Bechuanaland under the protection of the British South Africa Company, whose president was this colony's namesake.
Answer: **Rhodesia** (After Cecil Rhodes)
- (c) Explored by Henry Stanley at the goading of Leopold II, Leopold assumed personal control over the colony to allow free trade in the region. After severe rioting, the colonial power was granted independence on June 30, 1960.
Answer: **Belgian Congo** (accept also **Republic of Congo**)
21. Identify the following constellations of the Zodiac from the translations of their name and when they are most visible FTPE.
- (a) Translating as "The Beam Balance" this constellation is most visible in June.
Answer: **Libra**
- (b) Translating as "The Maiden" it can best be seen in May.
Answer: **Virgo**
- (c) Meaning "The Archer" August is the best time to view this constellation.
Answer: **Sagittarius**

22. This philosophy declares that only acts of perception is the only knowledge with an ultimate reality. FTPE:
 (a) Identify this branch of metaphysics.
 Answer: **Phenomenology**
 (b) Name the leading twentieth century follower of phenomenology, the author of *Thoughts Toward a Pure Phenomenology and Phenomenological Philosophy*.
 Answer: **Edmund Husserl**
 (c) This leading figure of modern existentialism was deeply influenced by Husserl, and in his 1927 work divided things into human and nonhuman existence.
 Answer: **Martin Heidegger**
23. FTSNOP each, identify the following about the Supreme Pontiff of the Universal Church, Vicar of Christ, and Patriarch of the West.
 (5)The more commonly known title of this individual
 Answer: **Pope**
 (10)The only city beside Rome to house the official pope of the Catholic Church.
 Answer: **Avignon** France (during the Babylonian Captivity)
 (15)The common taken name of both the only English Pope and the last non-Italian Pope before John Paul II.
 Answer: **Adrian** (Adrian VI was from Utrecht, elected in 1522 and Adrian IV, Nicholas Breakspear, was the only English Pope, elected in 1154)
24. Mediterranean mythology seems to be all the rage these days, so measure how well you succumb to peer pressure by identify the following Egyptian deities from a brief description FTPE.
 (a)He is the beetle-god that rolls the solar disc across the sky by day and through the underworld by night, symbolic of the rebirth process embodied by the scarab beetles.
 Answer: **Khepri**
 (b)Alternately depicted with the head of either an ibis or baboon, this is the god of learning who taught writing to the Egyptian people.
 Answer: **Thoth**
 (c)The god of war, deserts, and foreign lands, this evil deity is the embodiment of sterility and was a member of the Ennead group of Osirian deities.
 Answer: **Set or Seth**
25. Given a chemical compound and an element, give the oxidation state of that element FTPE.
 (a)Dichromic Acid, Chromium
 Answer: **plus 6**
 (b)Perchloric Acid, Chlorine
 Answer: **plus 7**
 (c)Potassium Permanganate, Manganese
 Answer: **plus 7**
26. Identify the following language families from their subgroups FTPE.
 (a) Turkic, Mongolian and Tungusic.
 Answer: **Altaic**
 (b) Semitic, Berber, Cushitic, Chadic, Omotic and Egyptian
 Answer: **Afro-Asiatic**
 (c) Sinitic, Tibeto-Burman
 Answer: **Sino-Tibetan**
27. Identify the following related to current European leaders FTPE.
 (a)This nation has had President Thomas Klestil as its leader since 1992.
 Answer: **Republic of Austria** or **Republik Oesterreich**
 (b)This man has recently only barely retained power as the Chancellor of Germany.
 Answer: **Gerhard Schroeder**
 (c)This woman, elected in 1997, heads the coalition government of Fianna Fail and the Progressive Democrats in Ireland.
 Answer: **Mary McAleese**