



1. **Much of this author's work was inspired by the stories his grandfather told him as a child in Aracataca. In one of his novellas, the Vicario brothers kill Santiago Nasar, thinking he violated their sister Angela. This author of *Chronicle of a Death Foretold* also wrote a novel in which, after the death of doctor Juvenal Urbino, Florentino Ariza resuscitates his romance with (\*) Fermina Daza.** For 10 points, name this author, the creator of Macondo and the Buendia (bwen-DEE-uh) family, who wrote *Love in the Time of Cholera* and *One Hundred Years of Solitude*.

ANSWER: Gabriel Garcia Marquez [prompt on partial name]

080-11-41-12102

2. **One of this artist's paintings includes a gigantic hand projecting from the background, clutching an orb surrounded by butterfly wings decorated with amoebas and celestial bodies. This creator of the Detroit Industry Murals scaled down a work into *Man*, (\*) *Controller of the Universe* because of its depiction of Lenin upset its commissioner, Nelson Rockefeller.** For 10 points, name this painter of *Man at the Crossroads*, a Mexican muralist who married Frida Kahlo.

ANSWER: Diego Rivera [or Diego María de la Concepción Juan Nepomuceno Estanislao de la Rivera y Barrientos Acosta y Rodríguez]

020-11-41-12103

3. **In one of this author's poems, a character sings about "looking on the happy Autumn-fields" and how it results in "tears, idle tears." His works inspired by Arthurian myth include *The Idylls of the King* and "The Lady of Shallott." Another work by this man describes how(\*) "cannon to right of them, cannon to left of them, cannon in front of them volleyed and thundered" as "the six hundred" rode "into the valley of death." For 10 points, name this Victorian poet of "The Charge of the Light Brigade."**

ANSWER: Alfred, Lord Tennyson

142-11-41-12104

4. **Lead is found alongside this element when it is mined as galena, while fool's gold contains iron and this element. Thiols are an organic group analogous to alcohols that contain this element. The amino acid cysteine allows two atoms of this element to form a diatomic bond prevalent in a protein's (\*) tertiary structure. A compound containing this element and hydrogen is known for its rotten egg smell.** For 10 points, name this chemical element found below oxygen on the periodic table with symbol S.

ANSWER: sulfur

064-11-41-12105

5. **This architect included large golden doors in his Modern Transportation Building of the White City at the World's Columbian Exposition. His firm designed the Auditorium Building and the Prudential Building in Buffalo, as well as a number of "jewel box" banks. He and his partner Dankmar Adler designed a ten-story red brick office building for a (\*) St. Louis businessman.** For 10 points, name this American architect of the Wainwright building, who is also known for his adage "form follows function".

ANSWER: Louis Henri Sullivan

064-11-41-12106

6. A passage inserted into the Amidah on this holiday thanks God for "delivering the mighty into the hands of the weak" in the days of Mattathias (MATT-uh-THIGH-us) the Hasmonean. This holiday commemorates the rededication of the Second Temple on the twenty-fifth of Kislev, which was accomplished with some legendarily long-lasting (\*) oil after a revolt against Antiochus (ant-EYE-uh-kus) IV by Judah Maccabee. For 10 points, name this Jewish holiday whose celebration may include latkes and dreidels, and during which candles are lit for eight nights in a namesake menorah.

ANSWER: Hanukkah

142-11-41-12107

7. This man was excommunicated by Alexander III for supporting antipope Victor IV at the Synod of Pavia. Though he attempted to exercise his dominance on northern Italy by calling the Diet of Roncaglia, he was defeated at the Battle of Legnano and made to sign the Treaty of Venice by the cities of the Lombard League. This ruler (\*) drowned under the weight of his own armor in the Saleph River during the Third Crusade. For 10 points, name this Hohensatufen Holy Roman Emperor, noted for his red beard.

ANSWER: Frederick Barbarossa [or Frederick I; or Frederick III of Swabia; prompt on Frederick]

079-11-41-12108

8. In a Tylenol overdose, this organ is destroyed by N-A-Q-P-I. Among its functions includes synthesizing IGF-1 (I-G-F-one) in response to growth hormone and creating clotting factors. The portal vein empties into it and glycogen (GLY-koh-gen) is stored here. The gallbladder is located immediately underneath this organ. This organ produces (\*) bile (BY-uhl) and is damaged in hepatitis. It is also responsible for detoxification. For 10 points, name this organ in the abdomen which is damaged by alcoholic cirrhosis (sir-ROH-sis).

ANSWER: liver

048-11-41-12109

9. A series of conflicts amongst this group were called the Musket Wars, and they also fought against a government in the Taranaki Wars. During the King Movement of these people, a man named Te Wherowhero was crowned Potatau I. Another leader of these people was Hone Heke, who signed a treaty with William Hobson. That document, the Treaty of (\*) Waitangi, has wording that is disputed by these people to this day. For 10 points, name these native inhabitants of New Zealand, who are famous for their face tattoos.

ANSWER: Maori

141-11-41-12110

10. One of the financial hubs of this city is Connaught Place, which was targeted by blasts in September 2008. A statue of King George V was moved to this city's Coronation Park, but was initially found under a gate commemorating its country's veterans designed by Edwin Lutyens, chief architect of this city. Other locations in this city the Red Fort, where a national Prime Minister gives speeches. Shah Jahan constructed the (\*) Old City that bears this city's name. For 10 points, name this capital of India.

ANSWER: New Delhi

020-11-41-12111

11. **One author from this country wrote a novel in which Marco Polo tells Kublai Khan about the title *Invisible Cities*. That author from this country wrote a novel written partly in the second person that follows the Reader through different fictional novels. This country is also home to an author who included Adso of Melk and William of Baskerville in a mystery novel entitled *The (\*) Name of the Rose*. For 10 points, name this country home to the writers Italo Calvino and Umberto Eco.**

ANSWER: Italy [or Italian Republic; or Repubblica Italiana]

141-11-41-12112

12. **This man argued that increases in the price of oil allowed “petrodictators” to maintain control in his “First Law of Petro-Politics.” One of his works argues that the world has entered the “Energy-Climate Era” and requires the United States to lead a “Green Revolution.” This man updated his “Golden Arches theory of conflict prevention” in a work describing how globalization has created a (\*) level playing field for businesses. For 10 points, name this author of *Hot, Flat, and Crowded* and *The World is Flat*.**

ANSWER: Thomas Loren Friedman

080-11-41-12113

13. **These objects are similar to cluster of ionized hydrogen called HII regions. Those formed from the breakup of an aging star are known as the planetary. Examples of these objects include the Horsehead variant found in the Orion Constellation, the Eagle variant from which the photograph “Pillars of Creation” was taken, and one formed after a (\*) 1054 supernova observed by Chinese astronomers known as Crab. For 10 points, name these interstellar clouds of gas and dust that are often the birthplace of stars.**

ANSWER: nebula

064-11-41-12114

14. **This man made a fortune with his exclusive patent to license taverns in London. This man fell from grace after marrying Elizabeth Throckmorton without the knowledge of his sovereign. This man sponsored Richard Grenville's voyage to set up the Roanoke Colony and popularized tobacco in England. One legend states that he threw his own (\*) cloak over a puddle so that his queen could walk over it. For 10 points, name this favorite of Elizabeth I, who lends his name to the capital of North Carolina.**

ANSWER: Sir Walter Raleigh

080-11-41-12115

15. **This story contains a poem about the god Woden written by Cartwright. After heeding a request to carry kegs of alcohol, the title character of this story is dismayed that his dog Wolf ignores his calls. By talking to Judith Gardenier, he learns the fates of Nicholas Vedder, Brom Dutcher, and Van Bummel. After being scolded by his wife, the title character goes up into the (\*) Catskill Mountains. For 10 points, name this story about a man who falls asleep for twenty years, written by Washington Irving.**

ANSWER: "Rip Van Winkle"

020-11-41-12116

16. **This country’s information minister was arrested for issuing undervalued 2G spectrum licenses. This nation is purported to have at least one trillion dollars of “Black Money” in Swiss Banks. A hunger strike against corruption in this country was led by Anna Hazare in 2011. Its National Democratic Alliance includes parties like (\*) Shiv Sena and the BJP, which are opposed by the Congress Party. For 10 points, name this country whose current Prime Minister is Manmohan Singh, part of the Sikh minority in a majority Hindu state.**

ANSWER: Republic of India [or Bharat]

048-11-41-12117

17. **The diminuendo that ends this work is accomplished by gradually closing a door. The motif G, E-flat, A, B appears in this work's sixth movement, which depicts a magician. This work starts in 5/4 time with a col legno ostinato in the strings. Its fourth movement includes a melody also known as "I vow to thee my country," and represents a mythical (\*) "bringer of jollity." For 10 points, name this Gustav Holst orchestral suite, whose movements include "Neptune," "Uranus," "Mars," and "Jupiter."**  
ANSWER: *The Planets* [accept "Neptune, the Mystic" until "E-flat"]

142-11-41-12118

18. **Like Athena, this god is considered a patron of oratory. This god was born on Mount Cyllene and can be depicted wearing a broad-brimmed hat. One son of this god is a fellow god of thieves, and another son of this father of Autolycus invented the reed pipe. This god lulled the hundred eyes of (\*) Argus to sleep in order to kill him. Shortly after this god's birth, he stole Apollo's cattle and was allowed to keep them after giving Apollo his lyre. For 10 points, name this Greek messenger god.**  
ANSWER: Hermes

105-11-41-12119

19. **The results of this experiment were slightly off due to the viscosity of air, and it used a microscope pointing through a hole in an insulating ring as a detection apparatus. This experiment used an atomizer to spray into a chamber containing a uniform magnetic field, and discovered that the (\*) charge occurred in multiples of one point five nine times 10 to the negative nineteenth. For 10 points, name this experiment performed by an American physicist, which determined the charge of the electron.**  
ANSWER: Millikan's Oil Drop Experiment

048-11-41-12120

20. ***New Jersey v. T. L. O.* ruled that searches in these places only required "reasonable suspicion" instead of the usual "probable cause." According to another case, people do "not shed their constitutional rights to freedom of speech or expression" at the gates of these places in a case that involved a protest of the Vietnam War through the wearing of (\*) black arm bands in them. For 10 points, the case *Tinker v. Des Moines* involved what institution that the Supreme Court had earlier said must integrate in *Brown v. Board of Education*?**  
ANSWER: public schools [do not accept "colleges" or "universities"]

121-11-41-12121

21. **One cause of this battle was a call for the relief of Famagusta. Hand to hand fighting broke out on the *Sultana*, forcing Uluc Ali to retreat from this battle, but not before he captured the Maltese Knights' flag. The victorious side in this battle had divisions commanded by Agostino Barbarigo and Giovanni Andrea Doria and was commanded by Don Juan. The losing side of this battle fought near the (\*) Gulf of Patras was commanded by Ali Pasha. For 10 points, name this 1571 naval battle that halted Ottoman expansion into the Mediterranean.**  
ANSWER: Battle of Lepanto

141-11-41-12122

22. **One of these events created the Siberian Traps and caused the Permian-Triassic extinction. Lapilli and other tephra are produced by these events. These events can be classified as Strombolian or Plinian. These events can cause a global decrease in temperature, such as the "winter" caused by Pinatubo's. They are responsible for (\*) lahars, which are similar to pyroclastic flows but contain more water. These events create ash clouds and lava flows. For 10 points, name this event in which material is ejected from a volcano.**

ANSWER: volcanic eruptions [accept obvious equivalents such as a volcano erupting]

140-11-41-12123

23. In this play, Lise forces her husband to sell pastries out of bags made from his own poetry. The protagonist of this play duels Valvert while composing a poem on the spot and kills him upon delivering the last line. The title character of this play allows his comrade Christian to pass off the letters he writes as his own, since he cannot express his love for his (\*) cousin Roxane due to his physical deformity. For 10 points, name this play by Edmond Rostand about a large-nosed swordsman.  
ANSWER: Cyrano de Bergerac

080-11-41-12124



1. This video game series features the hidden character Noob Saibot. For 10 points each:

[10] Name this series of fighting games featuring such characters as Johnny Cage and Raiden. It became infamous for featuring the bloody finishing move called a “fatality.”

ANSWER: **Mortal Kombat**

[10] Later games of Mortal Kombat allowed the player to skip the fatality and perform one of these silly actions as a finishing move, which saw the fighters do things like jump rope or use a bowling ball.

ANSWER: **Friendship**

[10] In the original game, this blue-garbed assassin had the bloody fatality move where he ripped the spine from defeated opponents. This identity has been held by Bi-Han and Kuai Liang, who both have the power to shoot ice blasts.

ANSWER: **Sub-Zero**

052-11-41-12201

2. It was first stated by Rudolf Clausius. For 10 points each:

[10] Name this law that says the internal energy of a system is equal to the heat added to the system minus the work done by the system.

ANSWER: **First Law of Thermodynamics**

[10] This reversible thermodynamic cycle named for a Frenchman consists of isothermal expansion, adiabatic expansion, isothermal compression, and isentropic compression.

ANSWER: **Carnot** cycle

[10] For Carnot engine, the maximum value of this quantity can be calculated as one minus the quantity the temperature of the cold reservoir divided by the temperature of the hot reservoir.

ANSWER: **efficiency**

048-11-41-12202

3. This character kills the Bull of Heaven and fights the giant Humbaba. For 10 points each:

[10] Name this character from an ancient Sumerian epic who is described as two-thirds god and one-third man.

ANSWER: **Gilgamesh**

[10] This best friend of Gilgamesh is a wild man whose death is a punishment for killing the Bull of Heaven.

ANSWER: **Enkidu**

[10] Gilgamesh gains a flower of immortality, but it is stolen by one of these animals. Hera sends two of them to kill an infant Heracles.

ANSWER: **snakes** [or **serpents**]

015-11-41-12203

4. Procopius *Secret History* lambasts this ruler and his wife, and he negotiated an Eternal Peace with Khosrau I of the Sassanid Empire. For 10 points each:

[10] Name this Byzantine emperor who ruled from 527 to 565 and ordered Tribonian to create a law code called the *Corpus Juris Civilis*. He also employed John the Cappadocian as a finance minister.

ANSWER: **Justinian I** [or **Justinian** the Great]

[10] Justinian's wife was this empress, who was instrumental in promoting the rights of women in the empire.

ANSWER: **Theodora**

[10] Justinian's generals included Narses, Mundus, and this other figure, who won the Battle of Dara and crushed the Vandal Empire.

ANSWER: **Belisarius**

048-11-41-12204

5. One of this poet's works begins "Strange now to think of you, gone without corsets & eyes, while I walk on the sunny pavement of Greenwich Village." For 10 points each:

[10] Name this American poet who lamented his mother's insanity in "Kaddish."

ANSWER: Allen **Ginsberg**

[10] Ginsberg may be best-known for writing this 1956 poem that opens, "I saw the best minds of my generation destroyed by madness."

ANSWER: "**Howl**"

[10] Ginsberg was a part of this literary movement whose other members included William S. Burroughs and the author of *On the Road*, Jack Kerouac.

ANSWER: **Beat** Generation [or **Beat** movement]

130-11-41-12205

6. One work by this man discusses the similarities between light making things visible and "the good" making things knowable. For 10 points each:

[10] Name this Greek philosopher who used the allegories of the sun and the cave in *The Republic*.

ANSWER: **Plato**

[10] In this other work by Plato, Socrates attends the title dinner party. Following a suggestion by Eryximachus (er-ix-uh-MAK-us), each character makes a speech about the nature of love.

ANSWER: *The **Symposium***

[10] In this Platonic dialogue, Socrates unsuccessfully defends himself from charges of atheism and "corrupting the youth."

ANSWER: *The **Apology***

142-11-41-12206

7. This character is inspired to act like the fictional Lucy Ashton after attending the opera. For 10 points each:

[10] Name this literary character who is married to a provincial doctor, but becomes consumed by her romantic passions and ultimately commits suicide by drinking arsenic.

ANSWER: **Emma** Bovary [or Emma **Bovary**; or Emma **Rouault**]

[10] Emma Bovary is the title character of *Madame Bovary*, a scandalous novel by this French author who also wrote *Sentimental Education*.

ANSWER: Gustave **Flaubert** (floe-BAIR)

[10] This wealthy local man seduces Emma and ultimately breaks up with her with a letter delivered under a basket of apricots. He later refuses to lend her money during her financial crisis.

ANSWER: **Rodolphe** Boulanger [or Rodolphe **Boulanger**]

052-11-41-12207

8. This word can refer to a group of nouns that follow the same inflection pattern. For 10 points each:  
[10] Name this term that can also refer to the inflection of words to reflect number, gender, and case.

ANSWER: **declension**

[10] This case is used in many Indo-European languages to indicate indirect objects. For example, in the sentence "Will threw the ball to Matt," "Matt" is in this case.

ANSWER: **dative** case

[10] This language, spoken in ancient Rome, has five declensions. This language's additional uses of the dative include dative of possession and dative of agent.

ANSWER: **Latin** [or lingua **Latina**]

105-11-41-12208

9. This work was based on a setting of Psalm 2 called "Why Fyum'th in Fight". For 10 points each:

[10] Identify this 1910 work for string orchestra that was based on a "third mode melody" created by the namesake Renaissance composer of *Spem in Alium*.

ANSWER: **Fantasia on a Theme of Thomas Tallis** [or **Fantasia on a Theme by Thomas Tallis** or the **Tallis Fantasia**]

[10] This English composer of *The Running Set* and the *Sinfonia Antarctica* composed fantasias on both "Greensleeves" and a theme of Thomas Tallis.

ANSWER: Ralph **Vaughan Williams**

[10] In 2004, Hilary Hahn released a CD containing Vaughan Williams's *The Lark Ascending* and this other English composer's *Violin Concerto*. He also wrote the *Enigma Variations* and the *Pomp and Circumstance* marches.

ANSWER: Edward William **Elgar**

130-11-41-12209

10. In one battle in this war, Paris taxicabs were used by Joseph Gallieni. For 10 points each:

[10] Name this war that saw an effective use of Schlieffen plan up until the German advance on Paris was stopped at the First Battle of the Marne. This war was ended by the Treaty of Versailles.

ANSWER: **World War I** [or **First World War**; or **Great War**]

[10] Three battles during World War I took place in this Belgian town in Flanders. The second battle here saw the first use of chlorine gas, and the last was also called Passchendaele.

ANSWER: **Ypres**

[10] Experiences in World War I led the French to later build this extensive and ultimately unsuccessful defensive barrier between themselves and Germany.

ANSWER: **Maginot** Line [or Ligne **Maginot**]

141-11-41-12210

11. One outcome of this meeting was the "Concert of Europe." For 10 points each:

[10] Name this meeting attended by Metternich, Alexander I, and other leaders between 1814 and 1815.

ANSWER: **Congress of Vienna**

[10] The Congress of Vienna continued to meet during this period of time that saw Napoleon's return from his exile on Elba.

ANSWER: **Hundred Days**

[10] The Congress of Vienna signed its "Final Act" nine days before the end of the Hundred Days at this battle in Belgium.

ANSWER: Battle of **Waterloo**

023-11-41-12211

12. For 10 points, answer these questions about DNA replication.

[10] DNA replication begins with the unwinding of this structure. Watson and Crick, with the help of Rosalind Franklin, determined in 1953 that DNA has this structure.

ANSWER: **double helix**

[10] Rapid DNA replication occurs in this common laboratory technique, in which the enzyme *Taq* polymerase (TACK poh-LIHM-muhr-ays) is used to amplify a piece of DNA.

ANSWER: **polymerase chain reaction** or **PCR**

[10] During DNA replication, Okazaki fragments are generated on this strand of DNA that is replicated in short discontinuous units.

ANSWER: **lagging** strand

064-11-41-12212

13. The protagonist of this work realizes that his former employer, Lord Darlington, had a questionable relationship with the Nazis. For 10 points each:

[10] Name this novel in which Stevens goes on a road trip and reminisces about the importance of dignity and its effect on his relationship with Miss Kenton.

ANSWER: *The **Remains of the Day***

[10] This Japanese-born British author wrote *The Remains of the Day* in addition to *Never Let Me Go*.

ANSWER: Kazuo **Ishiguro**

[10] In *The Remains of the Day*, Stevens belongs to this profession. In some works by P. G. Wodehouse, Jeeves has this profession.

ANSWER: **butler** [prompt on **servant**]

093-11-41-12213

14. This park is adjacent to its city's Art Institute and Lake Michigan. For 10 points each:

[10] Name this park in the Loop that contains interactive water feature called *Crown Fountain* and the bean-like *Cloud Gate* designed by Anish Kapoor.

ANSWER: **Millenium Park**

[10] Millenium Park is in this Midwestern city that also contains the Willis Tower and whose mayor is Rahm Emanuel.

ANSWER: **Chicago**

[10] Millenium Park also contains a sunken performance pavilion named after a man from this family. This family is also the namesake of the most famous architectural prize and of the University of Chicago school of medicine.

ANSWER: **Pritzker**

005-11-41-12214

15. Answer some questions about the election of 1940, for 10 points each.

[10] The election was won by this Democrat, netting him a third term. He ran with Henry Wallace, who later became secretary of commerce.

ANSWER: **Franklin Delano Roosevelt** [or **FDR**; prompt on **Roosevelt**]

[10] This man failed to win the Republican nomination in 1940. He was a staunch non-interventionist, the son of a former president, and the sponsor of a labor bill with Hartley.

ANSWER: Robert Alphonso **Taft**

[10] This liberal Republican and corporate lawyer ran against FDR in the election. Afterwards he flew a bomber called *The Gulliver* around the world, and was supposedly seduced by Chiang Kai-shek's wife.

ANSWER: Wendell Lewis **Willkie**

048-11-41-12215

16. The red sky in the background of this painting is thought to be a result of the eruption of Krakatoa. For 10 points each:

[10] Name this painting in which a distorted man standing on a bridge over a fjord clutches the sides of his face while performing the title action, presumably to express his agony.

ANSWER: *The **Scream*** [or ***Skrik***]

[10] *The Scream* was painted by this Norwegian artist, who depicted frail-looking female figures in his *The Sick Child* and *Puberty*.

ANSWER: Edvard **Munch**

[10] Along with *The Scream*, a painting with this title by Munch was stolen from the Munch Museum in 2004. One of Parmigianino's most famous paintings is of this subject "with a long neck".

ANSWER: **Madonna** [prompt on "Mary" or "the Virgin" or other such non-identical equivalents]

048-11-41-12216

17. This physicist's observation of Newton's rings formed by a glass sphere upon a lens formed the basis for contact mechanics. For 10 points each:

[10] Identify this German discoverer of the photoelectric effect who is best known as the namesake of the SI unit for frequency.

ANSWER: Heinrich Rudolf **Hertz**

[10] The photoelectric effect won the Nobel for this famous German-born theorist, who was deeply regretful that his discoveries were used to develop the atomic bomb.

ANSWER: Albert **Einstein**

[10] This is the minimum amount of energy to liberate an electron from the Fermi level to a vacuum and to expel an electron from a metal during the photoelectric effect.

ANSWER: **work function**

020-11-41-12217

18. This factor can generally be increased by increasing the concentration of reactants in a solution or by raising the temperature of the system. For 10 points each:

[10] Name this factor that describes the speed at which reactants form products.

ANSWER: **reaction rate** [or **rate of reaction**]

[10] These substances can be used to speed up the rate of a reaction by lowering the activation energy without being consumed by the reaction.

ANSWER: **catalysts**

[10] This equation is used to describe the relationship between rate constants and activation energy of a reaction.

ANSWER: **Arrhenius** equation

023-11-41-12218

19. The first one occurred in 1979 and saw George H.W. Bush win. For 10 points each:

[10] A non-binding vote held at a Republican Party fundraiser in Iowa is what early Presidential election predictor?

ANSWER: **Ames Straw Poll**

[10] The 2011 Ames Straw Poll was won by what female Representative from Minnesota?

ANSWER: Michelle **Bachmann**

[10] A sixth-place finish in the 2011 Ames Straw Poll was earned by what governor of Texas despite his being a write-in candidate who formally announced his candidacy the day of the poll?

ANSWER: Rick **Perry** [or Rick **Parry**]

147-11-41-12219

20. The *Susquehanna* rescues Barbicane, Nicholl, and Ardan in the sequel to this novel. For 10 points each:  
[10] Name this novel, in which the Gun Club of Baltimore raises five and a half million dollars to construct the Columbiad cannon to perform the title feat.

ANSWER: ***From the Earth to the Moon*** [or ***De la Terre à la Lune***]

[10] In this novel by the author of *From the Earth to the Moon*, Phileas Fogg and his valet Passepartout circumnavigate the globe.

ANSWER: ***Around the World in Eighty Days*** [or ***Le Tour du Monde en Quatre-Vingts Jours***]

[10] This French science fiction author wrote *From the Earth to the Moon* and *Around the World in Eighty Days*.

ANSWER: Jules Gabriel **Verne**

020-11-41-12220

21. For 10 points each, name these possible sites of extraterrestrial life in the Solar System.

[10] This red planet, the closest to Earth, contains polar ice caps and may once have contained water elsewhere on its surface used to support life.

ANSWER: **Mars**

[10] Many astronomers believe that the young, smooth surface of this moon of Jupiter conceals an underground ocean, which could be home to all sorts of life. It is the smallest of the Galilean moons, which comprise Io, Ganymede, and Callisto.

ANSWER: **Europa**

[10] Since water vapor sometimes comes up through the icy surface of this moon of Saturn, scientists believe it may be home to hot underground vents filled with water, which could harbor life. With an albedo of 1.375, it is the most reflective body in the Solar System.

ANSWER: **Enceladus** (ehn-seh-LAH-duhs)

079-11-41-12221