

# LONE STAR

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## Packet 5

*Only read this packet if the last tossup of the previous round was *The Handmaid's Tale*.*

### TOSSUP 1

**This author wrote about the effects William Blake's poetry had on his writing in the semi-autobiographical work *Rouse up O Young Men of the New Age*. In a different work by this writer, a character who disagrees with his brother about whether their great-great-uncle led a rebellion teaches young men to play soccer and leads a revolt against a Korean known as (\*) "The Emperor." In another work, this man wrote about a character who dreams of escaping to Africa whose child, Bird, was born with a brain hernia. For 10 points, name this Japanese author of *The Silent Cry* and *A Personal Matter*.**

ANSWER: Kenzaburo Oe [accept names in either order] <Nair>

### BONUS

This philosopher developed the concept of "bracketing" to argue that philosophers should analyze experiences as experienced by a subject without evaluating whether or not other objects exist. For 10 points each:

[10] Name this German author of *Logical Investigations* who pioneered the field of phenomenology.

ANSWER: Edmund Husserl

[10] *The Phenomenology of Spirit* was written by this Prussian exceptionalist who pitted the master and slave against each other in one form of his namesake dialectic.

ANSWER: Georg Wilhelm Friedrich Hegel

[10] Inspired by Hegel's master-slave dialectic, Karl Marx claimed that for "all hitherto existing society," class struggles have defined this concept. Engels and Marx developed a materialist understanding of this concept.

ANSWER: history <Tagtmeier>

### TOSSUP 2

**One queen of this country was nicknamed "Minerva" and caused controversy when she refused to marry and converted to Catholicism, becoming a nun in Rome. This country invaded Poland-Lithuania in *The Deluge*. This country defeated the Catholic League at Breitenfeld under a leader advised by Axel (\*) Oxenstierna. This country's Vasa Dynasty began its decline after losing the Battle of Poltava and the Great Northern War with Russia. For 10 points, name this country led by the "Lion of the North," Gustavus Adolphus, from Stockholm.**

ANSWER: Sweden <Rubel>

### BONUS

The Nile River has been key to this country's civilization for over 5000 years. For 10 points each:

[10] Name this African country whose Fourth Dynasty built the Pyramids of Khufu, Khafra, and Menkaure at Giza.

ANSWER: Egypt

[10] The fertile land of the Nile floodplain was known as kemet, and the desert surrounding it was given this name. It is a likely etymological origin for the name the Mormons gave their territory before "Utah." Give either the Egyptian or Mormon name.

ANSWER: Deshret [accept Deseret or similar sounding words]

[10] Kemet and Deshret were so named for being lands of the colors of rich Nile soil and iron-containing desert

sand. Those same two colors are the two predominant ones on Egyptian and later Greek pottery. Name either color.  
ANSWER: black or red <Ma>

### TOSSUP 3

**One of these species called DPPH is used as a standard in EPR spectroscopy. TEMPO is a stable one of these species, which are formed through homolytic cleavage. Reactions involving these species go through initiation, propagation, and termination steps. CFCs hit with UV light decompose to form these species, causing (\*) ozone breakdown. Antioxidants prevent these species from damaging proteins and nucleic acids by giving them an electron and preventing a namesake chain reaction. For 10 points, name these reactive species that have unpaired electrons.**

ANSWER: free radicals <Pamurthy>

### BONUS

Contrary to his depiction in other plays in his namesake cycle, in *Exit the King*, this character appears as a king who previously had almost limitless natural powers. For 10 points each:

[10] Give this character usually portrayed as an everyman with sensitive emotions. In another play featuring this character, he is abandoned by Daisy and hears the trumpeting of the title creatures through the phone and radio.

ANSWER: Berenger [accept Berenger Cycle; accept King Berenger I]

[10] Berenger was created by Eugène Ionesco, a notable proponent of this movement that also includes the plays of Samuel Beckett and Harold Pinter. This movement's plays often emphasized existential themes.

ANSWER: Theatre of the Absurd [accept Absurdist theatre]

[10] The idea of the Absurd was discussed in "The Myth of Sisyphus" by Albert Camus in this language. Although Ionesco was born in Romania, he primarily wrote plays in this European language.

ANSWER: French [accept français] <Yoo>

### TOSSUP 4

**One of the two cells derived from the generative cell of these organisms degrades before fertilization. Except for the *Gnetophyta* subgroup, the xylem of these organisms lacks vessel elements and only has tracheids. Their seeds lack endosperm because these organisms do NOT undergo double fertilization. Taxa within this group include (\*) ginkgos, cycads, and conifers like pine trees. Needle-like leaves and cones are produced by, for 10 points, what group of plants whose name means "naked seed" and is contrasted with angiosperms?**

ANSWER: gymnosperms [prompt on plants, seed plants, seed-producing plants, spermatophytes, vascular plants, land plants, embryophytes, embryophyta] <Shyam>

### BONUS

The different colors found in fireworks come from varying the elements used in them. For 10 points each:

[10] Name this element whose salts give fireworks a green color. This element's sulfate is used to make the digestive system more distinctive on x-rays and CT scans.

ANSWER: barium [accept Ba]

[10] This element's salts give fireworks a yellow color. This element and chlorine make up table salt.

ANSWER: sodium [accept Na]

[10] This element's salts give fireworks an orange color. A hydrated sulfate of this element is the mineral gypsum, and its hydroxide is called caustic lime.

ANSWER: calcium [accept Ca] <Madoerin>

## TOSSUP 5

After a servant whispered a secret about this figure into the ground, the reeds growing in that spot echoed those words. This figure received a set of defining features after disagreeing with the god Tmolus. Bathing in the river Pactolus caused this figure to lose an ability he gained after returning the drunkard Silenus to (\*) Dionysus. This man was punished for his judgement of a music contest between Apollo and Pan by being given the ears of a donkey. For 10 points, name this Phrygian king who quickly regretted his wish to turn everything he touched into gold.

ANSWER: Midas <Condron>

## BONUS

This object is often referred to as “Old Glory,” as in the title of one photo where Joseph Rakes attacks a civil rights protester with it. For 10 points each:

[10] Name this object containing an equal number of stripes as its country’s original states and an equal number of stars within a blue rectangle as its country’s current states.

ANSWER: US flag [accept equivalents for “US”; prompt on flag by asking “of what country?”]

[10] This woman supposedly made the first stars and stripes US flag after being asked to do so by the Continental Congress. She changed the design from six to five pointed stars to ease the process of cutting them.

ANSWER: Betsy Ross

[10] This earlier American flag contained a yellow banner with a coiled rattlesnake, with the motto, “Don’t Tread on Me.” It has recently become a controversial libertarian symbol.

ANSWER: Gadsden Flag <Ma>

## TOSSUP 6

In his memoir *Answer to History*, one holder of this position claimed that the British created his country’s Tudeh Party. His predecessor in this position was a member of the Cossack Brigade who deposed the Qajar dynasty. A holder of this position employed the SAVAK secret police after coming to power in Operation (\*) Ajax. That last holder of this title instituted the modernizing White Revolution and was Mohammad Reza Pahlavi, who was replaced by the Islamic Republic of Ayatollah Khomeini. For 10 points, name this royal title of Iran.

ANSWER: Shah [prompt on descriptions of the ruler of Iran] <Goodapaty>

## BONUS

One stage work of this type focuses on the 1901 White House dinner under Teddy Roosevelt. For 10 points each:

[10] Name this type of work, of which *A Guest of Honor* is one example. A later “ragtime” stage work of this type focuses on African-American music and is titled *Treemonisha*.

ANSWER: opera

[10] Those “ragtime operas” were written by this African-American composer, who was known as the King of Ragtime by contemporaries for works like “The Entertainer.”

ANSWER: Scott Joplin

[10] This 1899 piano rag by Joplin with a botanical title is believed to be named after a club in Sedalia, Missouri. Sydney Brown added lyrics to this rag in 1903.

ANSWER: Maple Leaf Rag <Vasilyev>

## TOSSUP 7

In a story featuring one of these characters, he saves Gloria Weston from being run over during a tour of the Finmark Corporation. In a play, Marius does not object to one of these characters being sent to a stamping-mill. In that play, the rights of these characters are campaigned for by the President of the Humanity League, Helena Glory. (\*) Rossum's Universal ones of these beings feature in a Karl Capek play that coined the commonly used word for them. For 10 points, name these beings that "may not allow a human being to come to harm" according to the first of Asimov's three laws that govern them.

ANSWER: **robots** [accept **Robbie** before "Marius"; accept **Rossum's Universal Robots**; accept **R.U.R.**; accept **I, Robot**] (The first clue is from "Robbie," the first story in *I, Robot*) <Yoo>

## BONUS

A poem by this man invokes the image of a "simple soldier boy" who "grinned at life in empty joy" until he finally "put a bullet through his brain." For 10 points each:

[10] Name this poet who also wrote about an officer who exclaims, "O Christ, they're coming at us!" before "down, and down, and down he sank and drowned, / bleeding to death" in the title failed "Counter-Attack."

ANSWER: Siegfried Loraine **Sassoon**

[10] Sassoon mentored this poet who described "bugles calling...from sad shires" in "Anthem for Doomed Youth." He also described "children ardent for some desperate glory" in a poem titled for an "old Lie."

ANSWER: Wilfred Edward Salter **Owen**

[10] Owen and Sassoon wrote about the horrors of this "Great War" in poems like "Dulce Et Decorum Est" and "Suicide in the Trenches."

ANSWER: **World War I** [accept equivalents such as "the **first World War**"] <Yoo>

## TOSSUP 8

One unfinished piece by this composer had its standard realization written by Deryck Cooke. A six-movement symphony by this composer is the longest in standard repertoire. Ancient Chinese poetry inspired this composer's *The Song of the Earth*. A funeral march in this composer's first symphony is based on (\*) "Frere Jacques," and another of his symphonies quotes the hymn *Veni Creator Spiritus* and is nicknamed for the huge choir and orchestra it requires. For 10 points, name this Austrian composer of the *Titan Symphony* and *Symphony of a Thousand*.

ANSWER: Gustav **Mahler** <Vasilyev>

## BONUS

This novel's protagonist believes he has been kidnapped by the Tralfamadorians. For 10 points each:

[10] Name this novel, subtitled "The Children's Crusade," in which Billy Pilgrim survives the firebombing of Dresden and becomes "unstuck in time."

ANSWER: **Slaughterhouse-Five**

[10] *Slaughterhouse-Five* is a novel by this man. Kilgore Trout is a recurring character in works by this man like *Timequake* and *Breakfast of Champions*.

ANSWER: Kurt **Vonnegut Jr.**

[10] Kilgore Trout is the favorite author of this character in *Slaughterhouse-Five*, an alcoholic captain who befriends Billy Pilgrim during his time in a veteran's hospital. This man is a volunteer firefighter in another Vonnegut novel.

ANSWER: **Eliot Rosewater** [accept either underlined part] <Nair>

## TOSSUP 9

One of these places in Cochin was labeled a 2018 UN Champion of the Earth for being fully solar powered. It's not a university, but Urs Fischer's giant Lamp-Bear is held in one of these places. It's not a causeway, but King Fahd names the largest of these places, located near Mecca. Chek Lap Kok is home to one of these places on (\*) reclaimed land in Hong Kong. The Sundrome and Worldport were former parts of the JFK one of these places, and one current terminal there is the TWA Flight Center. For 10 points, name these places that manage air travel.

ANSWER: airports <Shyam>

## BONUS

In 1998, Andrew Fire and Craig Mello won the Nobel Prize in Physiology for their discovery of RNA interference in this model organism. For 10 points each:

[10] Name this nematode, the only animal with a fully mapped connectome. This roundworm was the first multicellular creature to have its genome sequenced.

ANSWER: Caenorhabditis elegans

[10] From 1990 to 2003, the National Institute of Health funded an international effort to sequence the genome of this organism. This most widespread primate has 23 pairs of chromosomes in its somatic cells.

ANSWER: humans [or Homo sapiens]

[10] This DNA manipulation technique is used to view the entire set of chromosomes for a cell and detect chromosomal abnormalities. In it, colchicine arrests the cell in metaphase and Giemsa stain bands the chromosomes.

ANSWER: karyotyping [accept word forms such as karyotype] <Shyam>

## TOSSUP 10

In one song, this artist sings "I know that you're scared because I'm so open." The chorus of another song by this artist repeats "I'd walk through fire for you" and "Like it's the only thing I'll ever do" after the refrain "Just let me adore you." This artist of *Golden* sings "I don't know (\*) if I could ever go without" in a song opening with "Tastes like strawberries on a summer evening," referring to *Watermelon Sugar*. For 10 points, name this English artist who released the 2019 solo album *Fine Line*, the youngest member of One Direction.

ANSWER: Harry Styles [prompt on Harry from One Direction or similar] <Vasilyev>

## BONUS

This opera was often performed by musical theater groups during a downturn in popularity until the Houston Grand Opera's 1976 production revived interest. For 10 points each:

[10] Name this opera, whose most famous song is the lullaby "Summertime." It has been praised for its innovative fusion of jazz and classical styles.

ANSWER: Porgy and Bess

[10] This composer wrote the score for *Porgy and Bess*, with his brother Ira as his librettist. He also wrote *An American in Paris* and *Rhapsody in Blue*.

ANSWER: George Gershwin

[10] Gershwin's *An American in Paris*, another of his works fusing classical and jazz styles, uses four of this unusual instrument that Gershwin obtained by bringing them from Paris himself.

ANSWER: taxi horns [prompt on car horns; do not accept or prompt on partial answer or on other types of horns] <Ma>

## TOSSUP 11

According to von Thünen’s model, this practice stops being profitable past the last of four rings surrounding a city. A type of this practice creates areas known as swidden. A resource central to this practice is intentionally left unused as part of the fallow system. Whether this practice produces goods to be (\*) sold or to be consumed by one’s own family differentiates the commercial and subsistence forms of this practice. For 10 points, name this practice whose namesake “Revolution” occurred when humans began cultivating crops.

ANSWER: agriculture [or farming; or ranching; prompt on specific subparts like crop rotation] <Condron>

## BONUS

MATLAB is not a “real” programming language, but it does use fundamental principles of programming. For 10 points each:

[10] Name these statements, which are usually avoided in MATLAB due to much more efficient methods of manipulating arrays. These statements repeatedly execute code.

ANSWER: for loop

[10] The “fft” function in MATLAB is used to perform this operation that decomposes a signal or function into frequencies.

ANSWER: Fast Fourier Transform

[10] The “findpeaks” function in matlab includes performing this optimization operation that finds local maxima when you set it equal to zero.

ANSWER: taking the derivative [or differentiation; accept gradient] <Madoerin>

## TOSSUP 12

This landmark can be seen above Pere Tanguy’s straw hat in Vincent van Gogh’s portrait of him. This landmark is bright red due to the rising sun in *Fine Wind, Clear Morning*. In one work, this landmark is towered over by a foamy Prussian blue object with white, finger-like projections, which crashes down on three (\*) boats. That work belongs to a series of ukiyo-e woodblock prints called *36 Views of* [this landmark]. For 10 points, what landmark is depicted by Hokusai in *The Great Wave off Kanagawa* and is a mountain near Tokyo?

ANSWER: Mount Fuji <Vasilyev>

## BONUS

Name the following about the European origins of the Black Legend, for 10 points each:

[10] The Black Legend is a vilification of the actions of this country under King Philip II. Its Duke of Alba set up harsh tribunals to control the Netherlands in the Council of Blood and helped plan its namesake “Armada.”

ANSWER: Kingdom of Spain

[10] This port city was subject to the 1576 “Spanish Fury” by unpaid mutinying soldiers. The collective response by the United Provinces to its destruction intensified the Eighty Years War.

ANSWER: Antwerp

[10] The leader of the Dutch resistance to Spanish rule was a king of the House of Orange with this name, known as “the Silent.” A later ruler of this name was the only English king from the House of Orange and succeeded James II.

ANSWER: William <Ma>

### TOSSUP 13

**This man led the Bucktails, a group of Senators who opposed George Clinton. This man's vice president claimed that he killed Tecumseh and was Richard Mentor Johnson. This man ran for president in 1848 as the Free Soil candidate. This man's nickname of "Old (\*) Kinderhook" alludes to his birthplace, near where he established the Albany Regency. This president combated a crisis caused by the Specie Circular and the closure of the Second Bank of the US, the Panic of 1837. For 10 points, name this Democratic president who succeeded Andrew Jackson.**

ANSWER: Martin Van Buren <Rubel>

### BONUS

*The Germ* was a magazine established by members of this movement. For 10 points each:

[10] Name this 19th century British art movement known for its precise depiction of nature and use of innovative scene compositions. Members of this movement included John William Waterhouse and William Holman Hunt.

ANSWER: Pre-Raphaelite Brotherhood

[10] In a painting by William Holman Hunt called *The Light of the World*, this man holds a lantern as he knocks on a door. This man is commonly depicted with his mother, the Madonna.

ANSWER: Jesus Christ [accept either underlined part]

[10] Another Pre-Raphaelite depiction of Jesus, *Christ in the House of His Parents*, is by this artist, one of the founders of the school. This artist also depicted the model Elizabeth Siddal as a dying Ophelia.

ANSWER: Sir John Everett Millais <Pamurthy>

### TOSSUP 14

**This architect of the Meyerson Symphony Center reflected different branches' space needs in an inverted pyramid design for the Dallas City Hall. A large concrete tower and glass pavilion on Boston Harbor formed this architect's JFK Presidential Library. This architect's John Hancock Tower initially had (\*) window panes fall off in high winds. For both the Rock and Roll Hall of Fame and the world's largest art museum, this architect designed glass pyramids. For 10 points, the Louvre Pyramid was designed by what Chinese architect?**

ANSWER: I.M. Pei <Goodapaty>

### BONUS

In some stories, this being shares her name with her two sisters, who also live in huts standing on chicken legs deep in the forest. For 10 points each:

[10] Name this witch who, in one story, threatens to eat the young boy Ivan, and notably flies around using a mortar while wielding a pestle.

ANSWER: Baba Yaga

[10] Another figure in Slavic folklore is a rusalka, a female figure that maliciously lures men to their deaths in these places. A rusalka would use her long hair to ensnare men in these places.

ANSWER: lake [accept river and other bodies of freshwater; prompt on water]

[10] Slavic folklore is closely tied with that of this country, where folklorist Vladimir Propp primarily worked. As a member of this country's Leningrad University, Propp identified 31 typical functions of Slavic fairy tales.

ANSWER: Russia [accept Union of Soviet Socialist Republics or Soyuz Sovetskikh Sotsialisticheskikh Respublik; accept CCCP] <Vasilyev>

## TOSSUP 15

A poem by this author ends with a character's cry of "I'll follow and bring you back by force" to his wife, who looks out a window at the grave of their child. The speaker of another poem by this author of "Home Burial" says "Stay where you are until our backs are turned!" as a "spell" to balance fallen boulders. The speaker of that poem by this author says that his neighbor is "all pine and I am apple orchard" before concluding, (\*) "Good fences make good neighbors." For 10 points, name this poet of "Mending Wall" who wrote "I took the one less traveled by" in "The Road Not Taken."

ANSWER: Robert Lee Frost <Yoo>

## BONUS

This man described his enemies as "hopeless, hysterical hypochondriacs of history" and "nattering nabobs of negativism." For 10 points each:

[10] Name this former Governor of Maryland and Vice President who became the second Vice President to ever resign after facing charges of tax evasion. He also received \$100,000 in bribes while governor.

ANSWER: Spiro Agnew

[10] Agnew was this man's Vice President in one of the most scandalous White Houses in history. This president resigned due to the Watergate scandal but was pardoned by his successor, Gerald Ford.

ANSWER: Richard M. Nixon

[10] In this October 1973 event during the Watergate scandal, Nixon ordered Solicitor General Robert Bork to fire special prosecutor Archibald Cox. William Ruckelshaus and Elliot Richardson both resigned due to it.

ANSWER: Saturday Night Massacre <Rubel>

## TOSSUP 16

In 2016, this company acquired the analytics tool CrowdTangle. The attorneys general of 19 states and Washington, D.C. signed a letter urging this company to allow third-party audits and to limit "inflammatory advertisements that vilify minority groups." This company was targeted by the Stop (\*) Hate for Profit boycott, in which corporate advertisers halted advertising spending on this company's platform over its handling of misinformation and hate speech. For 10 points, name this parent company of Instagram whose CEO is Mark Zuckerberg.

ANSWER: Facebook, Inc. <Condron>

## BONUS

Never mention these to an engineering student, as they will complain to you about statics class for much longer than is socially acceptable. For 10 points each:

[10] Name these figures that are drawn to illustrate all the forces acting on an object that can get really complicated, if you're an engineering student.

ANSWER: Free-Body Digrams

[10] Engineering students often forget to account for this force. In free body diagrams, this axial pulling force is usually found in ropes.

ANSWER: tension

[10] When these components show up in a free-body diagram, engineering students usually panic. These structures consist of straight beams connected by pins at their ends and are commonly seen on bridges.

ANSWER: trusses <Madoerin>

## TOSSUP 17



**The Hephthalites are also called “white” ones of these people. These people likely originated from a group pushed west by the Xianbei while led by a Chanyu, the Xiongnu people. These people fought a force led by Flavius Aetius and Theodoric the Goth at the Battle of the (\*) Catalaunian Plains. Their leader at that battle was a man who demanded half the Roman Empire as a dowry for Honoria and died of a nosebleed in 453 while controlling much of Central Europe. For 10 points, name these nomadic people led by the “Scourge of God,” Attila.**  
ANSWER: **Huns** [accept **Xiongnu**; accept **Hunas**] <Goodapaty>

#### BONUS

For 10 points each, answer the following about attaining release from *samsara*.

[10] A liberated *jivanmukta* creates no more of this concept after they die. This term describes religious action generally or the idea that one’s actions have consequences in this life and in subsequent lives.

ANSWER: **karma**

[10] This state of liberation can be described as freedom from karma or the attainment of nirvana. This state is the release from *samsara*, the cycle of death and rebirth.

ANSWER: **moksha**

[10] *Moksha* is attained when this thing realizes that it is and has always been *Brahman*, the supreme, all-pervading Spirit. This thing is defined as the real or true Self.

ANSWER: **Atman** <Condron>

#### TOSSUP 18

**The Dicke effect combats the thermal broadening of spectral lines caused by this phenomenon. This phenomenon is used to assess blood flow direction and velocity in echocardiography. Using canal rays, Ives and Stilwell observed the role of time dilation in the (\*) “transverse” form of this effect. Depending on the direction of moving astronomical bodies, this effect causes redshift or blueshift. For 10 points, name this effect in which movement between a source and observer causes wave frequencies to change.**

ANSWER: **Doppler effect** [accept **Doppler shift**] <Shyam>

#### BONUS

In this game, if a player has fewer than 70 Stars, then going through the Big Star Door leads to an endless staircase. For ten points each:

[10] Name this game in which the player begins in a grassy area outside Princess Peach's Castle and must jump through paintings to travel to other worlds.

ANSWER: **Super Mario 64** [accept **SM64**; prompt on partial answer]

[10] *Super Mario 64* is a well-known game for play-throughs of this type in which the player attempts to complete the game as fast as possible.

ANSWER: **speedrunning**

[10] A frequent reset point for runs is in a fortress named for these wall-like creatures and their king. They resemble a stone slab with arms and legs, and are not to be confused with the similarly named block-like creatures.

ANSWER: **Whomp** [accept **Whomp's Fortress**; do not accept or prompt on “Thwomp”] <Vasilyev>

## TOSSUP 19

A character in this play fell ill after a year of overworking himself and was sent to spend a year recuperating in Italy just after the birth of his son Ivar. Another character in this play is called a “spendthrift” by both her husband and her old friend Christine Linde on Christmas Eve. The protagonist of this play is blackmailed for forging a signature on a fraudulent (\*) loan by the former bank employee Krogstad. The sound of a shutting door ends, for 10 points, what play about Torvald and Nora Helmer’s doomed marriage by Henrik Ibsen?

ANSWER: A *Doll’s House* [or *Et dukkehjem*] <Yoo>

## BONUS

Ecuador left this organization in 1992 due to an annual 2 million dollar fee, then rejoined, then left again in 2020. For 10 points each:

[10] Name this organization, one of whose founding members maintains its membership with resources in the Maracaibo Basin and Orinoco Belt.

ANSWER: Organization of Petroleum Exporting Countries (“o-peck”)

[10] That founding member, Venezuela, is the only remaining South American member of OPEC. Name this largest African member of OPEC, whose largest city of Lagos was replaced as its capital by Abuja.

ANSWER: Federal Republic of Nigeria

[10] A Nigerian activist, Ken Saro-Wiwa, protested this oil company’s environmental destruction and was killed, likely with their approval. This company is the largest based in Europe and the second largest oil company in the world after Sinopec.

ANSWER: Royal Dutch Shell <Ma>

## TOSSUP 20

One type of this process occurs after an object gains enough layers of differing transparency through random motion that it cannot be supported. Rising thermals can drive adiabatic cooling that causes this process, as can orographic lift, the latter of which can result in a (\*) “shadow” on the far side of mountains. Objects that are either large and anvil-shaped or dark sheets are called “nimbus” for supporting this process. For 10 points, nimbostratus and cumulonimbus clouds cause what process in which water falls from the sky?

ANSWER: precipitation [accept specific types, like rain, hail, or snow] <Ma>

## BONUS

The old man of Sulfur Creek warns the protagonist of this story about traveling alone at a temperature of -75°F. For 10 points each:

[10] Name this story about a man who tries to reach “the boys” by six o’clock in the evening in subzero temperatures. He eventually dies from hypothermia after trying and failing to perform the title action twice.

ANSWER: “To Build a Fire”

[10] This American author of “To Build a Fire” set many of his stories and novels in the Yukon Territory. He set his novel *White Fang* and its companion novel about the dog Buck during the Klondike Gold Rush.

ANSWER: Jack London [or John Griffith Chaney]

[10] Buck kills Spitz to win leadership of a pack of sled dogs and befriends John Thornton in this novel by London. This novel is the basis of a 2020 film released by 20th Century Studios starring Harrison Ford.

ANSWER: *The* *Call of the Wild* <Yoo>

