Collective Early Release Entry-level Set (CERES)

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Packet 3

Tossups:

1. **The elastic rebound theory provides an explanation for how energy is released during these events, whose damage is measured on the Mercalli scale. These events are caused by the movement of P and S waves along faults at boundaries of (*)** tectonic plates. The Richter scale measures these events' magnitude, and if their epicenter is in the ocean, tsunamis may form. For 10 points, in what geologic events may the ground shake?
ANSWER: **earthquake**s <Kher, Science>

2. **One peak in this mountain range is surrounded by Baxter State Park. One subrange of this mountain range, the White Mountains, contains a mountain famed for its excessive wind speeds; that mountain is Mount (*)** Washington. Mount Mitchell is the highest mountain in this range, and this range's namesake trail runs from Georgia to Mount Katahdin in Maine. For 10 points, what large mountain range runs through the eastern US?
ANSWER: **Appalachian** Mountains [accept **Appalachians**] <Heinonen, Geography>

3. **Inverse functions are often notated by writing this number as a superscript following the name of the function. The complex numbers are created by adding the square root of this number to reals; this number's square root is the imaginary unit and is written i. Multiplying this number by x gives the (*)** additive inverse of x. This number is less than 0 and its square equals 1. For 10 points, what number equals 1 minus 2?
ANSWER: **-1 ("negative one")** [accept answers like **minus 1**; do not accept or prompt on "1"] <Kher, Math>

4. **An outdated one of these places in Berlin named Tegel was finally closed in 2021. One of these places in Beijing is nicknamed the "starfish" due to its architecture. One of these places in Singapore houses an indoor rainforest and is named Changi. London is served by six of these places, including (*)** Heathrow, the largest. For 10 points, name these places which include John F. Kennedy International in New York City.
ANSWER: **airports** [accept equivalents like **airfields** or **aerodromes**] <A. Gao, Geography>

5. **Citizens of this country practice an ideology called Juche (JOO-chay), or "self-reliance," in praise of its leaders. Douglas MacArthur landed at Inchon to fight this country, which sided with the Soviet Union in a 1950s war that led to this country's southern border at the (*)** 38th parallel becoming the Demilitarized Zone, or DMZ. Pyongyang is the capital of, for 10 points, what country currently led by Kim Jong-un?
ANSWER: **North Korea** [or **DPRK** or **DPR Korea** or **Democratic People's Republic of Korea** or **Chosŏn Minjujuŭi Inmin Konghwaguk**; do NOT accept or prompt on "Korea" or "South Korea" or "Republic of Korea"] <Emmanuel, History>

6. **An unusual four components make up one of these musical elements named for Tristan. These things can be turned "upside down" in a process known as inversion, which also describes them out of a "root" position. Broken examples of these things are known as arpeggios, while three component versions of them can make up a (*)** triad. For 10 points, name these musical units consisting of two or more notes played simultaneously.
ANSWER: **chord**s <R. Ganeshan, Fine Arts>

7. **In this book, a partially deaf girl whose ears are pulled by her uncle becomes a maid, and a queen dies after another character falls in her soup bowl. Characters in this book scheme to kidnap (*)** Princess Pea, whom the protagonist loves. Miggery Sow befriends the rat Roscuro in this novel, whose protagonist is thrown into a castle dungeon. For 10 points, name this novel by Kate Dicamillo about a mouse.
ANSWER: *The **Tale of Despereaux*** <Gjesfjeld, Literature>

8. **Once the threshold frequency is passed, metals will emit these particles in the photoelectric effect. These particles were discovered using cathode ray tubes by JJ Thomson. These particles are transferred between different atoms in (*)** redox reactions, and they occupy the s, p, d, and f orbitals in an atom. For 10 points, what particles surround the nucleus of an atom and carry a negative charge?
ANSWER: **electron**s <Bodducherla, Science>

9. **One poem in this form ends "So long as men can breathe or eyes can see / So long lives this, and gives life to thee." Another poem in this form "from the Portuguese" answers "to the depth and breadth and height my soul can reach" to "How do I love thee? Let me count the ways." One of these poems asks "Shall I (*)** compare thee to a summer's day?" and was penned by Shakespeare. For 10 points, name these fourteen-line poems.
ANSWER: **sonnets** [accept *__Sonnets__ from the Portuguese*] <C. Gao, Literature>

10. **This empire, whose founder was killed by the Scythian queen Tomyris, was divided into twenty regions called satrapies. This empire's capital, Persepolis, was built by its ruler Darius. One ruler of this empire famously ordered the ocean to be whipped. This empire defeated King (*)** Leonidas and 300 Spartans at the Battle of Thermopylae. For 10 points, name this Iranian empire founded by Cyrus the Great and ruled by Xerxes.
ANSWER: **Persian** Empire [or First **Persian** Empire, or **Achaemenid** Empire, or **Xšāça**] <Ahmed, History>

11. **A major advancement in sea navigation was the development of one of these devices which could function on a boat, because these devices relied on the motion of a pendulum. Quartz is used in some of these devices for its piezoelectric properties. The most accurate type of these devices, their (*)** "atomic" kind, works by counting the vibrations of atoms. For 10 points, what devices do you use to determine the time?
ANSWER: **clock**s [or **watch**es or anything indicating **timepiece**s] <Gollamudi, Science>

12. **In this play, Mary Warren is almost beaten for gifting a character a "poppet doll", and Giles Corey asks for "more weight!" before being crushed to death. This play ends as John Proctor is led to the gallows for refusing to sign a false confession. In this play, the slave (*)** Tituba is seen dancing in the forest with Abigail Williams and Betty Paris. For 10 points, name this Arthur Miller play about the Salem Witch Trials.
ANSWER: *The **Crucible*** <Emmanuel, Literature>

13. **These people dominated England during a period stretching from their attack on Lindisfarne Abbey to their defeat at the Battle of Stamford Bridge. These people traded with native Inuits, whom they termed "skraelings", in (*)** Greenland. A settlement in Newfoundland may have been established by one of these people named Leif Erikson. For 10 points, name these seafaring Scandinavians who probably didn't wear horned helmets.
ANSWER: **Viking**s [or the **Norse**] <Kher, History>

14. **In dissenting in the case *Shelby County v. Holder*, this figure compared its result to "throwing away your umbrella in a rainstorm." This person was replaced by Amy Coney Barrett despite asking not to be replaced until a new President was elected before her (*)** death in 2020. For 10 points, name this liberal Supreme Court justice often known by a three-letter initialism.
ANSWER: Ruth Bader **Ginsburg** [accept **RBG**] <A. Gao, History>

15. **One of these creatures talks to Ellie Arroway in the form of her father in a 1997 film based on a Carl Sagan novel. Another of these creatures is the mascot of the Houston Astros, and the protagonists of Toy Story meet these creatures at (*)** Pizza Planet. In a Steven Spielberg film, one of these creatures asks to "phone home". Roswell, New Mexico is associated with, for 10 points, what creatures that might come in UFOs?
ANSWER: **aliens** [or **extraterrestrials**, or other obvious equivalents like **Martians**] <Gjesfjeld, Popular Culture>

16. **Creatures like zombie worms live in the ecosystems created by these animals' corpses when they fall to the bottom of the ocean. Instead of teeth, some species of these animals feed on prey using baleen. Types of these animals like the bowhead and (*)** sperm have been hunted for their blubber, which can be used to make a type of oil. For 10 points, beluga and humpback are species of what aquatic mammals?
ANSWER: **whale**s [accept bowhead **whale**s or sperm **whale**s or beluga **whale**s or humpback **whale**s] <Kher, Science>

17. **Routes for this type of transport include the *California Zephyr* and the *Lake Shore Limited*. The Northeast Corridor is the busiest route for this type of transport in the US and contains the Acela Express, America's only current example of the (*)** "high-speed" type of this transportation. New York City's Grand Central Terminal serves, for 10 points, what kind of transportation generally provided in the US by Amtrak?
ANSWER: **train** transportation [or **railroad**s, or just **rail** transportation; prompt on Amtrak by asking "what kind of transportation does Amtrak provide?"] <Heinonen, General Knowledge>

18. **Covishield and Covaxin are being produced in this country's Serum Institute, which is the world's largest producer of vaccines. The delta variant of COVID-19 was first identified in this country. Political rallies in West (*)** Bengal may have contributed to the second wave of COVID-19 in this country. For 10 points, name this country led by prime minister Narendra Modi from New Delhi.
ANSWER: **India** [or Republic of **India** or **Bharat**iya Ganrajya] <Bhattacharyya, Current Events>

19. **Orpheus was killed by this god's followers, who were known as the maenads, and this god turned a crew of pirates who tried to abduct him into dolphins. After this god's mother, Semele, died after looking at Zeus in his true form, this god was (*)** sown into Zeus' thigh. Hestia gave up her throne on Mount Olympus in favor of, for 10 points, what Greek counterpart of Bacchus, the god of wine?
ANSWER: **Dionysus** <Bodducherla, Mythology>

20. **A woman with this name was the daughter of St. Anne. One woman with this name is the sister of Martha in the book of Luke, while a woman with this name is featured cradling her dead son in the *Pieta* artistic motif. This is the first name of a woman who told the disciples that (*)** Jesus had risen from the dead, and it was also the first name of the wife of Joseph. For 10 points, give the first name for the mother of Jesus.
ANSWER: **Mary** [or **Maryam**, or **Maria**] <Gjesfjeld, Religion>

Bonuses:

1. This is the only sport in which Liechtenstein has ever won medals in the Olympics. For 10 points each:
[10] Name this activity in which participants travel down snow-covered mountains using boards strapped to their feet. Vail and Breckenridge are among the most famous Colorado resorts at which people do this.
ANSWER: downhill **skiing**
[10] Many large ski resorts use these machines in addition to chairlifts. These machines consist of closed compartments, rather than chairs, and they share their names with boats common in Venice.
ANSWER: **gondola**
[10] In the US, the hardest ski runs are designated with one or two diamonds of this color.
ANSWER: **black** <Tagtmeier, General Knowledge>

2. George W. Bush told FEMA director Michael Brown that he was doing "a heck of a job" during this event. For 10 points each:
[10] Name this hurricane that struck the southern United States in August 2005, becoming one of the costliest storms on record.
ANSWER: Hurricane **Katrina**
[10] Hurricane Katrina devastated this largest city in Louisiana, where levee failures led to the deaths of nearly 1,500 citizens.
ANSWER: **New Orleans**, Louisiana
[10] During the Concert for Hurricane Relief, held in the days after Hurricane Katrina's landfall, Kanye West claimed that "George Bush doesn't care about" these people, who constituted the majority of New Orleans's evacuees during the hurricane.
ANSWER: **Black** people [or **African American**s] <Koutsoukos, History>

3. A famous thought experiment about this property was posed by David Hilbert. For 10 points each:
[10] Name this property, which can be described as "going on forever". Euclid first proved that the set of prime numbers has this property.
ANSWER: **infinity** [or an **infinite** number; prompt on equivalents]
[10] Gabriel's horn has an infinite surface area but a finite value for this value. For a sphere, this value is equal to four-thirds times pi times the radius cubed.
ANSWER: **volume** [prompt on V]
[10] A common math meme, based on a technique in abstract math called analytic continuation, asserts that the infinite sum of all the positive integers is equal to this value. This number is also the solution to the equation "x times six equals x times 42 plus 3".
ANSWER: **-1/12** [or **negative one twelfth**, or **negative one over twelve**; accept **minus** in place of **negative**; do not accept or prompt on "1/12"] <Bhattacharyya, Math>

4. For 10 points each, answer the following about graphs in chemistry:
[10] Graphs named after this type of energy plot the amount of molecules against the amount of this energy within a substance, with a dotted line usually representing activation energy. This type of energy is contrasted with the "potential" type.
ANSWER: **kinetic** energy
[10] Potential energy graphs are used to display the change in this quantity, symbolized H, between the products and the reactants. This quantity is equal to internal energy plus the product of volume and pressure.
ANSWER: **enthalpy**
[10] Diagrams representing these things are also common within chemistry. The triple point is the point at which three of these things can coexist, and sublimation is an example of a "change" between these things.
ANSWER: **phase**s [accept **states** of matter] <Gollamudi, Science>

5. Answer some questions about the many interesting places visited by YouTuber Tom Scott, for 10 points each:
[10] Scott visited the airport on the island of Barra, Scotland, which has this unusual property. Because of this property, the flight schedule at Barra is dictated by the times of high and low tide.
ANSWER: the airport is **on a beach** [accept anything indicating that it's a **beach**; prompt on answers that indicate that it <u>isn't paved</u>; prompt on answers indicating that it <u>floods</u> regularly by asking "why does it flood so often?"]
[10] Scott also visited the Nordschleife **(NORD-shly-fuh)**, a public road in Germany that doubles as one of these locations. Motorsport competitions like NASCAR and IndyCar hold their events at these locations.
ANSWER: a **racing circuit** [accept obvious equivalents like **race track** or **race course**]
[10] In 2018, Scott visited a town in Quebec named after this dangerous building material, which was formerly used for fire prevention but can cause mesothelioma and other deadly cancers. The town changed its name to Val-des-Sources **(VAL day SOORS)** in 2020 to remove its association with this substance.
ANSWER: **asbestos** <Thompson, Popular Culture>

6. After seeing American soldiers lift a seemingly real one of these vehicles, a French GI quipped "The Americans are very strong." For 10 points each, answer the following about WWII deception:
[10] The Ghost Army made inflatable kinds of these armored land vehicles. The largest battle between these vehicles was in Kursk.
ANSWER: **tank**s
[10] A huge factory owned by this company was disguised by building a fake town on its roof to fool potential aerial reconnaissance. This company also produced the first commercial jet airliner made in the US, the 707.
ANSWER: **Boeing**
[10] Operation Fortitude South led Germany to think Calais was this event's target. This event saw troops land on beaches with codenames such as Omaha and Juneau.
ANSWER: **D-Day** [or **Operation Neptune** or the **Normandy landings**] <C. Gao, History>

7. A waterway in Chile is named for this man. For 10 points each:
[10] This man was the creator of the theory of evolution, which explains that all species alive today descended from common ancestors. He sailed on the H.M.S. *Beagle* while participating in a survey expedition.
ANSWER: Charles **Darwin**
[10] Darwin discovered that these types of birds had different types of beaks depending on what they ate. Canaries are a type of this bird species.
ANSWER: **finch**es
[10] The finches Darwin observed are located on these islands. A species of tortoise found on these islands can grow to be five feet tall and weigh 550 pounds, making it the largest species of tortoise in the world.
ANSWER: **Galapagos** islands <Heinonen, Science>

8. For 10 points each, answer the following about the presidency of Andrew Jackson:
[10] Following the Indian Removal Act and the Treaty of New Echota, this Native American tribe was forcibly relocated to Oklahoma via the "Trail of Tears", in defiance of the Supreme Court's ruling in *Worcester v. Georgia.*
ANSWER: the **Cherokee** [or **Aniyvwiya?i** or **Tsalagi**]
[10] This state northeast of Georgia experienced the Nullification Crisis after they rejected the Tariffs of 1828 and 1832. This state was home to Jackson's vice president, John C. Calhoun, and later on it would be the site of the Battle of Fort Sumter.
ANSWER: **South Carolina**
[10] Jackson won his second term against this Kentuckian congressman and National Republican candidate who promoted his American System. Eight years earlier, this Speaker of the House and "Great Compromiser" had conspired to elect John Quincy Adams in what Jackson called a "Corrupt Bargain".
ANSWER: Henry **Clay**, Sr. <Koutsoukos, History>

9. In 1940, four teenagers found hundreds of preserved works in this art form at France's Lascaux complex. For 10 points each:
[10] Name this Paleolithic art form whose common subjects were hunted animals such as deer and bison. Radiocarbon dating has shown most of these artworks to be from between 65,000 and 10,000 B.C.
ANSWER: **cave painting**s [accept equivalents; prompt on painting*s* by asking "in what kind of place"?]
[10] Another form of Paleolithic art were figurines now generally named for this figure, including one from Willendorf. A Botticelli painting depicts the "Birth of" this Roman goddess of love, whose Greek equivalent was Aphrodite.
ANSWER: **Venus**
[10] Another painting of Venus, the Venus of Urbino, depicts her reclining on a red couch and was created by this Venetian painter.
ANSWER: **Titian** <Kher, Fine Arts>

10. This novel was subtitled "The Modern Prometheus". For 10 points each:
[10] Name this novel where a scientist brings a corpse back to life. At the beginning of this novel, a ship captain in the Arctic spots a giant man sledding with dogs.
ANSWER: ***Frankenstein***
[10] The author of *Frankenstein* was the husband of poet Percy Shelley and had this first name. Another Englishwoman with this first name was a pioneer of feminist thought who wrote A *Vindication of the Rights of Women.*
ANSWER: **Mary** [the other author was Mary Wollstonecraft]
[10] The idea of Frankenstein was created in a competition between Mary Shelley, Percy Shelley, and this poet. This poet wrote "She Walks in Beauty" and "Don Juan", and his daughter was Ada Lovelace.
ANSWER: Lord **Byron** [or George Gordon **Byron**] <Sahgal, Literature>

11. The fall of the Roman empire was a long and slow process. For 10 points each:
[10] The fall was exacerbated by repeated invasions of these people, whose king Alaric led a destructive sack of Rome in 410.
ANSWER: **Goth**s [accept **Visigoth**s or **Ostrogoth**s]
[10] Some scholars believe that a cause of the fall of Rome was the empire's conversion to this religion, since it caused conflict between pagans and its followers. This religion's central figure was crucified by the Romans.
ANSWER: **Christianity** [accept Roman **Catholicism**]
[10] As Rome declined, the Pope bribed the leader of these people so that he would not sack Rome. These nomadic people were defeated at the Battle of the Catalaunian Plains while they were led by a man nicknamed the "Scourge of God," Attila.
ANSWER: **Hun**s <Gjesfjeld, History>

12. Answer some questions about Christmas traditions, for 10 points each:
[10] Some people decorate their trees with tinsel, a shiny metallic adornment first developed in this country's city of Nuremberg. This country, the most populous located entirely in Europe, is also the origin of the carol "O Tannenbaum".
ANSWER: **Germany** [or **Deutschland**]
[10] This person is featured in Mariah Carey's "*All I Want For Christmas is [this person],*" a Christmastime classic. Carey sings that "there is just one thing I need," who is this person, and that she "[doesn't] care about the presents."
ANSWER: **you** [accept *All I Want For Christmas is* **You**, prompt on me or the listener with "what's the exact word in the title"]
[10] People who do care about the presents sometimes play this game. In this game, players each bring a gift to a common pool and draw random gifts from the pool.
ANSWER: **white elephant** gift exchange [accept **Yankee swap** or **Dirty Santa**; do not accept or prompt on "Secret Santa" as that is a different game] <A. Gao, General Knowledge>

13. You are the hero Hercules. For 10 points each, answer the following about your various labors:
[10] You were told to do the 12 labors by Apollo after killing your family in a fit of madness inspired by this goddess. She is better known for being the vengeful wife of Zeus, and for punishing mortals he has affairs with.
ANSWER: **Hera**
[10] For your fifth labor, you are told to clean the Augean stables in a single day, which you do by changing the course of two of these natural features. Tiberius is the god of one of these features in Rome.
ANSWER: a **river**
[10] For your eleventh labor, you are told to retrieve the Golden Apples of the Hesperides, which are guarded by Ladon, which is one of these creatures. Cadmus sows a body part of one of these creatures into the ground to create the Spartoi warriors.
ANSWER: **dragon**s <Gollamudi, Mythology>

14. The Lotus Temple is a place of worship for people of this faith. For 10 points each:
[10] Name this Persian faith founded by Baháʼu'lláh. The belief that all religions stemmed from one God is central to this faith.
ANSWER: **Baháʼí** Faith [or **Baháʼi**sm or **Baháʼi**yyat]
[10] Members of the Baháʼí faith engage in this practice for the 19 days leading up to their new year. During Ramadan, Muslims do this from dawn to sunset and break it with an *iftar*.
ANSWER: **fast**ing [accept descriptions of abstaining from food and water]
[10] The Baháʼí faith is now based at the Universal House of Justice in this country's city of Haifa. This country's flag depicts a symbol of another religion consisting of two interlocking triangles.
ANSWER: State of **Israel** <Bhattacharyya, Religion>

15. Answer some questions about how to make rockets go up, for 10 points each:
[10] Some rockets use the liquid form of this element as a fuel. Humans breathe in order to obtain this element from the air.
ANSWER: **oxygen**
[10] APCP, a common rocket fuel, is usually composed of ammonium perchlorate bound to a powdered form of this element. This element can be produced industrially through the Hall-Heroult process and its primary ore is bauxite.
ANSWER: **aluminum** [or **aluminium**]
[10] Another traditional rocket propellant is composed of a compound of zinc and this element. It has atomic number 16 and typically smells like rotten eggs.
ANSWER: **sulfur** <Gollamudi, Science>

16. For 10 points each, answer the following about the many versions of the iconic statue *Christ the Redeemer*:
[10] Probably the most famous version of the statue sits atop Corcovado Mountain in this South American country's city of Rio de Janeiro. It is the only Portuguese speaking nation on the continent and contains most of the Amazon Rainforest.
ANSWER: Federative Republic of **Brazil**
[10] Another version of the statue sits across the border of Chile and this other country to its east, with whom it shares the region of Patagonia. It contains Aconcagua, South America's highest point.
ANSWER: **Argentina** [or the **Argentine** Republic]
[10] Yet another version of the statue is located in the city of Maratea, which lies along the eastern edge of the Tyrrhenian Sea in this European country.
ANSWER: **Italy** [or **Italia**] <R. Ganeshan, Geography>

17. This character breaks a curse cast upon his family by Madame Zeroni in the novel in which he appears. For 10 points each:
[10] Name this character whose surname is his first name backward. This person is accompanied by X-Ray, Armpit, and Zero at Camp Green Lake for stealing Clyde Livingston's "sweet" shoes in the novel in which he appears.
ANSWER: **Stanley** **Yelnats** IV [accept either underlined part]
[10] Stanley Yelnats appears in this Louis Sachar novel, where campers have to dig the title cavities 5 feet by 5 feet.
ANSWER: *Holes*
[10] Sachar also wrote "Sideways Stories from [this location]," and sequels including one where this location is "Falling Down" and one where it "Gets A Little Stranger." This building features Miss Zarves, who runs the nonexistent 19th floor, and Mrs. Gorf.
ANSWER: **Wayside** School [accept *Sideways Stories from **Wayside School***, ***Wayside School** is Falling Down*, or ***Wayside School** Gets A Little Stranger*] <A. Gao, Literature>

18. For 10 points each, answer the following about the appearance of albatrosses in European literature:
[10] In this author's poem "The Rime of the Ancient Mariner", a sailor shoots an unlucky albatross with a crossbow and hangs it around his neck. He also wrote "Kubla Khan."
ANSWER: Samuel Taylor **Coleridge**
[10] An albatross with "great white oars" appears in the collection "The Flowers of Evil," which was written by a symbolist author from this country. Victor Hugo, another author from this country, wrote about a revolution in Paris in *Les Miserables*.
ANSWER: **France**
[10] In "Snake", a poem by a man with this last name, a man hurls a log at a serpent hanging out at his water trough before thinking of an albatross. Another man with this last name played a variety of important roles in the Middle East during World War I, earning him the epithet "of Arabia".
ANSWER: **Lawrence** [accept D. H. **Lawrence** or David Herbert **Lawrence** or **Lawrence of Arabia**] <R. Ganeshan, Literature>

19. Answer some questions about the Electoral College, for 10 points each:
[10] The electoral college is used to determine who gets elected to this position, which is currently held by Joe Biden.
ANSWER: the **president** of the United States of America [or **POTUS**]
[10] In *Chiafalo v. Washington*, the Supreme court ruled that these electors, who did not vote for the winner of their state's popular vote, could be punished for doing so. In 2016, 3 of these electors in Washington voted for Colin **(KOHL-in)** Powell and were each fined $1,000.
ANSWER: **faithless** electors
[10] The 23rd Amendment granted this territory 3 electoral votes. This place's license plates include the phrase "Taxation Without Representation" in protest of the fact that it does not get to elect voting members of Congress.
ANSWER: **Washington, DC** [or just **DC** or the **District of Columbia**; prompt on Washington] <A. Gao, Social Science>

20. For 10 points each, answer the following about physics milestones laden throughout the *Big Bang Theory*:
[10] When Sheldon decides to teach Penny some rudimentary physics, he describes this man's second law of motion. Another of this man's laws of motion states that every action has an equal and opposite reaction.
ANSWER: Sir Isaac **Newton**
[10] When Howard decides to attend Sheldon's physics class, he intimidates him by asking questions on equations co-named for this man and Lagrange. His namesake constant is the base of natural logarithms.
ANSWER: Leonard **Euler**
[10] Sheldon and Amy eventually win a Nobel Prize regarding super asymmetry, which links fermions and these particles. One of these particles named for Higgs was discovered at the Large Hadron Collider in 2012.
ANSWER: **boson**s <R. Ganeshan, Science>