

Instructions for playing a packet

For players

The moderator will read a tossup question. When you know the answer to the question, buzz in and give the answer. You may not consult with your teammates before answering. If the answer is not correct, the moderator will continue reading for the other team, and nobody from your team may buzz in.

After a correct answer to a tossup is given, the team that got it correct will get a three part bonus question. Since only your team can answer, you do not need to buzz in on the bonus, and you may consult with your teammates after each part before giving the answer. You will have a chance to answer all three parts, even if you miss one.

If you are prompted when you give an answer, that means that your answer is not specific enough, and you need to give more information to make it a unique answer. You might add a first name (Teddy Roosevelt) or a regnal number (King Henry VIII), or even an initial (W Harrison would be enough to distinguish him from his grandson Benjamin Harrison) to make it more specific and uniquely identify your answer.

Most importantly, have fun!

For moderators

Begin reading the tossup question. When a player buzzes in, stop reading and let the player who buzzes in answer. If it is correct, read a bonus question for the team. If it is not correct, continue reading, from where you left off. If a player answers incorrectly, that team is locked out from answering the question, and nobody else from that team can buzz in for that question.

Bonus questions are not paired with tossups, so just read the next bonus question in the document. (If tossup #6 was not answered, then after #7 is answered correctly, read bonus #6 not bonus #7.) After each part, give the team a short time to consult each other for the answer, and then have the team give you an answer.

If nobody answers the tossup correctly, read the next tossup without reading a bonus.

Correct answers are determined by the underlined and bolded part of the answer. That must be part of the answer, although they can answer with a longer answer, as long as it is correct. For example, for **United Nations**, since "U N" is underlined and bolded, it is acceptable, as is the longer United Nations. For some answers, alternate acceptable answers are listed, indicated by ACCEPT and also bolded and underlined. If several people share the same name, a single initial is usually sufficient to distinguish them, and will be underlined and bolded with the last name. Occasionally, a student might give an answer that is not completely identifiable, in which case you might be instructed to prompt the student. These partial answers are indicated with a PROMPT and underlined. (You can just say "prompt" or you can say something like "Be more specific.") On some rare occasions, we might anticipate a common wrong answer that cannot be accepted, and that will be in "quotes" and listed as DO NOT ACCEPT. We also occasionally have notes that explain some of the clues we used--they are good for studying, but it's not necessary to read them unless you want to.

If you want to keep score, the simplest way is just to award each correct answer 10 points (as noted in the questions).

Since this is the first experience of quiz bowl for most students, it's probably fair to be generous to them. They'll get flustered and make mistakes, and you might want to give them the benefit of the doubt, when possible.

Most importantly, have fun!

This is packet 1 of 5. For the remainder of the packets, contact Outreach@pace-nsc.org.

Middle School Introductory Quiz Bowl Set

Packet 1

Tossups

1. This organ's SA node sends signals to the AV node. This organ's pacemaker cells make electrical impulses, and its muscle is myocardium [MAI uh KAAR dee uhm]. The vena cava [VEE nuh KAY vuh] and aorta [ay OR tuh] are joined to this organ, which has two chambers of ventricles and atria [ay TREE uh]. For 10 points, name this organ that pumps blood and "beats" in your chest.

ANSWER: **heart**

<Samir Sarma - Biology>

2. In this country, an annual red crab migration takes place on Christmas Island. This country's state of Queensland contains the Great Barrier Reef, and dingoes and cockatoos can be found in this country's "Outback". For 10 points, Melbourne and Sydney are cities in which country that is also a continent?

ANSWER: **Australia**

<Samir Sarma - World Geography>

3. In this franchise, three aliens save the main characters from a garbage disposal after Lotso betrays them. In this franchise's fourth film, after Andy goes to college, characters try to rescue Forky. Woody and Buzz Lightyear are characters in, for 10 points, what Pixar franchise about talking toys?

ANSWER: **Toy Story**

ACCEPT: any specific **Toy Story** movie

<Samir Sarma - Pop Culture TV/Movies>

4. For this day, Della buys a chain for Jim and sells her pretty hair. After Marley's death, ghosts visit Scrooge on this day. A poem says "no creature was stirring" on this night. For 10 points, *The Gift of the Magi*, a "Carol" titled for this day, and "A Visit from St. Nicholas" are all before what holiday?

ANSWER: **Christmas**

ACCEPT: **Christmas** Eve

NOTES: *O. Henry wrote the short story The Gift of the Magi. Charles Dickens wrote A Christmas Carol, and Clement Moore wrote the poem "A Visit from St. Nicholas."*

<Colin McNamara - Literature>

5. A "super" one of these landforms lies below Yellowstone. This landform comes in multiple forms, including composite and shield. Igneous rocks are formed by the cooling of the hot substance spouted by these landforms. For 10 points, name these landforms whose eruptions formed many islands, including Hawaii.

ANSWER: **volcano**

ACCEPT: **caldera** until "composite"

<Ahilan Eraniyan - Other Science>

6. During this event, Todd Beamer rallied a counterattack by saying "Let's roll." That counterattack ended when a plane crashed near Shanksville, Pennsylvania during this event. United flight 93 failed to reach its intended target during, for 10 points, what terrorist attacks that destroyed the Twin Towers?

ANSWER: **9/11**

ACCEPT: **United 93** until mention

ACCEPT: **September 11th**, 2001

<Zachary Knecht - US History>

7. The moai of Rapa Nui are created from this material, as was the city of Petra. Jesus renamed Simon as Peter saying "You are" this substance. The gaze of a basilisk or the gorgon Medusa turns someone into this material. For 10 points, what substance is typified by diorite, granite and sandstone?

ANSWER: **rock**

ACCEPT: **stone**

ACCEPT: **granite**, **sandstone** or other specific types of stone until mentioned.

NOTE: *Rapa Nui is what the Rapa Nui people call Easter Island, and the moai are the giant stone heads on Easter Island.*

<Colin McNamara - Other>

8. This artist credits producer Aaron Dessener on 11 songs in an album which also contains a "Teenage Love Triangle." This artist gained fame through albums *1989* and *Red*, and "Exile" and "Cardigan" appear on her album *folklore*. For 10 points, name this artist who sang "You Need To Calm Down" and "Lover."

ANSWER: Taylor Alison **Swift**

<Samir Sarma - Pop Culture Music>

9. This man's fifth symphony begins with a "short short short long" motif. One of this man's piano pieces begins by alternating E and D sharp; that work is "Für Elise." The Moonlight Sonata and Ode to Joy are by, for 10 points, what deaf composer that, with Brahms and Bach, is one of the "Three B's?"

ANSWER: Ludwig van **Beethoven**

NOTE: *Ode to Joy is actually a poem by the German poet Friedrich Schiller, and Beethoven set the words of the poem to music (his Symphony No. 9 in D minor) in the last movement of his ninth "Choral" symphony. Give it a listen! Moonlight Sonata is a nickname given to his Piano Sonata No. 15 in C# minor, also called "Sonata quasi una fantasia."*

<Samir Sarma - Fine Arts Music>

10. *Rescue Team DX* is a remake of the original in this franchise's Mystery Dungeon series. *Sword and Shield* are eighth generation games in this franchise. Misty, Brock, and Ash Ketchum are characters in this franchise's anime. For 10 points, name this franchise about pocket monsters like Charmander and Pikachu.

ANSWER: **Pokémon**

ACCEPT: any answers that include **Pokémon**

<Samir Sarma - Other Pop Culture>

11. This man rerouted the River Alpheus to clean the Augean stables. Atlas got some golden apples for this man who briefly held up the sky for him. This man killed an animal whose fur was impervious to weapons by strangling it, the Nemean Lion. For 10 points, name this Greco-Roman hero who did twelve labors.

ANSWER: **Hercules**

ACCEPT: **Heracles**

<Benjamin McAvoy-Bickford - Myth>

12. Ideal versions of this state of matter obey the equation $PV=nRT$ [p v equals n r t]. Boyle's Law says that volume varies inversely with pressure in this state. Molecules in this state of matter completely fill the space of their container. For 10 points, name this state of matter that is more energetic than solids and liquids.

ANSWER: **gas**

DO NOT ACCEPT: "plasma"

<Samir Sarma - Physical Science>

13. One artwork of this type missing its arms is the Venus de Milo. Auguste Rodin used this form for a man sitting with his head on his hand in The Thinker. A Michelangelo work in this form is a nude David. For 10 points, name this form of art that may be cast in bronze or carved from marble, made in three dimensions.

ANSWER: **statue**

ACCEPT: **sculpture**

<Colin McNamara - Other Fine Arts>

14. These mountains contain Canada's first national park near the town of Banff. The Front Range of these mountains is crossed by the Western Continental Divide. These mountains contain Mount Elbert, the tallest mountain in Colorado, and Pike's Peak. For 10 points, name this west American mountain range.

ANSWER: **Rocky** Mountains

ACCEPT: **Rockies**

<Samir Sarma - US Geography>

15. A root can be expressed as the power of this type of number. The ratio of two values can be expressed as this kind of number. Dividing by this type of number is done by multiplying by its reciprocal. For 10 points, give this type of number called improper if the numerator is greater than the denominator.

ANSWER: **fraction**

ACCEPT: **rational** number (or **ratio**, before mentioned)

PROMPT ON: answers with a specific fraction like $\frac{1}{2}$ or $\frac{1}{3}$, ask "What kind of number is that?"

<Colin McNamara - Math>

16. In India, this rite ends as members walk around a fire seven times. This Jewish ceremony involves a canopy and stepping on a glass. When this ritual is set up by a matchmaker, a dowry can be paid. For 10 points, give this ceremony that might involve an exchange of vows and rings between a couple.

ANSWER: **wedding**

ACCEPT: **marriage**, **matrimony**, or other words for a wedding

<Colin McNamara - Religion>

17. This state's Salinas Valley is the setting for *Of Mice and Men*. This state's highest peak, Mt. Whitney, is near the country's lowest point. Sutter's Mill in this state started a gold rush, where 49ers flowed into this state's capital of Sacramento. For 10 points, name this state that contains Los Angeles.

ANSWER: **California**

NOTE: *John Steinbeck wrote Of Mice and Men. Death Valley, the country's lowest point, is just 135 miles from Mt. Whitney.*

<Benjamin McAvoy-Bickford - US Geography>

18. On this holiday, Macy's hosts the largest parade in the world. The Wampanoag [waam puh NO ag] tribe and Plymouth settlers are said to have celebrated the first occasion of this holiday. Traditional foods for this holiday include stuffing and potatoes. For 10 points, name this harvest holiday where turkey is often eaten.

ANSWER: **Thanksgiving**

<Samir Sarma - General Knowledge>

19. In 2019, Florida allowed felons to do this action, the goal of suffrage movements. Literacy tests and poll taxes prevented some from taking this action. The 19th amendment granted this right to people like Susan B. Anthony. For 10 points, name this action where mail-in ballots are used to elect politicians.

ANSWER: **voting** (accept word forms)

ACCEPT: **elect** before "elect"

PROMPT ON: **election** before "elect" or **cast ballots** before "ballots"

<Colin McNamara -Current Events/Government>

20. A bridge named for this city now resides in Lake Havasu City, Arizona. An 82-story glass pyramid called the "Shard" is this city's tallest building, and the world's largest Ferris wheel is called this city's "Eye." Buckingham Palace and Big Ben are in, for 10 points, what capital of the United Kingdom?

ANSWER: **London**

<Samir Sarma - World Geography>

21. In this country, Kublai Khan was visited by Marco Polo via the Silk Road. The compass and paper were invented during this country's Han dynasty, and the Ming dynasty extended this country's "Great Wall." Beijing is the capital of, for 10 points, what Asian country, the most populous in the world?

ANSWER: People's Republic of **China**

ACCEPT: **Yuan** Dynasty before "compass"

<Samir Sarma - World History>

Bonuses

1. The *New York World*, one of these publications, owned by Joseph Pulitzer, practiced “yellow journalism.” For 10 points each,

[10] The *New York Times* and *Washington Post* are examples of these periodicals that report on current events.

ANSWER: **newspaper**

[10] This politician published two newspapers, the *Philadelphia Gazette* and *Chronicle*. This Founding Father also invented the lightning rod.

ANSWER: Benjamin **Franklin**

[10] This other colonial figure was a silversmith. This man rode to warn Americans before the battles of Lexington and Concord.

ANSWER: Paul **Revere**

<Benjamin McAvoy-Bickford - US History>

2. Cryptids are creatures rumored to exist but without any hard evidence. For 10 points each:

[10] This creature lives in and is named for a Scottish lake. Blurry photographs suggest that it is a long-necked animal like a plesiosaur, but despite several sonar sweeps of the lake, no evidence of this creature has been found. Give either the name of the creature or the lake.

ANSWER: **Loch Ness** Monster

ACCEPT: **Nessie**

[10] This creature has been spotted in the Pacific Northwest. It is a bipedal animal, like a large hairy person, and named for the large prints that are sometimes spotted. DNA surveys of fur and hair in the area have not found any unknown creature.

ANSWER: **Bigfoot**

ACCEPT: **Sasquatch**

DO NOT ACCEPT: “Yeti”

[10] This animal was first spotted in Puerto Rico, but sightings have spread across Latin America and the southern US. This animal drinks the blood of livestock, and its name is Spanish for “goat sucker.”

ANSWER: **chupacabra** [choo puh KAA bruh]

DO NOT ACCEPT: “vampire”

<Colin McNamara - Other>

3. One strategy to minimize waste is to reduce, reuse, and to do this. For 10 points each:

[10] Name this process that is used to recover raw materials from manufactured goods to reuse. When this process is applied to aluminum cans, the cans are re-melted so that the aluminum can be recovered.

ANSWER: **recycle**

[10] This material comes in many forms, some of which are easier to recycle than others. Polyethylene [paa lee EH tuh leen] terephthalate [teh ref THA layt], which is used to make soda bottles, is commonly recycled, whereas polystyrene [paa lee STAI reen], used for styrofoam, is much more difficult to recycle.

ANSWER: **plastic**

[10] Organic materials like food scraps and yard waste cannot be recycled, but are subject to this process. In this process, organic materials are exposed to decomposers like fungi and earthworms and turned into material that can be used as fertilizer.

ANSWER: **compost**

<Colin McNamara - General Knowledge>

4. Colin Kaepernick played this sport and protested by kneeling during the national anthem. For 10 points each:

[10] As quarterback, Kaepernick led the San Francisco 49ers to the Super Bowl in this sport before he became controversial for his protest.

ANSWER: American **football**

ACCEPT: **National Football League**

[10] In a nod to Kaepernick, this sport's Megan Rapinoe [ruh PEE noh] knelt during the anthem in an international match in 2016. Playing as a midfielder, she won the Golden Boot and Golden Ball award in this sport's 2019 Women's World Cup.

ANSWER: **soccer**

PROMPT ON: **football**

[10] In 2020, this racing organization banned the Confederate flag at its races. Bubba Wallace is the only current African-American driver for this group, and drives a "Black Lives Matter" car for Richard Petty.

ANSWER: **NASCAR**

ACCEPT: **National Association for Stock Car Auto Racing**

<Colin McNamara - Other Pop Culture>

5. This branch of mathematics concerns the chance that something will happen. For 10 points each:

[10] Simple experiments in this branch of mathematics might involve selecting colored marbles from a bag or rolling dice.

ANSWER: **probability**

DO NOT ACCEPT: "statistics"

[10] A lot of probability problems model this action. In this action, there is a 50% chance that the result will be "heads" and a 50% chance that it will be "tails."

ANSWER: a **coin flip**

ACCEPT: a **coin toss**; any answer that indicates flipping a coin, tossing a coin, or otherwise determining if a coin lands heads or tails

[10] While an event that cannot happen has a probability of 0, an event that is certain to happen has this probability of happening.

ANSWER: **1**

ACCEPT: **100%**

<Colin McNamara - Math>

6. These instruments are played by using a bow and fingering the neck. For 10 points each:

[10] Joseph Haydn developed a musical genre for a quartet of these instruments, including a viola and a cello. The bass is the lowest-pitched one of these instruments.

ANSWER: **stringed** instruments

ACCEPT: **strings**

[10] This instrument is the highest-pitched stringed instrument used in an orchestra. These instruments built by Stradavarius are considered to be among the best.

ANSWER: **violin**

ACCEPT: **fiddle**

[10] Sergei Prokofiev [sehr GEE pruh KAW fyif] wrote this piece to introduce children to the orchestra. In this work, the title boy captures the title animal who had eaten his duck friend. Each character of this work is represented by a different instrument: the title boy is played by strings; his grandfather by a bassoon; and the duck by a clarinet.

ANSWER: **Peter and the Wolf**

ACCEPT: **Pétya i volk**

<Colin McNamara - Fine Arts Music>

7. Aquatic plants found in these areas serve to filter water and remove pollutants. For 10 points each:

[10] Marshes and bogs are examples of these landforms where shallow water covers the land. Though they're ecologically diverse, these landforms might be drained of water to produce land for human use.

ANSWER: **wetland**

PROMPT ON: **swamp**

[10] Seminoles sought refuge in the sawgrass of this wetland, which also supports a variety of animals, including alligators. This area is the namesake of a large national park in southern Florida.

ANSWER: **Everglades**

[10] Because the soil of wetlands are often nutrient-poor, several plants have evolved this adaptation to get nutrients from the environment. The coastal bogs of the Carolinas are home to the Venus fly trap which has evolved this behavior. Pitcher plants are more widespread, and use a different mechanism for this same purpose.

ANSWER: **carnivorous** plants

ACCEPT: any description of plants trapping and eating or digesting insects

PROMPT ON: descriptions of plants **eating** without mentioning insects

<Colin McNamara - US Geography>

8. In one work, Rudyard Kipling tells the story of this young boy raised by a wolf pack. For 10 points each:

[10] The Seeonee wolf pack rescued this boy from the tiger, Shere Khan. The wolves gave him this name, meaning frog.

ANSWER: **Mowgli**

[10] This work contains a set of stories about Mowgli. In it, Bagheera the panther and Baloo the bear teach Mowgli the Law of the Jungle.

ANSWER: **The Jungle Book**

DO NOT ACCEPT: "**The Second Jungle Book**"

[10] After Mowgli is kidnapped by the Bandar-log, the monkey people, Baloo and Bagheera enlist the help of one of these animals named Kaa to rescue Mowgli. In another Kipling story, the mongoose Rikki-Tikki-Tavi fought one of these creatures named Nag.

ANSWER: **snake**

ACCEPT: rock **python** or **cobra**

<Colin McNamara - Literature>

9. This desert dominates northern Africa, stretching from the Red Sea to the east to the Atlantic in the west. For 10 points each:

[10] Name this largest hot desert in the world. It covers most of many north African countries, like Libya, Mali and Chad. Berbers and other nomadic tribes led caravans across this desert to visit cities like Timbuktu.

ANSWER: **Sahara**

NOTE: *Antarctica and the Arctic region are also classified as deserts due to their low precipitation, and are larger than the Sahara.*

[10] The Gombe Valley in Tanzania is home to these primates. Jane Goodall spent her life in the Gombe Valley, observing tool use, cannibalism and tribal warfare among these great apes.

ANSWER: **chimpanzees**

DO NOT ACCEPT: "monkey," "ape," "gorilla," "bonobo," "baboon"

[10] This large, semi-aquatic herbivorous animal can be found in lakes and rivers across Africa, including the African Great Lakes of the Rift Valley. These animals are highly territorial and very dangerous, and often attack and capsize small boats.

ANSWER: **hippopotamus**

NOTE: *The nearest taxonomic relative of the hippo are the cetaceans (whales and dolphins). These families diverged about 55 million years ago.*

<Colin McNamara - World Geography>

10. This religion's texts include the Torah, and the Talmud is a collection of its teachings about the Torah. For 10 points each:

[10] Name this religion, whose Orthodox and Conservative sects typically still keep kosher. The Rosh Hashanah holiday marks the start of this religion's year, and Hanukkah is a remembrance of the re-dedication of the Second Temple and the miracle of the oil.

ANSWER: **Judaism**

PROMPT ON: Jewish

[10] The Talmud is a collection of the teachings of these people in Judaism. This title can be used to mean "teacher." In modern Judaism, one of these people might deliver sermons.

ANSWER: **rabbis**

ACCEPT: **rebbe**

[10] At the end of the Passover Seder meal, participants will often say "Next year in" this place. This holy city in Israel contains the Western Wall, the remains of the Second Temple.

ANSWER: **Jerusalem**

ACCEPT: **Yerushalayim**

<Colin McNamara - Religion>

11. Reality shows have been a staple of television for a while now. For 10 points each:

[10] This long-running reality show strands players in the wilderness in tribes. When a player is voted out, host Jeff Probst says "the tribe has spoken."

ANSWER: **Survivor**

[10] In this singing competition, celebrities compete wearing costumes to hide their identities. The rapper T-Pain won the first season wearing a Monster costume.

ANSWER: **Masked Singer**

[10] *MasterChef* is one reality competition that features this activity. Padma Lakshmi also hosts one such show, and another has competitors use a "secret ingredient" like spiny lobster, fennel or ostrich.

ANSWER: **cooking**

ACCEPT: **baking** or **bake**

<Colin McNamara - Pop Culture TV/Movies>

12. One of these is the only still existing Wonder of the Ancient World. For 10 points each:

[10] Name these large structures found in Egypt. A "Great" one of these is located at Giza.

ANSWER: **pyramids**

[10] Most pyramids were funeral monuments to pharaohs, who were preserved using this process. In this process, internal organs were removed and stored in canopic jars, and then the bodies were wrapped in linen.

ANSWER: **mummification**

ACCEPT: any answer that mentions the process of **making mummies**

[10] This pharaoh of the New Kingdom period constructed a temple at Abu Simbel dedicated to himself. This "great" pharaoh led military expeditions in the middle east and fought the Battle of Kadesh against the Hittites, the largest chariot battle in history.

ANSWER: **Ramses II** or **Ramses** the Great

ACCEPT: **Ozymandias**

<Colin McNamara - World History>

13. This system of the body is split into innate and adaptive systems. For 10 points each:

[10] Name this bodily system involved in fighting off bacterial and viral infections.

ANSWER: **immune** system

[10] Cells such as T cells, B cells, and neutrophils all fall under this colorfully-named general class of blood cells, which are contrasted with oxygen-carrying red blood cells.

ANSWER: **white** blood cell

ACCEPT: **leukocytes**

[10] Sometimes, a hypersensitive immune response can trigger these reactions. These reactions can be caused by pollen, as well as certain foods like peanuts or fish.

ANSWER: **allergy** or **allergic reaction**

<Samir Sarma - Biology>

14. These works are created by applying oils, watercolors, or some other pigment to a surface, often a canvas. For 10 points each:

[10] Name these types of artwork that flourished in the Renaissance with themes from religion or classical mythology like Sandro Boticelli's "The Birth of Venus." Modern examples of these works can be more abstract, like Pablo Picasso's "Guernica."

ANSWER: **Paintings**

[10] This painting, now held at the Louvre, depicts a woman with an enigmatic smile. She is seated with her head slightly turned, looking at the viewer, with a landscape behind her.

ANSWER: **Mona Lisa**

[10] This artist painted the Mona Lisa. His painting, The Last Supper, has Jesus as its focal point, surrounded by his twelve apostles. This polymath also dabbled in science, sketching a flying machine and a study of human anatomy, the Vitruvian Man.

ANSWER: **Leonardo da Vinci** (accept either name)

<Colin McNamara - Other Fine Arts>

15. Tierra del Fuego, containing the Strait of Magellan, is an archipelago off the southern coast of this continent. For 10 points each:

[10] Angel Falls, the tallest waterfall in the world, is located on this continent, which also contains rich oil fields under Venezuela's Orinoco River basin.

ANSWER: **South America**

[10] Because of the not-quite-spherical shape of the earth, the point farthest from the center of the earth is Chimborazo, located in this mountain range. Aconcagua, the highest peak outside of Asia, is located on this mountain range that runs down the western coast of South America.

ANSWER: **Andes**

[10] Lake Titicaca, the largest lake in South America, lies in the Andes between these two South American countries. One of these countries has two capital cities of Sucre and La Paz. The other country's capital is Lima. Name either country.

ANSWER: **Bolivia** or **Peru** (accept either one)

ACCEPT: Estado Plurinacional de **Bolivia**

ACCEPT: República del **Perú**

NOTE: *Lake Titicaca is often called the highest navigable lake in the world, but that is not a well-defined term, as there are higher lakes that are navigable with smaller boats.*

<Colin McNamara - World Geography>

16. This force's namesake coefficient is symbolized by the Greek letter μ [mu], and it is high for coarse surfaces and low for smooth ones. For 10 points each:

[10] Name this force that occurs whenever two objects touch each other. This force opposes an object's motion.

ANSWER: **friction**

[10] Friction between solids tends to dissipate energy as this type of energy, which you can observe by rubbing your hands together quickly. This type of energy is associated with an increase in temperature, but they aren't necessarily the same!

ANSWER: **heat**

ACCEPT: **thermal** energy

[10] Drag, which is analogous to friction for fluids, is high in fluids undergoing this type of flow which creates mini-vortexes. Golf balls promote this type of air flow by having dimples, and it is also associated with bumpy airplane rides.

ANSWER: **turbulence**

ACCEPT: **turbulent** flow

<Samir Sarma - Physical Science>

17. The Aztec god Quetzacoatl [ket sah koh AHT el] is described as a serpent with these things. For 10 points each:

[10] Name these things that Daedalus attached to his son Icarus with wax in order to escape Crete. When Icarus flew too close to the sun, the wax melted and these things fell off.

ANSWER: **feathers**

ACCEPT: **plumes**

PROMPT ON: **wings**

[10] Among northwest Native American nations, this bird is a trickster figure. A Sioux story says that this bird was punished by turning its white feathers black for warning buffalo of a hunt. In Norse mythology, two of these birds, Hugin and Munin, tell Odin what is happening in the world.

ANSWER: **raven**

DO NOT ACCEPT: "crow"

[10] Zeus punished Prometheus by having one of these birds eat his liver every day. One of these birds eating a snake was a sign for the founding of Tenochtitlan [teh nowch tee TLAHN], and that image is found on the Mexican flag.

ANSWER: **eagle**

ACCEPT: bald **eagle**

<Colin McNamara - Myth>

18. **Moderator:** See NOTE about answers before reading

The earlier SARS and MERS viruses are related to this virus. For 10 points each:

[10] Name this virus that caused a pandemic around the world starting in the spring of 2020.

ANSWER: **SARS-COV-19**

ACCEPT: **coronavirus** or **COVID**

PROMPT ON: **corona**

DO NOT ACCEPT: “China virus,” “Wuhan virus,” “kung flu,” or any other such name.

NOTE: *While coronavirus is actually the name of a subfamily of viruses including MERS and SARS, and COVID is the name of the disease caused by the virus (the D in COVID stands for disease), we decided to be generous and accept any of these. If you want to be more precise, prompt on coronavirus, and don't accept COVID.*

[10] The coronavirus originated in this country's city of Wuhan, although this country delayed acknowledging the scale of the outbreak under Xi Jinping.

ANSWER: People's Republic of **China**

[10] In America, much of the information about the coronavirus comes from the NIH and this Atlanta-based government agency headed by Robert Redfield.

ANSWER: **C**enters for **D**isease **C**ontrol

ACCEPT: **CDC**

<Benjamin McAvoy-Bickford - Current Events/Government>

19. The first modern version of this device was invented by Nicolaus Otto. For 10 points each:

[10] Name this car part where ignition of fuel creates a combustion reaction that turns pistons and powers the wheels. These parts typically have “four strokes”.

ANSWER: internal combustion **engine**

[10] Unlike gasoline, engines that use this fuel don't have spark plugs, since the heat of compression is enough to ignite it. This fuel is typically used in trucks and farm machinery.

ANSWER: **diesel**

[10] Some manufacturers have made this type of vehicle that uses a mix of two different power sources, such as gasoline and electric power.

ANSWER: **hybrid** vehicle

<Samir Sarma - Other Science>

20. These geographical features opened up the interior of the American continent to explorers and pioneers. For 10 points each:

[10] The Potomac, Hudson and Delaware are among these features that allowed colonists to establish settlements inland from the coast. These features provided food and fresh water, and allowed colonists to bring in supplies and export natural resources like furs or timber.

ANSWER: **rivers**

DO NOT ACCEPT: "canal" or "bay"

[10] This river is the "Gateway to the West" and opened up settlement of its namesake territory across the Allegheny mountains. Cincinnati was founded on this river, which separates its namesake state from Kentucky to its south.

ANSWER: **Ohio**

NOTE: *The Ohio is formed by the confluence of the Allegheny and Monongahela rivers in what is now Pittsburgh, the "Three Rivers" of the old Three Rivers Stadium there.*

[10] Thomas Jefferson commissioned these two people to explore the new Louisiana Territory and to find a route to the Pacific Ocean. Starting from what is now St. Louis, they traveled up the Missouri River, and then later traveled down the Columbia River to the Pacific. Name both men.

ANSWER: Merriweather **Lewis** and William **Clark** (accept in either order)

<Colin McNamara - US Geography>

21. After debuting at number 19 on the Billboard country charts in 2019, this song was removed for not being a country song. For 10 points each:

[10] This song spent a record-breaking 19 consecutive weeks as the top Billboard single. Its singer says he will "take my horse" to the title location and is "gonna ride till I can't no more."

ANSWER: **Old Town Road**

[10] This singer of Old Town Road describes the song as being "country trap." This singer came out as gay during the song's streak. He also recorded the song "Panini" later remixed with DaBaby.

ANSWER: **Lil Nas X**

[10] Lil Nas X remixed the song as a duet with this country singer. This singer of "Achey Breaky Heart" is both the fictional and real-life father of Hannah Montana.

ANSWER: Billy Ray **Cyrus**

<Colin McNamara - Pop Culture Music>