

# Replacements

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## Tossups

(1) **In a story in this collection, a tailor-bird's broken wing serves as a distraction for the title character while he eats eggs, and Teddy is saved from Nag and Nagaina by the mongoose (\*) Rikki-Tikki-Tavi.** Wolf cubs in this collection are taught by the wise bear Baloo, who also instructs the “man-cub” Mowgli. For ten points, name this collection of stories about animals, written by Rudyard Kipling.

ANSWER: The Jungle Book

(2) **The Philadelphia type of this structure results from a translocation error. Another example of these structures can condense into a Barr body. The centromere is important to the separation of these structures. They are organized by length in pictures called (\*) karyotypes,** which can show the presence of a trisomy in people with Down syndrome. X and Y are the sex types of, for ten points, what DNA structures found in 23 pairs in human cells?

ANSWER: chromosomes (accept specific examples, such as chromosome 22 or X chromosome)

(3) **This author wrote about Barry Fairbrother suffering from an aneurysm in the novel *The Casual Vacancy*, and included *The Cuckoo's Calling* in the *Cormoran Strike* series, written under the pen name Robert (\*) Galbraith.** This author's short story “Babbitty Rabbitty and her Cackling Stump” appears in *The Tales of Beedle the Bard*, and she wrote about Professors Quirrell and Lockhart in a seven-novel series about “the boy who lived.” For ten points, name this author of the Harry Potter series.

ANSWER: J.K. Rowling (accept Joanne Rowling; accept Robert Galbraith before it is read)

(4) **Rivers that flow into this lake include the highly polluted Calumet River. This lake and its eastern neighbor are hydrologically considered the same lake because the Straits of Mackinac [mack-ih-naw] keep their water levels equal. Bays of this lake include Grand (\*) Traverse Bay and Green Bay.** For ten points, name this Great Lake, found west of Lake Huron and south of Lake Superior, on which the city of Chicago lies.

ANSWER: Lake Michigan

(5) **By traveling aboard TM-21 in 1995, Norman Thagard became the first American to hold this job. Valentina Tereshkova became the first woman with this job by piloting Vostok 6. Individuals of this occupation began their journeys from Baikonur, including the (\*) dog Laika, who died inside Sputnik 2.** Yuri Gagarin, the first person in outer space, served as, for ten points, what Soviet counterpart to US astronauts?

ANSWER: cosmonauts (prompt on “Soviet astronaut” or “Russian astronaut;” prompt on “astronaut” or similar generic terms)

(6) **In 2008, Otis McDonald sued the city of Chicago over a ban on these items; the Supreme Court struck down that ban shortly after deciding a similar case, *DC vs. Heller*. As the head of an organization advocating for these items, Charlton Heston stated that Al Gore could (\*) take one from his “cold dead hands.” The Brady Bill requires federal background checks be performed before buying, for ten points, what objects that are the subject of the 2nd Amendment?**

ANSWER: guns (accept handguns; accept arms; accept any specific type of gun after “Charlton” is read)

(7) **A solution of chromate ions has this color, as does the precipitate formed when lead nitrate reacts with potassium iodide. Sodium compounds give off this color in a flame test. (\*) Saffron is traditionally used to dye fabrics this color, and processed uranium ore is known as a cake of this color. For ten points, name this color associated with elements like sulfur and gold.**

ANSWER: yellow

(8) **One of these animals is stolen from Judge Miller and sent to Canada where it develops a rivalry with Spitz. In *Of Mice and Men*, Candy kills one of these animals due to its old age. Tim Johnson, one of these animals, is euthanized by (\*) Atticus Finch to end its misery. Travis Coates puts down one of these animals after it was attacked and infected with rabies. For ten points, name this type of animal, such as Old Yeller, man’s best friend.**

ANSWER: dogs (accept reasonable equivalents)

(9) **One of these phenomena may take place on January 19th, 2038 in systems that use a 32-bit Unix time format. A potentially dangerous example of this phenomena is a buffer overflow, which may be exploited by worms. A common name for these phenomena was popularized by (\*) Grace Hopper, whose work on the Mark II was delayed by an actual moth. Compiling may stop after encountering, for ten points, what problems that computer programmers need to fix?**

ANSWER: computer bugs (accept computer errors or anything that indicates a problem going on with a computer; accept overflow error, bug, etc. before “overflow” is said)

(10) **A colony in this modern state was divided by the Free Grace Controversy, resulting in the expulsion of Anne Hutchinson. In 1638, the Pequot were defeated by an alliance of colonies in this state, including one governed by John Winthrop. During King Philip’s War, Native Americans raided towns like (\*) Springfield in this state, where the Mayflower Compact established rules for Plymouth Colony. For ten points, name this US state where Pilgrims settled along Cape Cod and in modern Boston.**

ANSWER: Massachusetts

## Bonuses

(1) Mrs Sommers impulsively spends fifteen dollars in this author's short story "A Pair of Silk Stockings." For ten points each,

Name this author who also wrote "Désirée's Baby," and created Edna Pontellier [pon-teh-lee-AY] in *The Awakening*.

ANSWER: Katherine O'Flaherty "Kate" **Chopin**

Chopin [shoh-PAN] set *The Awakening*, "Désirée's Baby," and "At the Cadian Ball" in this American state. In *The Awakening*, Edna lives in New Orleans in this state.

ANSWER: **Louisiana**

After her husband, Léonce, leaves her, Edna goes to Grande Isle [grond eel] and commits suicide by swimming in this large body of water.

ANSWER: **Gulf of Mexico**

(2) Answer the following about Robert Herrick's poem "To the Virgins, to Make Much of Time," for ten points each.

Herrick's poem is in this poetic genre, whose name means "seize the day."

ANSWER: **carpe diem**

The poem uses this literary device, which assigns human qualities to non-human things like time and the sun.

ANSWER: **anthropomorphism** (accept word forms like **anthropomorphic**)

"To the Virgins, to Make Much of Time" is a sixteen-line poem composed of four of these four-line stanzas.

ANSWER: **quatrain**

(3) Answer the following about the process of hunting and eating people, for ten points each.

In this short story by Richard Connell, Sanger Rainsford survives a shipwreck only to be hunted like an animal by the sadistic Zaroff.

ANSWER: The **Most Dangerous Game** (accept The **Hounds of Zaroff**)

In the Damon Knight short story "To Serve Man," which was made into a 1962 *Twilight Zone* episode, the narrator finds out that the title work is not a guide for aliens on how to help humankind, but is instead this type of book.

ANSWER: It's a **cookbook**!

Hunting individual humans can be tiring, so this Irish satirist devised a plan to cook and eat the young children of starving Irish families during the potato famine in his essay "A Modest Proposal."

ANSWER: Jonathan **Swift**

(4) This type of mathematical operation can be expressed as fractional exponents, such as 64 to the one-third power. For ten points each,

Name this operation, named and usually symbolized by a checkmark-like symbol that extends over the input number. The “cube” type of this operation is indicated by a 3 over that checkmark, while the “square” type leaves that space blank.

ANSWER: root (accept radical; accept square root, cube root, *n*th root, or any other numbered type of root)

In the real number system, you cannot take the square root of a negative number. Put another way, this set of all the inputs of the square root function is “zero and all positive numbers,” as is the range.

ANSWER: domain

In the real numbers, radical functions have this property, in which each input number gives a different output, so that output values are not repeated.

ANSWER: one-to-one function (accept injective function; accept word forms, like one-to-oneness or injections; do not accept “one to one correspondence” or “bijection”)

(5) Predicting the ultimate fate of the universe largely depends of whether its shape is open or closed. For ten points each,

If the universe is closed, then all space may contract back into a single point in an event called this, the opposite of the Big Bang.

ANSWER: Big Crunch (prompt on “Gnab Gib”)

If the universe is open, it may experience this type of death, since all matter will be at the same temperature, no chemical reactions can occur, and entropy is maximized.

ANSWER: heat death of the universe

The concept of heat death comes from this British physicist, who incorrectly estimated the age of the Earth. He now names the SI unit of temperature on an absolute scale, as contrasted with relative scales like Celsius and Fahrenheit.

ANSWER: Lord Kelvin (accept William Thomson; accept Kelvin scale)

(6) Searching for fossils of North America’s extinct megafauna? Try the La Brea Tar Pits in Los Angeles. For ten points each,

The largest specimens recovered from the tar pits include a mastodon and the Columbian species of this pachyderm whose coat was shorter than its woolly cousin.

ANSWER: Columbian mammoth

Other large fossils discovered include the Harlan’s, Jefferson’s, and Shasta species of this long-clawed mammal, whose only living relatives can be found in trees.

ANSWER: ground sloth (prompt on giant (sloth))

With American lions, sabertooth cats, and dire wolves, the tar pits have yielded the short-faced species of this predator, the largest carnivore of the Pleistocene epoch.

ANSWER: short-faced bear

(7) Though his attempt to synthesize quinine was a failure, William Perkin became a rich and famous chemist anyway. For ten points each,

Perkin's failed experiment resulted in this first synthetic dye. Its name is now synonymous with a pale purple color.

ANSWER: mauve (accept mauveine)

Mauve is an aniline dye, so it contains multiple rings of this aromatic compound with formula  $C_6H_6$ .

ANSWER: benzene

Perkin's fame was later overtaken by Adolf von Baeyer, the first to synthesize indigo, which is used to dye denim jeans this color.

ANSWER: blue (prompt on indigo)

(8) The late Korczak Ziolkowski and his family are building a memorial to this man in the Black Hills; the memorial, whose face was finished in 1997, may become the world's largest monument. For ten points each,

Name this Native American leader. He died after being stabbed in a scuffle with US soldiers in 1877, a year after fighting in the Battle of the Little Bighorn.

ANSWER: Crazy Horse (accept Thasunke Witko)

The Crazy Horse memorial is being built in this state's Black Hills, a short drive from Mount Rushmore.

ANSWER: South Dakota

Crazy Horse was a leader of the Ogallala Lakota, part of one of the three main divisions of this Native American nation based in the Dakotas.

ANSWER: Great Sioux Nation (accept the Seven Fires Council)

(9) James Tallmadge wrote legislation such that slavery in this state would exist, but eventually die away. For ten points each,

Name this state, the subject of an 1820 compromise that allowed this state to have slavery as long as every new state north and west of it entered as a free state.

ANSWER: Missouri (Compromise)

The Missouri Compromise also admitted this free state to the Union, keeping a North/South balance in the Senate. This state had previously been Massachusetts' territory.

ANSWER: Maine

A passing remark in the ruling of this infamous Supreme Court case invalidated the Missouri Compromise. More directly, this 7-2 decision ruled that slaves were not US citizens and could not sue in court.

ANSWER: Dred Scott v. San(d)ford

(10) Areas on this island that remain under British control include a military base at Akrotiri. For ten points each, Name this European island, divided by a UN-supported Green Line that cuts through the city of Nicosia.

ANSWER: Cyprus

Cyprus's territory is disputed between Greece and this country, which invaded in 1974 and maintains a military presence in northern Cyprus.

ANSWER: Turkey

Cyprus is the third largest island in this sea, after Sicily and Sardinia, which are controlled by Italy.

ANSWER: Mediterranean Sea