

The radiation that _____ during the decay of radioactive atomic nuclei is known as gamma radiation.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. occurs
- B. have occurred
- C. occur
- D. are occurring

In recent years, economists around the world have created new tools that quantify the overall well-being of a country's citizens. Economists in India, for example, use an Ease of Living Index. This tool _____ economic potential, sustainability, and citizens' quality of life.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. measures
- B. had measured
- C. would have measured
- D. will have been measuring

Mathematician and meteorologist Edward Lorenz used the metaphor of the “butterfly effect” to explain how seemingly minor events can have major impacts on future weather. According to Lorenz’s metaphor, the wind from a butterfly flapping _____ in Brazil might eventually grow into a storm elsewhere across the globe.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. its wings
- B. its wings’
- C. it’s wing’s
- D. it’s wings’

In 1903, environmentalist John Muir guided President Theodore Roosevelt on a scenic, sprawling trip through California's Yosemite Valley. Upon returning from the three-day excursion, Roosevelt _____ to conserve the nation's wilderness areas, a vow he upheld for his remaining six years in office.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. is vowing
- B. vowed
- C. will vow
- D. vows

Led by Syrian American astronomer Shadia Habbal, the Solar Wind Sherpas are an intrepid team of scientists who travel the globe to study solar winds, the streams of particles emanating from the Sun that are only visible from certain locations during a total solar eclipse. When such an eclipse is imminent, the Sherpas pack up their telescopes and _____ ready.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. get
- B. had gotten
- C. got
- D. were getting

Farouk El-Baz, a geologist and space scientist, _____ part of the team that selected the lunar landing sites for the Apollo program during the 1960s and 1970s.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. are
- B. was
- C. have been
- D. were

Obsidian is a kind of volcanic glass formed when lava cools so quickly that the atoms inside it cannot arrange themselves in a crystalline structure. You _____ more about obsidian's structure, which is classified as amorphous, in a later chapter.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. had learned
- B. had been learning
- C. will learn
- D. have learned

Midway through her 1968 jazz album *A Monastic Trio*, Alice Coltrane switches instruments, swapping the piano for the harp. With the same fluid style that Coltrane was famous for on piano, she _____ her fingers across the harp strings and creates a radiant sound.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. sweep
- B. are sweeping
- C. were sweeping
- D. sweeps

Objects ranging from the Kikkoman soy sauce bottle to the Yamaha VMAX motorcycle to the Komachi bullet train _____ designed by twentieth-century industrial designer Kenji Ekuan.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. was
- B. is
- C. has been
- D. were

While exploring Nevada’s Gypsum Cave in 1930, Seneca and Abenaki archaeologist Bertha Parker made her most famous discovery: the skull of a now-extinct ground sloth (*Nothrotheriops shastensis*) alongside human-made tools. Parker’s crucial finding was the first _____ humans in North America as far back as 10,000 years ago.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. places
- B. placed
- C. place
- D. to place

The sun never sets during the Arctic summer in the Far North. In response, reindeer in this region must change their sleep habits. Instead of resting when it gets dark, they rest when they need _____ their food.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. digest
- B. will digest
- C. to digest
- D. digesting

The African Games Co-production Market, one of over 180 annual international conferences supporting video game development, _____ the growth of the African gaming industry by helping start-up studios in Africa find partners.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. promote
- B. are promoting
- C. promotes
- D. have promoted

In the early twentieth century, Joseph Kekuku and other Hawaiian _____ in the mainland United States to the bright and lilting sound of the *kīkī kila*, or Hawaiian steel guitar. The instrument soon became a fixture in American blues and country music.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. musicians introduced audiences
- B. musicians' introduced audiences'
- C. musician's introduced audience's
- D. musicians' introduced audiences

Smaller than poppy seeds, tardigrades are tiny, but they are tough. These minuscule animals can survive for thirty years without food or water, and _____ can withstand extreme temperatures as low as minus 328 degrees and as high as 304 degrees Fahrenheit.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. that
- B. it
- C. they
- D. he

The US Geological Survey wants to map every human-made structure in the United States, and it is asking volunteers to help. Cassie Tammy Wang and Ashish D’Souza are just two of the many volunteer map editors who _____ to the project since it began in 2012.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. contribute
- B. will contribute
- C. have contributed
- D. will be contributing

Food and the sensation of taste are central to Monique Truong's novels. In *The Book of Salt*, for example, the exiled character of Binh connects to his native Saigon through the food he prepares, while in *Bitter in the Mouth*, the character of Linda _____ a form of synesthesia whereby the words she hears evoke tastes.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. experienced
- B. had experienced
- C. experiences
- D. will be experiencing

Earth is not a perfect sphere. Due to the _____ gravitational pull, Earth bulges out on the sides closest to and farthest from the Moon. This distorting pull is known as a tidal force, and it is responsible for the changes in water levels that are called high and low tides.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. Moon's
- B. Moons
- C. Moons'
- D. Moon

Richard Spikes was a prolific African American inventor known for his contributions to automotive engineering. Between 1907 and 1946, he patented many inventions, _____ an automobile turn signal, a safety brake, and—most famously—the first automatic gearshift.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. included
- B. includes
- C. including
- D. will include

In the late 1960s, inspired in part by the sight of laundry hanging on a clothesline, African American abstract painter Sam Gilliam began to create his iconic “Drape” paintings. He applied bold, saturated hues to large canvases and _____ them from ceilings or walls, causing the drooping fabric to cascade in dramatic loops and curves.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. to have suspended
- B. suspending
- C. to suspend
- D. suspended

American poet Emily Dickinson wrote many of her poems on scraps of paper, but she also took steps to collect these works. From 1858 to around 1864, for example, she copied more than 800 of _____ into forty homemade booklets (known as fascicles).

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. them
- B. this
- C. that
- D. it

In the 2011 documentary *The Barber of Birmingham*, civil rights activist James Armstrong recounts how his barbershop in Birmingham, Alabama, _____ as a political hub for members of the Black community during the 1950s.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. serving
- B. having served
- C. served
- D. to serve

Occupying a significant part of modern-day Nigeria, the Kingdom of Benin was one of the major powers in West Africa between the thirteenth and nineteenth centuries. It _____ ruled by Oba Ewuare I from 1440 to 1473.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. is
- B. will be
- C. has been
- D. was

If simple sugars such as ribose and glycolaldehyde _____ Earth from elsewhere and survived impact—a possibility astrophysicist Nicolle Zellner outlined in a 2020 study—the sugars could have reacted with other molecules that were already present on the planet to form the nucleotides that are the structural components of RNA and DNA.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. reach
- B. had reached
- C. will reach
- D. are reaching

Photographer Ansel Adams's landscape portraits are iconic pieces of American art. However, many of the _____ of landscapes were intended not as art but as marketing; a concessions company at Yosemite National Park had hired Adams to take pictures of the park for restaurant menus and brochures.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. photographer's early photo's
- B. photographers early photo's
- C. photographer's early photos
- D. photographers early photos

Each year in the fall, when the weather starts to cool in the northern hemisphere, millions of North American monarch butterflies journey south. Searching for food and warmer habitats, they _____ thousands of miles—from as far north as Canada all the way down to Mexico—on this annual migration.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. flew
- B. were flying
- C. had flown
- D. fly

Wanda Diaz-Merced is an astrophysicist who lost her sight when she was young. Diaz-Merced's condition inspired her to develop software that can translate scientific data into sound. Sound-based tools _____ scientists to detect subtle patterns in data. Such patterns may not be evident in traditional graphs.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. has enabled
- B. enable
- C. is enabling
- D. enables

If you try on one of artist Nick Cave's signature Soundsuits, you can expect to swish, rustle, or clang every time you move. Cave makes his suits out of found objects, everything from ceramic birds to broken record players. He carefully considers the sound an object makes before using _____ in a suit.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. this
- B. that
- C. these
- D. it

In 1899, Swedish chemist Svante Arrhenius developed an equation to answer a long-standing question: why do chemical reactions speed up at higher temperatures? The Arrhenius equation, named for its creator, _____ an important concept in modern chemistry.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. have remained
- B. remain
- C. remains
- D. are remaining

Botanists recognize over fifty different species of sunflower. One species, the silverleaf sunflower, _____ both an early-flowering ecotype that tends to grow in coastal areas and a late-flowering ecotype that grows inland.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. having included
- B. including
- C. to include
- D. includes

In 1990, California native and researcher Ellen Ochoa left her position as chief of the Intelligent Systems Technology Branch at a NASA research center _____ the space agency's astronaut training program.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. to join
- B. is joining
- C. joined
- D. joins

Why are Rome's famous concrete structures, such as the Colosseum, still standing after 2,000-plus years, when modern concrete may not even last for fifty? Scientists _____ that the secret to Roman concrete's durability was its unique blend of ingredients, which included volcanic ash and seawater.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. explain
- B. having explained
- C. explaining
- D. to explain

In 1881, French chemist Camille Faure redesigned the rechargeable lead-acid battery. Faure's design greatly increased the amount of electricity that the original battery, which the French physicist Gaston Planté _____ fifteen years earlier, could hold.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. is inventing
- B. will invent
- C. invents
- D. had invented

The alga species *Chlorella vulgaris* is very efficient at making oxygen. For this reason, scientists are currently exploring ways to use this species in space. *C. vulgaris* might be used, for example, to build future biological air exchange systems that _____ oxygen for astronauts.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. are producing
- B. produced
- C. produce
- D. have produced

With its towering, six-spired exterior of granitelike quartz monzonite, the Salt Lake Temple is one of the most instantly recognizable structures in the state of Utah. However, many people do not know that _____ built over the course of forty years, with construction beginning in 1853 and ending in 1893.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. it was
- B. one was
- C. they were
- D. both were

Dr. Rocío Paola Caballero-Gill is a paleoceanographer. This means that Dr. Caballero-Gill doesn't just study oceans as they are today. She uses chemistry and fossil evidence _____ oceans as they were in the past.

Which choice completes the text so that it conforms to the conventions of Standard English?

- A. has studied
- B. to study
- C. studied
- D. studies