



There appears to be increasing numbers of children who specialize in a single sport at an early age. The *lure* of a college scholarship or a professional career can motivate young athletes to commit to specialized training regimens at an early age. However, the American Academy of Pediatrics recommends avoiding specializing in one sport before puberty.

Once puberty begins, both boys and girls go through their adolescent growth spurt (AGS). The change and the age at which they occur can have an impact on a child's sports performance. Going through *this* can have a significant impact on athletic performance in both positive and negative ways. Increases in body size, hormones, and muscle strength can improve athletic performance. Nevertheless, there may be a temporary decline in balance skills and body control during the AGS. Quick increases in height and weight affect the body's center of gravity. Sometimes, the brain needs to adjust to this higher observation point. As a result, a teen may seem a little clumsy.

This phase is especially noticeable in sports that require good balance and body control (e.g. figure skating, diving, gymnastics, basketball). In addition, longer arms and legs can affect throwing any type of ball, hitting with a bat, catching with a glove, or swimming and jumping. *Coaches that are aware of the AGS can help reduce athletic awkwardness by incorporating specific aspects of training into practice sessions.*

Gunakan **Petunjuk A** dalam menjawab soal nomor 31 sampai nomor 34.

31. The word "lure" in paragraph 1 is closest in meaning to ...
- (A) plan
 - (B) illusion
 - (C) chance
 - (D) appeal
 - (E) thought
32. The word "this" in paragraph 2 refers to ...
- (A) age
 - (B) impact
 - (C) puberty
 - (D) change
 - (E) occurrence
33. Which sentence is closest in meaning to the last sentence in paragraph 3?
- (A) By designing training founded on the knowledge of AGS, trainers can be more aware of possible difficulties in sports.
 - (B) With practice that prevents children from performing awkwardly, trainers can assist children through this growth phase.
 - (C) To help children perform with more ease, trainers should consider the effects of puberty when designing a training routine.
 - (D) Without considering the physical changes undergone by children, trainers cannot prevent them from having difficulties when training.
 - (E) Since identifying potential problems during children's phase of AGS is necessary to eliminate clumsiness, trainers can do this before training begins.
34. The most appropriate title for this passage is ...
- (A) Adolescent Growth Spurt and Sport
 - (B) Effects of Puberty on Sports Performance
 - (C) The Rising Popularity of Sports among Children
 - (D) The Impact of Poor Balance and Body Control
 - (E) The Side Effects of Specializing in Sports on Children



Scientists used artificial intelligence (AI) to study the spatial relationships between main earthquakes and their aftershocks. In tests, AI predicted the aftershock locations better than the traditional methods that many seismologists use.

In 1992, a series of earthquakes prompted an outbreak of interest among seismologists. They were trying to map out where exactly an aftershock might occur based on how a mainshock might shift stresses on other faults. After 1992, researchers began trying to refine the complicated stress change patterns using different criteria. The most used criterion, the Coulomb failure stress change, depends on fault orientations. However, stresses can push on the faults from many directions at once. Consequently, fault orientations in the subsurface can be complicated.

Using AI, the data included more than locations and magnitudes. The data considered different measures of changes in stress on the faults from the quakes. The AI learned from the data to determine how likely an aftershock was to occur in a specific place. The team tested how precise the system could pinpoint aftershock locations using data from another 30,000 mainshock-aftershock pairs. The AI consistently predicted aftershock locations much better than the Coulomb failure criterion.

However, the study focuses just on permanent shifts in stress due to a quake. Aftershocks may also be triggered by a more momentary source of stress. A quake's rumbling through the ground could produce this kind of stress. Another question is whether AI-based forecast system could leap into action quickly enough after a quake. The predictions in the new study benefited from a lot of information about which faults slipped and by how much. In the immediate aftermath of a big quake, such data wouldn't be available for at least a day.

Gunakan **Petunjuk A** dalam menjawab soal nomor 35 sampai nomor 39.

35. In paragraph 2, why does the author include information about the earthquakes happening in 1992?
- (A) To give background for the new approach in seismology
 - (B) To inform readers of the first occurrence of aftershocks
 - (C) To describe how extensive the AI research has been done
 - (D) To illustrate how interesting aftershocks were to seismologists
 - (E) To give an example of a prominent series of earthquakes in history
36. Which of the following statements is FALSE according to the text?
- (A) The Coulomb failure stress change is one of the traditional methods.
 - (B) Using AI, scientists can predict aftershock locations based on locations and magnitudes only.
 - (C) The AI technology considers more variables than the Coulomb criterion.
 - (D) When an earthquake hits, the faults receive stress from multiple directions.
 - (E) AI offers better precision in predicting aftershock locations after an earthquake
37. This passage would probably be assigned reading in which of the following course?
- (A) Computer science
 - (B) Geophysics
 - (C) Engineering
 - (D) Statistics
 - (E) History
38. It can be inferred from the text that . .
- (A) prior to 1992, research was focused on measuring the magnitude of the main earthquake.
 - (B) an aftershock indicates that the subsurface is undergoing a permanent fault shift.
 - (C) due to its limitations, AI most likely cannot perform as fast as it is needed.
 - (D) the more powerful an earthquake, the more aftershocks will occur.
 - (E) the aftershock almost always immediately follows an earthquake.
39. The tone of this passage is . .
- (A) critical
 - (B) pessimistic
 - (C) concerned
 - (D) informative
 - (E) persuasive



Latin America, extending from the deserts of northern Mexico to the icy wilds of Tierra del Fuego in Chile and Argentina, encompasses many diverse countries and peoples. Though most of these countries are largely Catholic and Spanish-speaking, thanks to a shared history of colonization by Spain, they have at least as many differences as they do similarities with each other. In the United States the terms "Hispanic" and "Latino" (or "Latina" for a woman; sometimes written as "Latinx" to be gender-neutral) __40__ in an attempt to loosely group immigrants and their descendants who hail from this part of the world. The terms are often used interchangeably, though the words can convey slightly different connotations. It is important to clarify that the categories refer only to a person's origin and ancestry.

In general, "Latino" is understood as a *shorthand* for the Spanish word *latino-americano* and refers to anyone born in or with ancestors from Latin America and living in the U.S., __41__ Brazilians. "Latino" does not include speakers of Romance languages from Europe, such as Italians or Spaniards, and some people have argued that it excludes Spanish speakers from the Caribbean. Although people from French Guiana are sometimes accepted as Latino since French shares linguistic roots with Spanish and Portuguese, there is much debate about whether people from English-speaking Belize and Guyana and Dutch-speaking Suriname truly fit under the category since their cultures and histories are so distinct.

"Hispanic" is __43__ that includes people only from Spanish-speaking Latin America, including those territories of the Caribbean or from Spain itself. With this understanding, a Brazilian could be Latino and non-Hispanic, a Spaniard could be Hispanic and non-Latino, and a Colombian could use both terms. However, this is also an imperfect categorization, as there are many indigenous peoples from Spanish-speaking countries who do not __44__ Spanish culture and do not speak the dominant language.

Gunakan **Petunjuk A** dalam menjawab soal nomor 40 sampai nomor 45.

40.
- (A) adopted
 - (B) are adopted
 - (C) have adopted
 - (D) being adopted
 - (E) have been adopted
41.
- (A) include
 - (B) included
 - (C) inclusive
 - (D) inclusion
 - (E) including
42. The phrase "shorthand for" in paragraph 2 means
- (A) meaning of words
 - (B) reference to expression
 - (C) expression of nickname
 - (D) denotation of substance
 - (E) simple way of expressing
43.
- (A) generally accepted as a narrower term
 - (B) accepted generally as a term narrower
 - (C) generally as a narrower term accepted
 - (D) a term generally narrower accepted
 - (E) accepted as a narrower term generally
44.
- (A) group in
 - (B) label as
 - (C) classify as
 - (D) identify with
 - (E) categorize in
45. Sentence "To simplify matters, the 2010 U.S. Census listed both terms together and specifically mentioned the Spanish-speaking territories of the Caribbean but vaguely excluded non-Spanish speaking countries." is best put in
- (A) the end of paragraph 1
 - (B) the end of paragraph 3
 - (C) the beginning of paragraph 1
 - (D) the beginning of paragraph 2
 - (E) the beginning of paragraph 3