

There appears to be increasing numbers of children who specialize in a single sport 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 sport 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 athletics 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, and 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 di bawah.

- 1 The word 'lure' in paragraph 1 is closest in meaning to
(A) plan (D) appeal
(B) illusion (E) thought
(C) chance
- 2 The word 'this' in paragraph 2 refers to ...
(A) age (D) change
(B) impact (E) occurrence
(C) puberty
- 3 Which sentence is closest in meaning to the past 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, trainer can do this before training begins.

- 4 The most appropriate title for this passage is ...
- (A) Adolescent Growth Spurt and Sport
 - (B) Effect on Puberty on Sports Performance
 - (C) The Rising Popularity of Sports Among Children
 - (D) The Impact of Poor Balance and Body Control
 - (E) The Side Effect of Specializing in Sports on Children

The old myths about clever animals may have been closer to the truth than science has been for much of its history. Until fairly recently, animals were considered to be unthinking machines and humans the only truly intelligent species. However, aided by new cognition tests that allow elephants to show their intelligence, scientist have discovered human and elephant's intelligence have much in common.

Most contemporary ethnologists view the elephant as one of the world's most intelligent animals. With a mass of just over 5 kg, an elephant's brain has more mass than that of any other land animal. In addition, elephants have a total of 300 billion neurons. Elephant brains are similar to humans' in terms of general connectivity and areas. The elephants' cortex has as many neurons as human brain.

Moreover, elephants manifest a wide variety of behaviors, including those associated

with self-awareness, altruism, memory and communication. It has been proven scientifically that elephants' are self-aware. In one study an elephant called Happy would touch a white cross painted on her forehead, a test used to test self-awareness in children. She could only see it in a mirror and understood that she was looking at a reflection on herself.

Elephants also practice altruism. There is a famous story of an Indian elephant called Chandrasekharan, who was working lifting poles off a truck as it moved along, and placing them in holes dug in the ground. When Chandrasekharan came to one holes he refused to put the log in. Eventually the Mahout checked and discovered a dog sleeping in it. Only when the dog was gone would Chandrasekharan put the pole in.

Finally, elephants do have long memories. They eat an incredible variety of foods and need to cover large distances to get it. They need to know where to go at what time of year. They learn this and remember it. Also, they have complex communication and societies, and they need to remember all the different individuals' voices and smells in order to be socially adept.

Gunakan **Petunjuk A** dalam menjawab soal nomor di bawah.

- 5 What is the tone of the passage?
- (A) playful
 - (B) critical
 - (C) objective
 - (D) empathic
 - (E) indifferent
- 6 All of the following statements about elephants intelligence are true EXCEPT:
- (A) elephants like helping other animals.
 - (B) elephants have strong memory and cognition.
 - (C) like human beings, elephants have self-awareness.
 - (D) elephant's brain has less mass than that of other mammals.
 - (E) elephant's intelligence share some similarities with human intelligence

- 7 What can be inferred from the passage?
- (A) it is impossible for elephants to have self-awareness.
 - (B) elephants brains differ from that of human in many ways.
 - (C) elephants are the only intelligence animal on this planet.
 - (D) elephants in general do not care about their well-being.
 - (E) not too long ago, many people thought that animals did not have the ability to think.
- 8 This passage would most likely be found in...
- (A) an article about ancient mythology
 - (B) a journal about artificial intelligence
 - (C) a popular article about science and nature
 - (D) a book about communication among animals
 - (E) a magazine about the minds of human and animal
- 9 The author's main purpose in the second paragraph is to ...
- (A) define animal intelligence
 - (B) persuade readers to love and protect elephants
 - (C) provide an explanation of elephants' intelligence
 - (D) inform readers about the finding of several research
 - (E) contrast elephant intelligence with human intelligence

Living on an island can have stranger effects. On Flores in Indonesia, extinct elephants weighed no more than a large hog, but rats grew as big as cats. These are examples of the island effect, which holds that when food and predators are scarce, big animals shrink and little ones grow. Still, no one is sure whether the same rule explains the most famous example of dwarfing on Flores: the odd extinct hominin called the hobbit, which _____10_____ 60,000 to 100,000 years ago and stood about a meter tall.

Now, genetic evidence from modern pyg-

mies or unusually short people on Flores—who are unrelated to the hobbit—confirm that humans, too, are subject to so-called island dwarfing. Flores pygmies differ from their closest relatives on New Guinea and in East Asia in carrying more gene variants that promote short stature.

To explore the pygmies' ancestry, a team of reserachers studied the Rampasasa pygmies of Flores, who were on an average just 145 centimeters tall. They gathered spit and blood from 32 people and _____11_____. The team found no trace of archaic DNA that could be from the hobbit. Instead, the pgymies were _____12_____. The DNA suggest that their ancestors came to Flores in several waves: in the past 50,000 years or so, when modern human first reached Melanesia; and in the past 5000 years, when settlers came from both East Asia and New Guinea.

The DNA also reflects an environmental shift. It suggests the pgymies' ancestors underwent a big shift in diet after reaching Flores, perhaps eating pgymiy elephants or matine foods. They pgymies' DNA is also rich in alleles that _____13_____ to short stature. Other East Asia have the same alleles, but at much lower frequencies.

The discovery fits with a recent study suggesting evolution was also in favor of short stature in people on the Andaman Islands. Such selection on island boosts the theory that the hobbit, too, was once a taller species, who dwindled in height over millennia on Flores.

Gunakan **Petunjuk A** dalam menjawab soal nomor dibawah.

- 10 ...
- (A) lived
 - (B) had lived
 - (C) was living
 - (D) were living
 - (E) had been living
- 11 ...
- (A) measured their head circumference.
 - (B) looked for causes of dwarfish.
 - (C) analyzed their health histories.
 - (D) traced back their lineage.
 - (E) extracted their DNA.

- 12 ...
- (A) closely related East Asians to most other.
 - (B) most closely related to other East Asians.
 - (C) to most other closely related East Asians.
 - (D) other East Asians closely related to most.
 - (E) East Asians most closely related to other.

- 13 ...
- (A) links
 - (B) linked
 - (C) linking
 - (D) are linked
 - (E) are linking

- 14 The italic phrase in the last paragraph means
- (A) eased
 - (B) endorsed
 - (C) approved
 - (D) supported
 - (E) conformed

- 15 This sentence "This suggest natural selection favored existing genes for shortness while the pygmies" ancestor were on Flores." should be
- (A) the last sentence of paragraph 1
 - (B) the last sentence of paragraph 2
 - (C) the last sentence of paragraph 3
 - (D) the last sentence of paragraph 4
 - (E) the last sentence of paragraph 5