Question 1-11 are based on the following passage.

Passage 1 is excerpted from Linden Miles, "The Meandering Mind: Vection and Mental Time Travel," ©2010 by Linden Miles. Passage 2 is excerpted from Justin Gregg, "A New Frontier in Animal Intelligence," ©2013 by Scientific American.

Passage 1

The ability to travel mentally through time sets humans apart from many other species, yet little is known about this core cognitive capacity. In particular, what shapes the passage of the mind's journey through time?

A core facet of conscious experience is that one's mind periodically wanders from the here-and-now. From memories of lost loves to expectations about forthcoming vacations, mental time travel (MTT) makes it possible to revisit the past and pre-experience the future. Present across cultures and emerging early in childhood, MTT is believed to serve a pivotal function in human cognition. When confronted with complex and challenging judgments, simulating future outcomes (i.e., prospection) on the basis of prior experience (i.e., retrospection) is a tactic that optimizes decision-making and behavioral selection. That the past informs the future in this way (i.e., recollection-guides-simulation) is evidenced from research demonstrating that retrospection and prospection rely on largely overlapping neural structures and cognitive operations.

However, remarkably little is known about the actual process of MTT and how it impacts people's behavior. In this respect, one emerging possibility is that MTT may be represented in the sensory-motor systems that regulate human movement (i.e., MTT is embodied). Put simply, traveling mentally in time may initiate associated bodily movements through space. Initial evidence for such a thought-action coupling during MTT was reported in a study in which spontaneous fluctuations in the direction and magnitude of postural sway were assessed while participants engaged in either retrospective or prospective mental imagery. The results revealed that the temporal locus of MTT did indeed influence the direction of people's movements—whereas retrospection was accompanied by significant backwards sway, prospection yielded postural movement in an anterior direction.

Passage 2

Santino was a misanthrope with a habit of pelting tourists with rocks. As his reputation for mischief grew, he had to devise increasingly clever ways to ambush his wary victims. Santino learned to stash his rocks just out of sight and casually stand just a few feet from them in order to throw off suspicion. At the very moment that passersby were fooled into thinking that he meant them no harm, he grabbed his hidden projectiles and launched his attack.

Santino, you see, is not human. He's a chimpanzee at Furuvik Zoo in Sweden. His crafty stone-throwing escapades have made him a global celebrity, and also caught the attention of researchers studying how animals, much like humans, might be able to plan their behavior.

Santino is one of a handful of animals that scientists believe are showing a complex cognitive ability called episodic memory. Episodic memory is the ability to recall past events that one has the sense of having personally experienced. Unlike semantic memory, which involves recalling simple facts like "bee stings hurt," episodic memory involves putting yourself at the heart of the memory; like remembering the time you swatted at a bee with a rolled up newspaper and it got angry and stung your hand.

If an animal can imagine itself interacting with the world in the past via episodic memory—like Santino recalling a failed attack when a human spotted him holding a rock, or you remembering swatting at a bee—it stands to reason that the animal might also be able to imagine itself in the future in a similar scenario, and thus plan its behavior. Santino might opt to hide his rocks, and you might decide to stop antagonizing bees. The ability to represent oneself and one's actions in the mind's eye—both in the past [and] in the future is what scientists refer to as "mental time travel."

1

Over the course of passage 1, the main focus shifts from

A) a scientific study about mental time travel to an example of how humans use mental time travel in their daily lives.
B) a description of the evolution of mental time travel to an evaluation of its limitations in humans.
C) an explanation of mental time travel to a description of a study about its neurological basis.
D) an argument in support of the existence of mental time travel to a counter-argument refuting its existence in humans.

2

It can reasonably be inferred from Passage 1 that, in humans, the existence of mental time travel

A) begins before birth.
B) continues to develop throughout adulthood.
C) is universal.
D) is limited to certain populations around the world.

CONTINUE

3

Which choice provides the best evidence for the answer to the previous question?

A) lines 1–2 (“The . . . species”)
B) lines 6–9 (“From . . . future”)
C) lines 9–10 (“Present . . . childhood”)
D) lines 11–15 (“When . . . selection”)

4

As used in line 11, “pivotal” most nearly means

A) critical.
B) basic.
C) overriding.
D) urgent.

5

In the first paragraph of passage 2, the use of the words “mischief”, “clever” and “fooled” serves mainly to

A) suggest that Santino had a violent disposition.
B) call attention to Santino’s advanced cognitive abilities.
C) imply that Santino was smarter than most chimpanzees.
D) illustrate Santino’s reliance on semantic memory.

6

The author of Passage 2 indicates that Santino’s use of episodic memory is most evidenced by his

A) ability to recall past experiences.
B) accuracy when throwing objects.
C) disinterest in other chimpanzees.
D) tendency to interact with humans.

7

According to Passage 2, which choice best summarizes the relationship between episodic and semantic memory?

A) Episodic memory is a more advanced form of semantic memory.
B) Episodic memory relies on personal experiences while semantic memory relies on fact recollection.
C) Episodic memory is an essential component of consciousness while semantic memory is not.
D) Some animals are capable of episodic memory, but all animals are capable of semantic memory.

8

Which choice provides the best evidence for the answer to the previous question?

A) lines 45–48 (“His . . . behavior”)
B) lines 49–51 (“Santino . . . memory”)
C) lines 53–55 (“Unlike . . . memory”)
D) lines 65–67 (“The . . . travel”)

9

The authors of Passage 1 and Passage 2 would likely agree about which of the following characteristics of mental time travel?

A) That it is similar to the concept of semantic memory.
B) That it is a sophisticated cognitive ability.
C) That it is present throughout the animal kingdom.
D) That it can affect the positioning and movement of the body.

10

Which of the following types of evidence is relied upon in Passage 1 but not in Passage 2?

A) Expert testimonies.
B) Personal narratives.
C) Scientific studies.
D) Historical data.

11

The author of passage 1 would likely use which of the following terms to describe Santino’s ability to recall past events?

A) Retrospection.
B) Prospection.
C) Simulation.
D) Semantic memory.

CONTINUE