

Name: _____

Date: _____

Period: _____

Weekly Reading HW

HW Wk _____

Directions: Read and annotate the passage below. Then answer the questions.

Cheetahs' Secret Weapon: A Tight Turning Radius

Anyone who has watched a cheetah run down an antelope knows that they are stunningly fast. But it turns out that speed is not the secret to their impressive hunting skills. A novel study of how cheetahs chase prey in the wild shows that it is their agility, or their skill at leaping sideways, changing directions abruptly, and slowing down quickly, that makes them such great hunters. "Cheetahs don't actually go very fast when they're hunting," said Alan M. Wilson, the author of the new study. "The hunt is much more about maneuvering, acceleration, ducking, and diving to capture prey."

Until now, researchers had only been able to gather data on cheetahs hunting habits by studying the animals in captivity, or from imprecise observations of their movements in the wild. But Dr. Wilson and his team designed and built a battery-powered, solar-charged tracking collar that uses an accelerometer, a gyroscope, and GPS technology to monitor the animal's movements. They attached these collars to five cheetahs and observed their hunting runs. The cheetahs ran as fast as 58 miles an hour and their average speed was 33 m.p.h. They found that cheetahs can slow down by as much as 9 m.p.h. in a single stride. A cheetah often slows down before turning and this enables it to make the tight turns that give it an advantage over its prey.

Along with those leg muscles, cheetahs have a flexible spine and big claws that give them a great deal of grip. This helps the cheetahs get their feet in the right positions to turn and maneuver. "If you've ever skied or skateboarded really fast, you realize that stability and maneuverability at high speeds are a real problem," said Dr. Wilson. Cheetahs have adapted to handle these challenges of physics in unexpected ways.

Dr. Wilson's paper has also put to rest the question of how fast cheetahs can actually run. In the 1960s, researchers in Africa recorded cheetahs running as fast as 65 m.p.h., but since then a number of scientists have only been able to clock them at speeds of 30 to 40 m.p.h. This made some researchers "a little bit suspicious." However, Dr. Wilson's latest data seems to confirm that cheetahs do reach speeds approaching 60 m.p.h. on a fairly regular basis, making them the fastest land mammals. What is more, the cheetah's ability to maneuver at high speeds surpasses that of the greyhound and the horse. "The cheetah is really the all-around athlete," said Dr. Wilson.

1. (RST.9-10.4) As it is used in the passage, the term *novel* means:
 - a. A book
 - b. Old
 - c. Unique
 - d. Average
2. (RST.9-10.1) Of the following, all were mentioned as being part of the reasons why cheetahs are such great hunters, EXCEPT:
 - a. Their ability to change directions quickly
 - b. Their ability at slowing down very quickly
 - c. Their incredible speed
 - d. Their skill at leaping sideways

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3. (RST.9-10.1) The author’s purpose in including the quote from Dr. Wilson in the third paragraph is to:
- a. Explain that skiers’ and skateboarders’ movements were compared to cheetahs’ movements.
 - b. Give the reader some context to better understand how impressively cheetahs move.
 - c. Show that humans are superior to cheetahs because we can ski and skateboard really fast.
 - d. Describe the difference between cheetahs hunting and humans skiing or skateboarding.

4. (RST.9-10.2) The main idea of the fourth paragraph is:
- a. Cheetah’s can turn quickly because they also have a flexible spine and big claws.
 - b. Other scientists are suspicious of Dr. Wilson’s results on how fast cheetahs can run.
 - c. Dr. Wilson’s paper has confirmed that cheetahs are faster than horses and greyhounds.
 - d. Dr. Wilson’s paper confirms the long-held idea that cheetahs can run as fast as 65 m.p.h.

5. (RST.9-10.1) How did Dr. Wilson and his team measure the cheetahs’ hunting runs in the wild?

6. (RST.9-10.1) In addition to their leg muscles, how else are cheetahs able to make such tight turns?

Adapted from the article, “Cheetahs’ Secret Weapon: A tight turning radius” by Katie Hiler for The New York Times, on June 13, 2013.

