

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Period: \_\_\_\_\_

Weekly Reading HW

HW Wk \_\_\_\_\_

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

### Buddies Help Monkeys to Survive Tough Times

When it comes to friendship it may be quantity, not quality, that matters. Scientists have long known that sociable humans live longer than their solitary peers, but is the same true for animals? The results of a harsh natural experiment may offer some answers but they also raise intriguing questions about the type of social ties that matter.

Endangered Barbary macaque (*Macaca sylvanus*) monkeys in the mountains of Morocco are accustomed to cold, but the 2008–09 winter was devastatingly hard for them. Snow covered the ground for almost four months instead of the usual one. This caused many of the monkeys, which eat seeds and grasses on the ground, to starve. Richard McFarland, a behavioral scientist, went looking for the macaques in January 2009, but he only found corpses. Of the 47 adults in two troops that he studied, only 17 survived, making for a 64% mortality rate.

However, analysis showed that the more friends a monkey had, the more likely it was to have survived. Individuals with whom a monkey had exchanged grooming or had had bodily contact with at least once during observation sessions were determined as social contacts. Perhaps the animals with more buddies had more partners with whom to huddle against the cold, suggested McFarland. Monkeys with large social networks may also have been able to look for food with fewer interruptions from hostile group members.

Interestingly, the quality of macaques' friendships, as measured by how much time two macaques spent close together, did not predict survival. Previous studies in baboons have shown that longevity and reproductive success are linked to quality, not quantity, of social contacts. But McFarland argues that it makes sense that sheer quantity matters for surviving a catastrophe. In a disaster, an individual who loses his few close friends is "left with nothing," he says. "Compare that to someone who has ten relationships. If one of their friends perishes during the winter, they still have nine more friends to go to."

Some researchers praise McFarland's work, but others have mixed opinions on the nature of the social ties that count. The study "is a really nice piece of natural history" that adds to the evidence that being sociable is important, says Joan Silk, a behavioral ecologist. But she is "less convinced" by the study's finding on relationship quantity. Another behavioral ecologist, Guy Cowlshaw, agrees with the finding that monkeys with lots of superficial ties might do better in this situation than those with a few deep friendships. He adds that McFarland's paper is valuable for shedding light on how extreme events brought on by climate change will affect primates, nearly half of which, he points out, are already at risk of extinction.

1. (RST.9-10.2) The main idea of the passage is that:
  - a. The number of social connections is advantageous during disasters.
  - b. Organisms should try to make as many social connections as possible.
  - c. It is more important to make a few good friends than to have many acquaintances.
  - d. Monkeys always help each other through tough times.

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2. (RST.9-10.1) How many more months than usual did snow cover the ground in the 2008 – 2009 winter?
- a. 1
  - b. 2
  - c. 3
  - d. 4
3. (RST.9-10.4) According to the fourth paragraph, the term *perishes*, means:
- a. Dies
  - b. Disintegrates
  - c. Rots
  - d. Decreases
4. (RST.9-10.1) The author’s purpose in including the quotes from Joan Silk and Guy Cowlshaw is to:
- a. Criticize McFarland’s work for being incomplete.
  - b. Provide unwavering support for McFarland’s findings.
  - c. Show how Silk’s and Cowlshaw’s research supports McFarland’s.
  - d. Both support and challenge McFarland’s work.

5. (RST.9-10.1) What did McFarland determine to be a “social contact” between two monkeys?

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6. (RST.9-10.2) Why are monkeys with more friends more likely to survive the winter?

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*Adapted from the article, “Buddies Help Monkeys to Survive Tough Times” by Traci Watson for Nature, reproduced by Scientific American, on June 26, 2013.*