

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

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

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

Weekly Reading HW

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

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

### Personal Grooming Products May Be Harming Great Lakes Marine Life

Three of the five Great Lakes—Huron, Superior and Erie—are drenched in plastic. Small plastic beads, known as micro plastic, are the offenders, according to recent survey results. The most common micro plastics were those less than a millimeter in diameter. The survey found 1,500 to 1.7 million micro plastic particles per square mile in the lakes, with the highest concentration in Lake Erie. There are millions of plastic particles in the oceans as well, but the oceans contain a higher percentage of debris in the one- to five- millimeter-diameter size, whereas, the three Great Lakes studied have a higher concentration of micro plastics measuring less than one millimeter in diameter.

These micro plastics come from cosmetics manufacturers that use micro beads to exfoliate skin in facial and body scrubs. They are too tiny for water treatment plants to filter, so they wash down the drain and into the Great Lakes. The biggest worry: fish such as yellow perch or turtles and seagulls think of them as dinner. If fish or birds eat the beads, the material can deprive them of nutrients from real food or get lodged in their stomachs or intestines, blocking digestive systems.

What makes the plastics so dangerous is how they interact in the environment. The bits of plastic absorb pollutants like a sponge. The pollutants can remain in the environment for more than 50 years and can accumulate in fish and other organisms, proceeding up the food chain as organisms eat other organisms. Some pollutants can cause DNA damage in organisms that accumulate higher concentrations, which, in turn, can lead to cancer or bodily impairment. Some can cause cardiac problems, skeletal deformities, and neurological deficiencies. Others affect hormone levels and systems in plants, animals, and even people. Scientists are still trying to determine what is happening to the fish that eat the plastics with these pollutants, and if these harmful chemicals move up the food chain and can affect humans.

This doesn't mean people should stop washing their faces or bodies. Researchers are pleading the case with the cosmetics manufacturers to replace the plastic micro beads with natural exfoliating materials, such as pumice, oatmeal, apricot, or walnut husks. Some cosmetics companies like Burt's Bees or St. Ives already employ these natural exfoliating materials in their products. Recently, thanks to this campaign, the Body Shop, L'Oreal, and Johnson & Johnson announced that they have discontinued using plastic micro beads in their facial and body cleansers. Unilever announced that it will stop using micro beads by 2015. "We have the evidence that the micro plastics do cause harm," says one of the researchers. "I am hoping we can convince all cosmetic companies to stop using micro plastics."

1. (RST.9-10.1) According to the passage, when fish or birds eat the micro plastics, the micro plastics:
  - a. Provide the proper nutrients for the fish and birds.
  - b. Take up space in their stomachs, causing them to look fatter.
  - c. Obstruct the intestines, preventing food from being digested.
  - d. Coat the lining of the digestive system, causing food to move at a slower rate.

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2. (RST.9-10.4) As it is used in the passage, the term *deprive* means:
- a. Provide
  - b. Supply
  - c. Discard
  - d. Deny
3. (RST.9-10.1) According to the third paragraph, what part of the food chain contains the highest concentration of pollutants?
- a. The bottom of the food chain (first organism to eat the plastics)
  - b. The middle of the food chain
  - c. The top of the food chain
  - d. There is not enough information to answer the question.
4. (RST.9-10.2) The fourth paragraph can best be summarized by stating that:
- a. People should continue to wash their faces with micro plastics because their environmental impact is small.
  - b. Researchers have seen some success in conveying the dangers of micro plastics to cosmetic companies.
  - c. Cosmetic companies do not believe the researchers and will continue to use micro plastics in their products.
  - d. Cosmetic companies are resistant to use natural exfoliating materials because they are too expensive.
5. (RST.9-10.1) According to the third paragraph, in what ways are organisms affected by consuming micro plastics?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
6. (RST.9-10.1) What does the author say is a solution to the problem of micro plastics in our lakes and oceans?
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

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*Adapted from the article, "Personal Grooming Products may be Harming Great Lakes Marine Life" by Christopher Johnson for Scientific American, on June 25, 2013.*