

## CHAPTER 18: Fragments

Answer Key

### PRACTICE 1

Answers will vary.

Marie Curie discovered radium ~~in~~ <sup>in</sup> 1898. After her discovery, there was a radium craze ~~across~~ <sup>across</sup> the United States. Companies added radium to different products. In some factories, the workers used paint with radium in it ~~to~~ <sup>to</sup> paint the faces of clocks and wristwatches. Sometimes they licked their paintbrushes to make the ends pointed ~~very~~ <sup>, which was very</sup> dangerous, indeed. The factory owners knew the radium-laced paint was not safe. They were more concerned with protecting their business interests than with protecting the ~~health of their workers~~ <sup>, unfortunately</sup> health of their workers. ~~Unfortunately~~.

### PRACTICE 2

Answers will vary.

In the 1970s, many new models of household appliances were ~~marketed~~ <sup>marketed, for</sup> instance ~~washing machines~~ <sup>changed, especially</sup> washing machines. Cleaning products also ~~changed~~ <sup>changed</sup> Especially laundry detergent. Phosphates were added to washing detergent to make laundry very clean. However, phosphates had a negative effect on the ~~environment~~ <sup>environment, particularly</sup> environment. ~~Particularly~~ Particularly on water systems. When they reached lakes and rivers, phosphates harmed the water system. Harmful ~~bacteria~~ <sup>water, like</sup> water. ~~Like blue algae~~ <sup>water, like</sup> Like blue algae. Blue algae causes a lot of ~~problems~~ <sup>problems, such</sup> problems. Such as reducing oxygen in lakes and rivers.

### PRACTICE 3

Answers will vary.

Phosphates are found in the soil, in food, and in chemical fertilizer. Legislators became ~~concerned about phosphate pollution~~ <sup>pollution due</sup> concerned about phosphate pollution. ~~Due to public pressure~~ Due to public pressure. In 1972, the United States

and Canada signed a treaty limiting the amount of phosphates in various ~~products.~~ *products, for* example, laundry detergent. The law was successful because it reduced the amount of phosphates entering lakes and ~~rivers.~~ *rivers by* By fifty percent. Presently, however, there is a recurrence of blue ~~algae.~~ *algae in* In some areas of the country. Experts blame the current outbreak on common ~~products.~~ *products, like* Like dishwashing detergent and fertilizers.

#### PRACTICE 4

Asbestos is a common ~~mineral.~~ *mineral that* That has been used in many household products for approximately 4,000 years. Since the Industrial Revolution, asbestos has been used in cement, wall board, putty, paints, hair dryers, vinyl floor tiles, and so on. However, in the 1980s, legislators implemented regulations limiting the use of ~~asbestos.~~ *asbestos because* Because of potential health risks to the public. If people breathe in asbestos fibers, they may contract illnesses such as cancer. Some people may not know that they are exposed to ~~asbestos.~~ *asbestos unless* Unless they have the material in their homes tested. Homeowners and contractors should be extremely ~~careful.~~ *careful whenever* Whenever they are doing home renovations. Older homes may have been built with materials containing asbestos. When removing insulation, replacing vinyl asbestos floor tiles, or sanding plaster that contains asbestos, they should be careful. They should wear masks and ~~goggles.~~ *goggles so* So that they are protected.

#### PRACTICE 5

1. Sometimes people do not know that they have been exposed to hazardous chemicals. C In their homes. F Many household-cleaning products contain toxic chemicals. C Some people may have adverse reactions to these products. C For example, hives. F

2. Furthermore, sometimes there are dangerous chemicals in the land around residential neighborhoods. C In the 1970s, people who lived in the Love Canal region of Niagara Falls, New York, did not know a very important fact. C That their homes had been built on a toxic dump. F Parents in Love Canal worried. C When their children got sick. F Eventually, the parents found out the cause. C The school. F It was built on a site where an old factory had dumped poisonous chemicals. C

3. Moreover, in our professions. F Many of us are exposed to hazardous materials. C For instance, scientists in laboratories. F They work with dangerous chemicals every day. C Also in nuclear power plants. F There are sometimes spills or leaks that can poison workers. C For example, Karen Silkwood worked at the Kerr-McGee plutonium plant laboratory. C Polishing plutonium pellets. F She discovered that she had radiation poisoning. C Because there were inadequate safety measures at the plant. F

4. On a positive note. F Today's labor laws require that employers tell employees about the possible effects of working with hazardous materials. C There are also strict safety regulations in workplaces. C That have hazardous products. F Therefore, governments and industries are doing something about the problem. C

## PRACTICE 6

1. Nowadays, the public has become very aware of environmental <sup>*pollution because*</sup> ~~pollution~~. Because of education, urban regulations, and media attention. Many citizens recycle household <sup>*items, such*</sup> ~~items~~. Such as plastic containers, newspapers, and tin cans. People also try to use biodegradable products. However, this term is often misunderstood and misused.

2. The term *biodegradable* means that a product has the ability to break down into raw <sup>*decomposed by*</sup> ~~decomposed~~. By biological organisms. Such products break <sup>*soil or*</sup> ~~soil~~. Or water. A flower is a good example of a biodegradable product. First, it <sup>*it*</sup> ~~it~~ grows and matures. Then, falls to the ground. Finally, it decomposes and fertilizes the soil.

3. There is a difference between products that are biodegradable and recyclable. Many

*biodegradable, for*  
common products are ~~biodegradable~~. ~~For instance, soap and oil.~~ However, crude oil  
*hazard because*  
spills are an environmental ~~hazard~~. ~~Because the oil spill is usually large, and there are~~  
~~not enough microorganisms to break the oil down.~~ Ecologists worry about the 1989  
*spill because*  
Exxon Valdez oil ~~spill~~. ~~Because toxins from the spill continue to affect wildlife in the~~  
~~region.~~ The term *recyclable* refers to items that can be turned into other products. ~~For~~  
*glass bottles can be*  
~~example, glass bottles.~~ ~~They can be melted into new glass bottles.~~

*products so*  
4. Concerned citizens recycle and use biodegradable ~~products~~. ~~So that environmental~~  
~~damage is minimized.~~ For instance, if a glass bottle is not recycled and reused, it will  
take approximately one million years to biodegrade. As science advances, people will  
develop improved ways to cut waste.

## **FINAL REVIEW**

*Answers will vary.*

1. Most people have heard of the Nobel Prize. However, they may not know a lot about  
*of*  
the founder. ~~Of that prize.~~ Alfred Nobel is most famous for his invention of dynamite. He  
*for*  
started the Nobel Prize. ~~For the world's greatest scientific and literary advances.~~

*, in* *in*  
2. Nobel was born on October 21, 1833. ~~In~~ Stockholm, Sweden. He died in 1896. ~~In~~  
*at*  
Italy. He developed an interest in chemistry. ~~At~~ an early age. While he was visiting Paris  
*, who*  
in 1847, he met Ascanio Sobrero. ~~Who~~ had developed nitroglycerine. Nitroglycerine was  
*that*  
a liquid. ~~That~~ was highly explosive. Nobel realized that if the substance could be  
*it could be used*  
controlled, then it would be valuable for industrial use. For example, in mining.

*to*  
3. Nobel experimented with many methods. ~~To~~ control and transport the nitroglycerine

safely. At last, he was successful. He mixed nitroglycerine with silica and made a paste *and* that could be safely transported. He also invented a detonator. ~~And~~ named his new discovery dynamite.

4. Nobel also invented other products. *, such* ~~Such~~ as synthetic rubber and artificial silk. In addition to his interest in science, he loved all types of literature. *, including* ~~Including~~ poetry. In his will, he bequeathed \$9 million to a foundation. *that* ~~That~~ would give prizes in physics, chemistry, medicine, literature, and peace. A prize in economics was added. *in* ~~In~~ 1969.

5. Curiously, Nobel did not create a prize for mathematics. For many years, there was a rumor stating that Nobel did not give a prize in mathematics because his wife had run off *that* with a famous mathematician. However, there is no historical evidence. ~~That~~ can back up this rumor.