

## ***In the Kitchen***

Common kitchen appliances include electric stoves, toasters and blenders. Each appliance uses an energy source and involves energy changes to prepare food.

1. An open pot of water is heated on the stove. As water boils, the molecules \_\_\_\_\_.
  - A. move slower and closer together
  - B. move faster and farther apart
  - C. get larger
  - D. get smaller
  
2. When in use, the heating element in a toaster glows and gives off heat. This is because atoms within the heating element \_\_\_\_\_.
  - A. undergo chemical reactions
  - B. are excited by the flow of electrons
  - C. gain electrons and increase in temperature
  - D. conduct light and heat from the outlet

A group of students carried out the following investigation.

"Our hypothesis is that the greater the wire diameter used in a toaster, the greater the resistance in the wire."

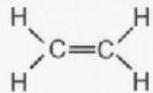
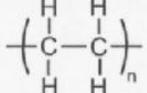
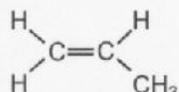
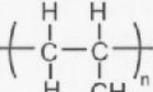
1. We took a 4-meter length of wire with a diameter of 0.5 millimeters.
2. We attached the wire to a 3-volt battery and measured the current.
3. Knowing the voltage and current, we calculated the resistance in the wire.
4. We repeated the same steps with wires of increased diameter.
5. We organized our data in the table below:

Diameter of Wire (millimeters)	Measured Current (milliamps)	Calculated Resistance (ohms)
0.5	10	300.0
1.0	40	75.0
1.5	80	37.5
2.0	100	30.0
2.5	250	12.0

3. To be certain that data in the table are correct, you will have to\_\_\_\_\_.
- A. go online and seek additional information
  - B. ask for your teacher's opinion
  - C. repeat the experiment as described
  - D. repeat the experiment with different variables

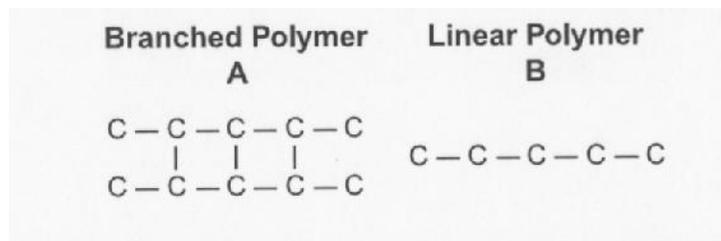
## Plastics

Consumers use many products made of plastic. Plastics are carbon-based polymers made from smaller carbon compounds, called monomers.

Plastic	Monomer	Polymer
Polyethylene		
Polypropylene		

4. In organic molecules, the carbon atoms and the hydrogen atoms are held together by \_\_\_\_\_.
- A. hydrogen bonds
  - B. covalent bonds
  - C. ionic bonds
  - D. nuclear bonds

A company is considering polymers A and B below for the production of plastic shopping bags.

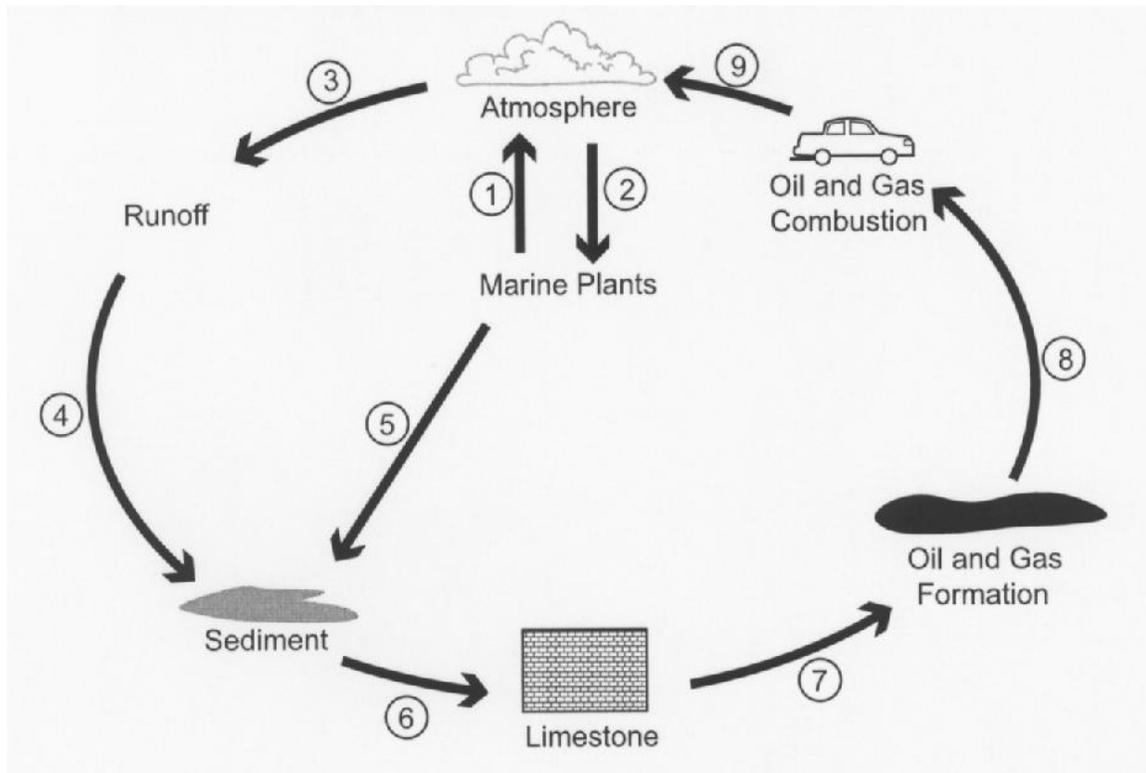


5. Which polymer is more appropriate for the production of shopping bags?
- A. Polymer A, because its branched structure provides greater strength
  - B. Polymer A, because its branched structure provides greater flexibility
  - C. Polymer B, because its linear structure provides greater strength
  - D. Polymer B, because its linear structure provides greater flexibility

6. Many communities encourage the recycling of plastics, even though it is often expensive to do so. Why is it beneficial to the environment to recycle plastics?
- A. Plastics are expensive to manufacture.
  - B. Plastics are made from renewable resources.
  - C. Plastics decompose quickly, releasing toxic chemicals.
  - D. Plastics decompose slowly, taking up space in landfills.

## Carbon Cycle

The diagram below shows carbon cycling associated with oil and gas consumption.



7. Which arrow on the carbon cycle diagram represents the process that takes the longest amount of time to occur?
- A. 1
  - B. 3
  - C. 5
  - D. 7

8. A teacher provides her class with a table displaying the relative greenhouse effect per molecule of different gases compared to carbon dioxide.

Carbon Dioxide	Methane	Nitrous Oxide	CFCs
1	30 times	160 times	17,000 times

Based on this table, a student made the conclusion that carbon dioxide is not the main cause of the greenhouse effect. What other data are needed to make a stronger conclusion?

- A. data about the origin of the gases
- B. data about the size of each type of molecule
- C. data about the absorption of these gases by plants
- D. data about the amount of each gas in the atmosphere

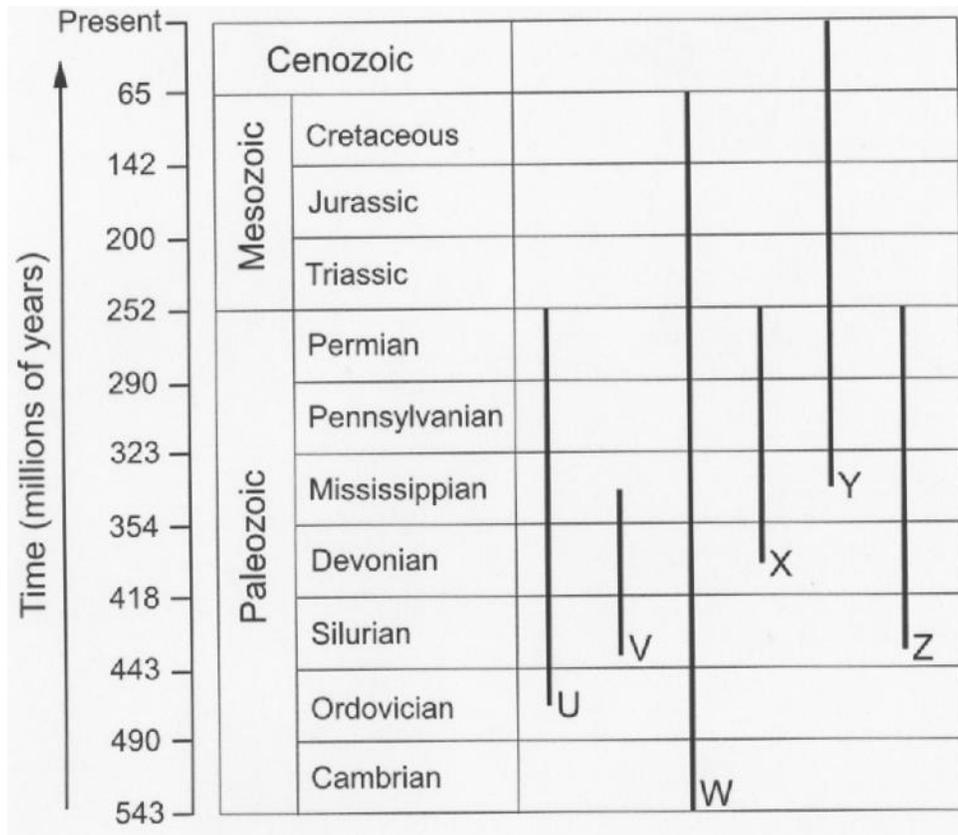
### ***Potato Blight***

Blight is a plant disease caused by a fungus that affects potato plants. Some wild breeds of potato have natural resistance to the fungus. These wild potatoes contain chemical compounds that cause them to taste bad. Scientists are trying to produce potato plants that are resistant to blight but still produce potatoes that taste good.

9. Which of the following describes an important difference between a potato plant cell and a human cell?
- A. Plant cells have a cell wall, and animal cells do not.
  - B. Animal cells store water inside, and plant cells do not.
  - C. Plant cells have a cell nucleus, and animal cells do not.
  - D. Animal cells perform respiration, and plant cells do not.
10. The development of a blight-resistant potato breed might be good for the environment because the new potato breed will need\_\_\_\_\_.
- A. less water
  - B. less fertilizer
  - C. Less fungicide
  - D. Less field space

## Fossil Record

The diagram below shows the fossil record of different species.

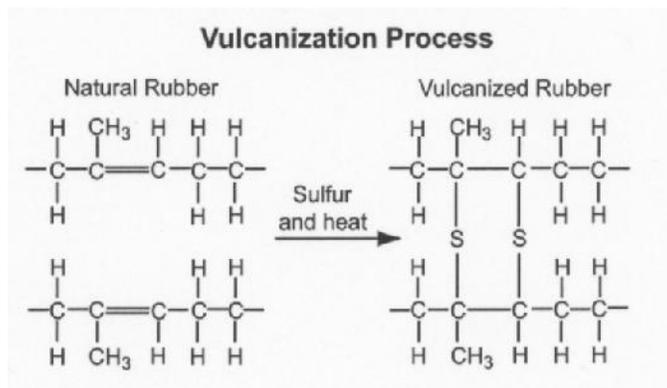


11. When did a major extinction event most likely occur?
  - A. at the end of the Cenozoic
  - B. at the end of the Permian
  - C. at the beginning of the Silurian
  - D. at the beginning of the Cambrian
  
12. According to the records of fossil species V and W, which statement is most likely true?
  - A. Fossil species W appeared before fossil species V, allowing fossil species W to survive longer.
  - B. Fossil species W was ancestral to fossil species V because it appeared before fossil species V.
  - C. Fossil species W had greater genetic variability than fossil species V, allowing fossil species W to adapt and survive longer.
  - D. Fossil species W had lower reproductive success than fossil species V, allowing smaller populations to adapt and survive.

13. The growth rate of a local population is dependent on the birth rate minus the death rate and \_\_\_\_\_.
- the ratio of males to females in the population
  - the lifespan of females beyond the reproductive age
  - the amount of genetic variation that exists in the population
  - the immigration and emigration of individuals to and from the population
14. Vestigial structures, such as hip bones in whales and appendixes in humans, are those that have little or no function for the organism. What is the most likely reason for this loss of function over time?
- The organism is undergoing speciation.
  - The organism is experiencing genetic drift.
  - The structure was over utilized by the organism.
  - The structure was not highly beneficial to the organism.

## Rubber Tires

The tires on most cars are not made of natural rubber because it becomes brittle in the cold and sticky in the heat. Instead, natural rubber is vulcanized by adding sulfur and heat, making it stronger and more elastic. This process is represented chemically in the diagram below.



15. During the vulcanization reaction shown above, the natural rubber polymer is converted to a new polymer by the \_\_\_\_\_?
- cross-linking of carbon (C) atoms with sulfur (S) atoms
  - cross-linking of hydrogen (H) atoms with sulfur (S) atoms
  - replacement of carbon (C) atoms with sulfur (S) atoms
  - replacement of hydrogen (H) atoms with sulfur (S) atoms
16. The complete combustion or burning of **natural rubber** will produce \_\_\_\_\_?
- hydrogen (H) and oxygen (O)
  - oxygen (O) and water (H<sub>2</sub>O)
  - hydrogen gas (H<sub>2</sub>) and water (H<sub>2</sub>O)
  - carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O)

17. The following data are recorded during a supervised investigation.

**Experimental Data**

Type of Container	Total Burning Time (min.)	Amount of Fuel at Start (grams)	Amount of Fuel Remaining (grams)
Closed	5	100	73
Open	12	100	0

What question was the investigator **most likely** trying to answer?

- A. How does the presence of oxygen ( $O_2$ ) affect combustion?
- B. At what point is equilibrium reached in a combustion reaction?
- C. What are the byproducts of an incomplete combustion reaction?
- D. Does the amount of fuel in a combustion reaction affect the burn time?

## ***Plant Cells***

Plants, like all other organisms, are composed of cells.

18. A group of students placed spinach leaves in a beaker of water in full sunlight. After several hours, small bubbles appeared on the leaves. These bubbles probably consisted of \_\_\_\_\_?\_\_\_\_\_.
- A.  $H_2O$
  - B.  $O_2$
  - C.  $CO_2$
  - D.  $H_2$
19. Generally, plants that grow in the shade have larger leaves in comparison to plants that grow in full sun. The advantage of having larger leaves in a shaded environment is \_\_\_\_\_?\_\_\_\_\_.
- A. an increase in water supply
  - B. an increase in light absorption
  - C. a decrease in water loss
  - D. a decrease in heat production

20. Students are exploring what happens to potatoes when placed in liquid. They cut one potato into slices and placed the slices in 3 different solutions, as described in the table below.

Solution	Amount of Solute (in grams)	Initial Mass of Potato (in grams)	Mass of Potato after 25 Minutes (in grams)
100 cc distilled water	0	10	12
100 cc saltwater A	7	10	10
100 cc saltwater B	25	10	8

Which of the following is the independent variable in the students' experiment?

- A. the amount of time in the solution
- B. the shape of the slices
- C. the mass of the potatoes
- D. the concentration of the solutions

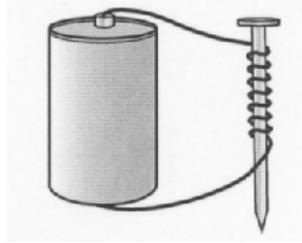
### ***Power Plants***

A power company is building a new power plant to provide electricity for several communities.

21. What is a major advantage of using wind energy instead of coal or nuclear power plants?

- A. Wind is a renewable energy source.
- B. Wind is consistently available in all locations.
- C. Windmills reduce the strength of severe storms.
- D. A single windmill produces more energy than a nuclear plant.

A group of students was studying simple electromagnets. They carried out the following experiment.

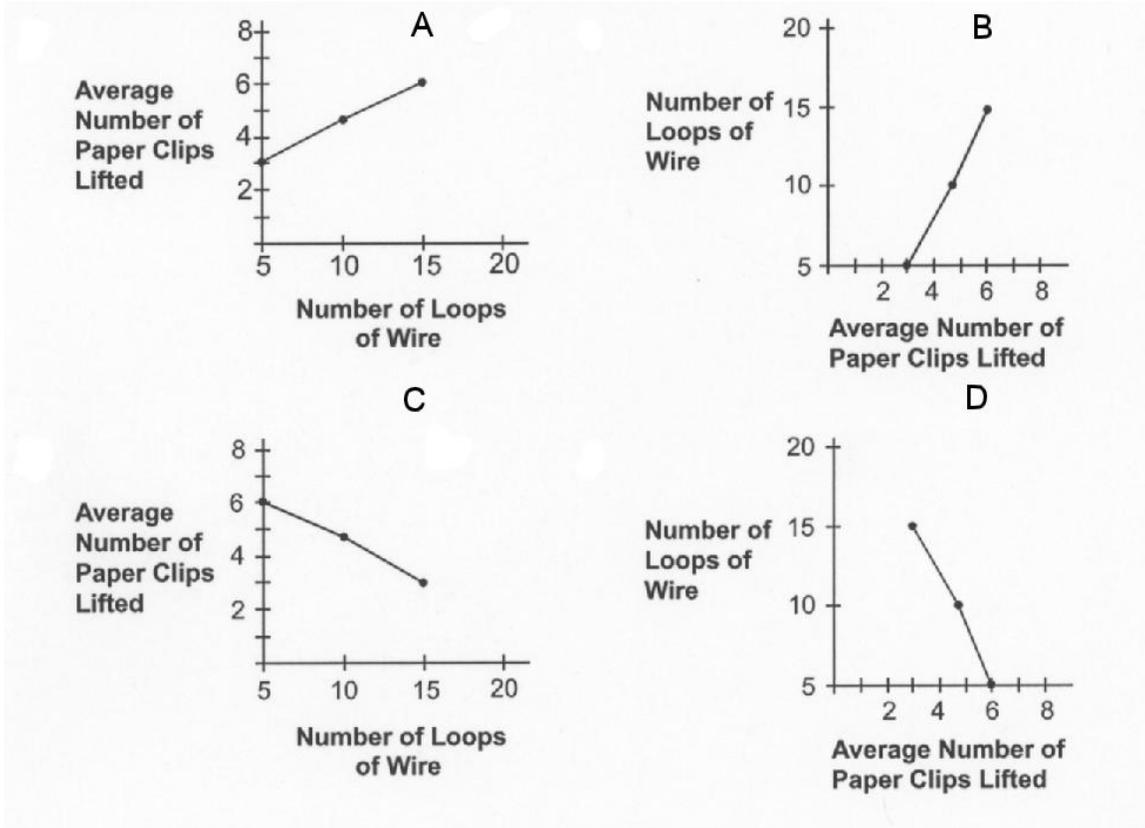


1. Take a nail and wrap a 10-cm wire around the nail five times.
2. Connect both ends of the wire to a 1.5-volt battery.
3. Measure how many paper clips can be lifted by the end of the nail.
4. Repeat for three trials.
5. Repeat steps 1-4 using the same wire and increasing the number of loops of wire around the nail by five.

Number of Loops of Wire	Number of Paper Clips Lifted			
	Trial 1	Trial 2	Trial 3	Average
5	4	2	3	3.0
10	4	5	5	4.7
15	7	5	6	6.0

22. Which of the following would **most** improve the design of the experiment?
- A. Replace the nail with a wood pencil.
  - B. Increase the length of the wire as the number of loops is increased.
  - C. Keep the number of paper clips lifted constant in the experiment.
  - D. Increase the number of loops of wire beyond fifteen.

23. Which graph correctly displays the results of the electromagnet experiment on the previous page?



## Pollution

Pollution has many causes and can affect air and water quality in a variety of ways.

24. The burning of fossil fuels may contribute to an increase in global temperatures. What might lead to this increase in temperature?

- A. The combustion products reflect solar radiation away from Earth.
- B. Carbon dioxide in the atmosphere attracts solar radiation.
- C. Carbon dioxide in the atmosphere blocks energy from escaping into space.
- D. The combustion products allow more energy to enter the earth.

25. Which of the following is directly responsible for acid rain?

- A. steam vented from a nuclear power plant
- B. sulfur dioxide ( $\text{SO}_2$ ) released from a coal-fired power plant
- C. mining of coal for a coal-fired power plant
- D. processing of uranium for a nuclear power plant

26. A student wanted to design an experiment to determine the effect of nitrates ( $\text{NO}_3^-$ ) on algae growth. Which procedure would create the **most** valid results?
- Vary both the temperature and the amount of nitrates ( $\text{NO}_3^-$ ).
  - Keep the temperature constant and vary the amount of nitrates ( $\text{NO}_3^-$ ).
  - Vary the temperature and keep the amount of nitrates ( $\text{NO}_3^-$ ) constant.
  - Keep both the temperature and the amount of nitrates ( $\text{NO}_3^-$ ) constant.

## ***Illnesses***

The common cold is caused by a virus that enters the human body and causes mild, flu-like symptoms. Some people believe that the common cold can be treated by digesting the herb Echinacea. The following table shows results from a study conducted to explore the effects of Echinacea on children with colds.

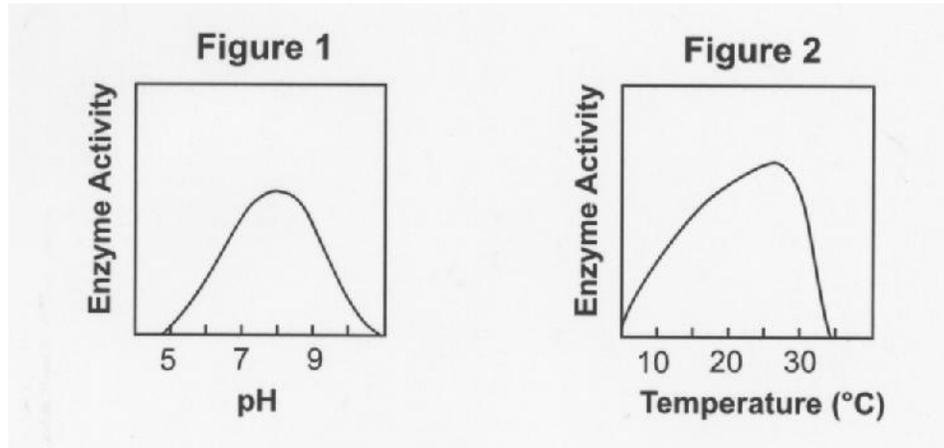
**Echinacea Study**

Type of Treatment	A Pill Containing Echinacea	Same Type of Pill Without Echinacea
Number of children taking pills	337	370
Average length of cold infection (days)	10	10
Children having more than one cold during the study	52%	64%
Children developing a skin rash	7.1%	2.7%

27. Data in the table show that the use of Echinacea can \_\_\_\_\_? \_\_\_\_\_.
- reduce the length of cold infection from 10 to 7 days
  - increase the incidence of colds in children from 52% to 64%
  - increase the percent of children with skin rash from 2.7% to 7.1 %
  - reduce the numbers of children having colds from 370 to 337 cases
28. A possible conclusion from the data is that Echinacea \_\_\_\_\_? \_\_\_\_\_.
- is a safe remedy for the common cold
  - is effective only for children
  - has side effects
  - reduces the length of colds

29. It is very difficult to develop a vaccine against the common cold. The reason for this is that the common cold virus\_\_\_\_\_?\_\_\_\_\_.
- A. hides in the digestive system
  - B. changes rapidly due to high mutation rates
  - C. includes RNA as its genetic materials
  - D. is too small for the immune system to detect
30. Over 6 billion people on Earth use water every day, yet Earth's water supply remains relatively constant. This is because\_\_\_\_\_.
- A. the sea level is rising
  - B. water exists in three phases on Earth
  - C. water is constantly recycled by the hydrologic cycle
  - D. global warming melts ice to replace water that is used
31. Two farmers plant different varieties of corn on neighboring farms. Farmer A plants genetically modified corn. Farmer B plants a non-modified variety of corn. What would be farmer B's **primary** concern if she plans to gather seed for next year's crop?
- A. Loss of genetic variability in the non-modified variety
  - B. That mutation rates will increase in the non-modified variety h. that insects will only C. Pollinate the genetically modified corn
  - D. Unintended transfer of modified genes to her crop by cross-pollination
32. What is accomplished by treating a person who has a bacterial infection with antibiotics?
- A. Immunity to future infections
  - B. Weakening of the person's immune system
  - C. Reduction in the duration and intensity of the infection
  - D. Modification of bacterial DNA to make the bacteria harmless

33. The figures below show the reaction rate of a specific enzyme at different temperatures and different pHs.



What can be concluded about the enzyme?

- A. The enzyme works best at a pH of 8 and a temperature of 25°C.
- B. The enzyme only works at a pH of 8 and a temperature of 25°C.
- C. The enzyme is used up at a pH of 11 and a temperature of 35°C.
- D. The enzyme works better at a pH of 8 than a temperature of 25°C.

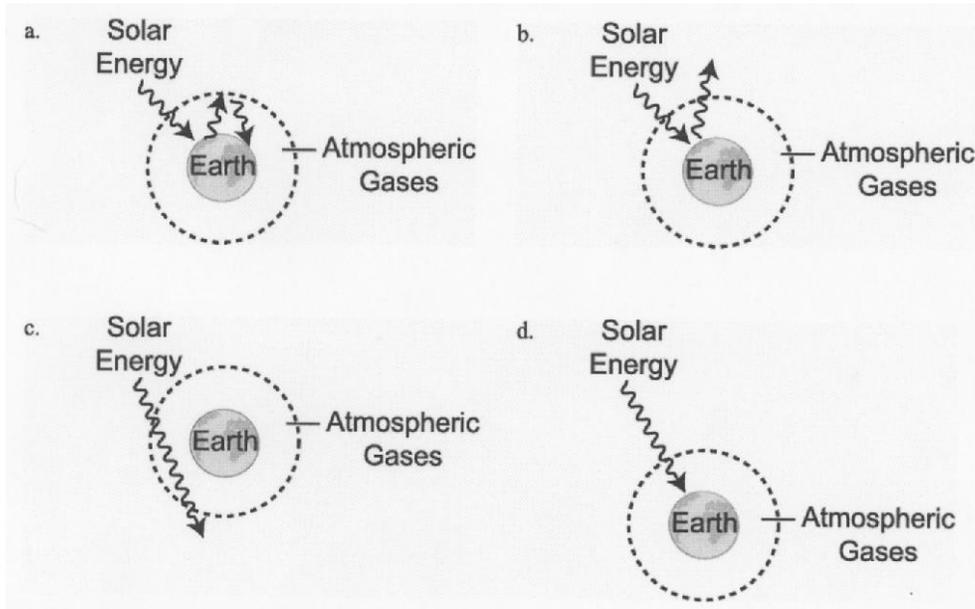
## Petroleum-based Polymers vs. Plant-based Polymers

A petroleum-based (inorganic) polymer is commonly used for grocery bags. Recently there has been a push by environmentalists to make grocery bags out of plant-based (organic) polymers.

Students in a science class decided to investigate the strength of the two types of polymers. They obtained one petroleum-based (inorganic) polymer bag and one plant-based (organic) polymer bag of the same size and thickness. They added 100-gram weights to each bag until it broke.

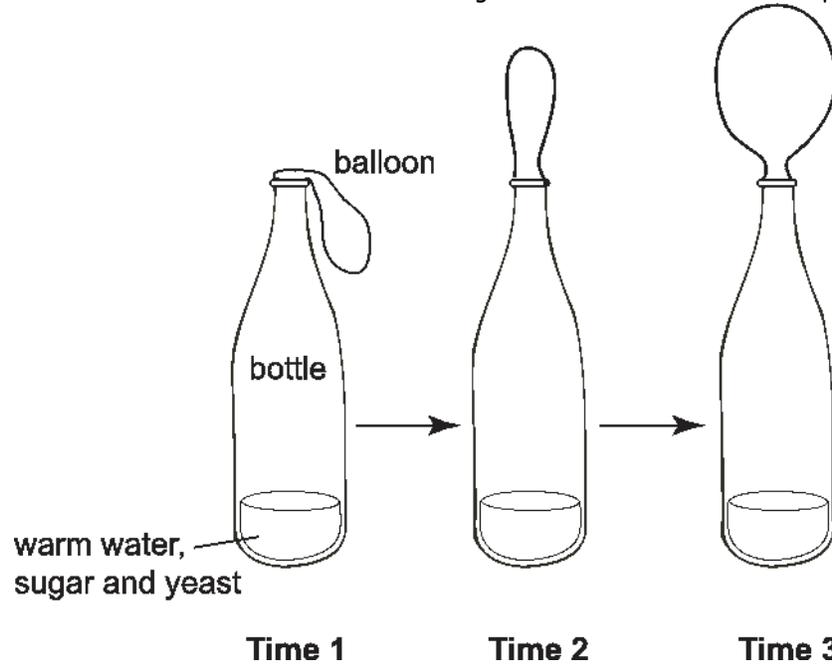
34. What is the independent variable in the investigation?
- A. The size of the bags
  - B. The type of polymer
  - C. The thickness of the bags
  - D. The amount of weight of the bags
35. The students found that the plant-based polymer grocery bag held 500 grams before breaking and the petroleum-based polymer grocery bag held 600 grams before breaking. In order to increase confidence in their results, the students should repeat the investigation using \_\_\_\_\_.
- A. only plant-based polymer bags
  - B. two other types of polymer bags
  - C. a double thickness of each polymer bag
  - D. both the plant and petroleum polymer bags

36. Which of the following pictures **best** represents the natural greenhouse effect?



## Laboratory Investigation

In a laboratory investigation, a student mixes 1 cup of warm water (30°C) with 30 grams of sugar and 5 grams of yeast. She pours the mixture into a glass bottle and secures a balloon over the opening. After several minutes, she observes that the balloon begins to inflate, as shown in the picture below.

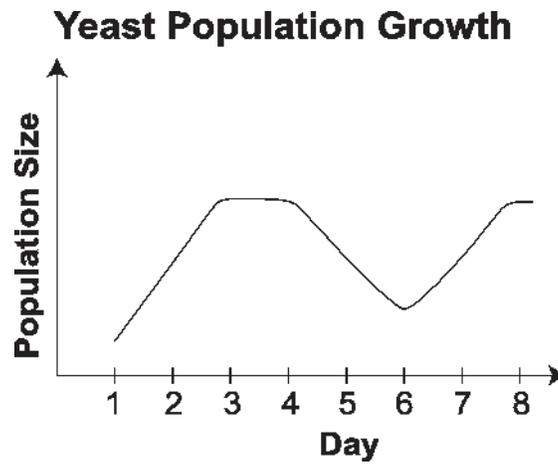


The student performs two additional trials. In trial 2 she uses water at 25°C, and in trial 3 she uses water at 20°C. She observes that the colder the water, the longer it takes the balloon to inflate.

37. After reviewing her data, the student decides to perform an additional trial at 35°C. She observes that the balloon inflates faster than during the trial in which the 30°C water was used. This additional trial supports which of the following hypotheses?
- A. Warmer temperatures are more favorable for yeast fermentation.
  - B. Yeast require less sugar when maintained at lower temperatures.
  - C. The optimum temperature for yeast fermentation is less than 35°C.
  - D. The time required for fermentation increases with increasing temperature.

## Laboratory Investigation (continued)

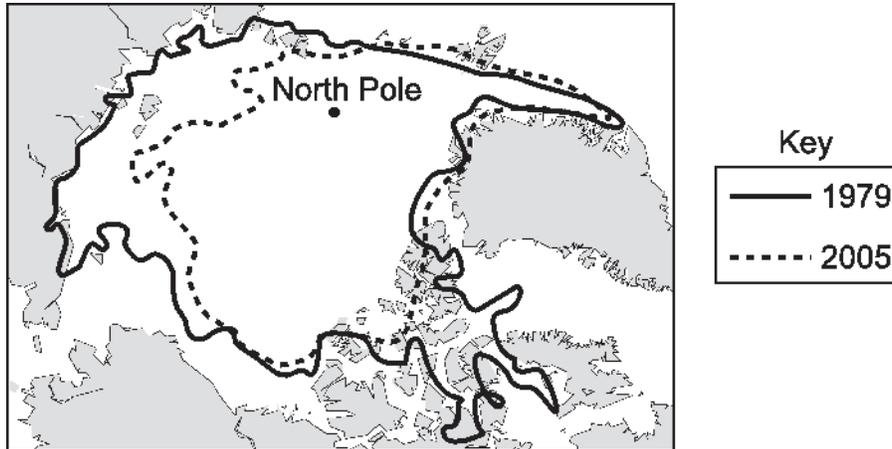
The graph below shows changes in a yeast population over the course of several days.



38. The yeast were placed on a nutrient dish and allowed to grow. On which day was additional nutrient **most likely** added to the yeast culture?

- A. 3
- B. 4
- C. 6
- D. 7

39. To demonstrate static electricity, a teacher takes an inflated rubber balloon and rubs it on his head. The rubber balloon picks up electrons from his hair, which causes his hair to have a(n) \_\_\_\_\_.
- A. electrical current
  - B. net positive charge
  - C. net negative charge
  - D. buildup of magnetic energy
40. The picture below shows the extent of summer Arctic Sea ice in 1979 and 2005.



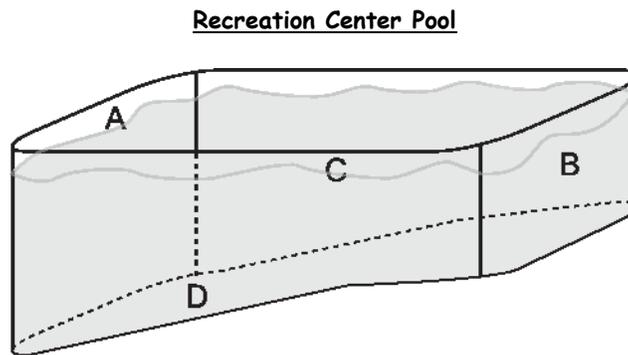
Which hypothesis is **best** supported by the changes in sea-ice coverage?

- A. Earth's climate is gradually warming.
- B. Arctic Sea ice is migrating away from Earth's poles.
- C. Global warming is caused by human activity, not nature.
- D. Global warming occurs only at Earth's poles during the summer.

## Recreation Center Pool

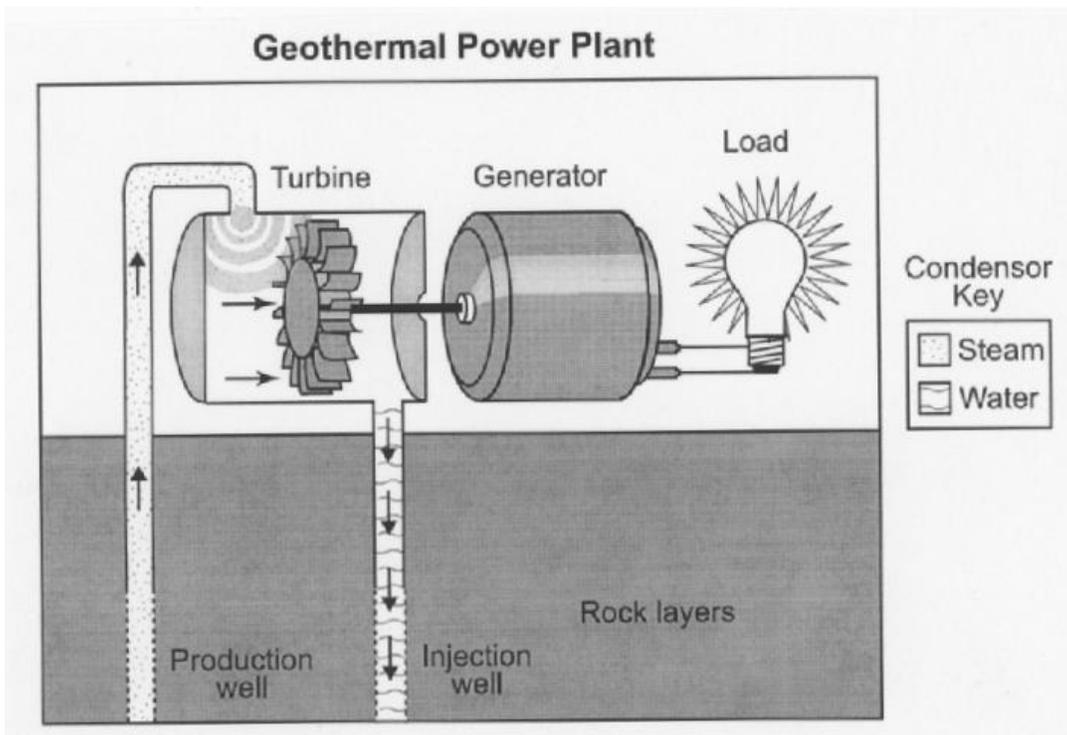
A local recreation center has received funding to build a swimming pool. After construction, the center will be responsible for all costs associated with pool operation. As a result, the center must consider a variety of design options, including pool size, location and heating.

41. What happens to water molecules in a pool as they absorb energy?
- A. The molecules occupy less volume.
  - B. The molecules begin to move more slowly.
  - C. The kinetic energy of the atoms decreases.
  - D. The rate of collision between molecules increases.
42. Prior to pool construction, engineers use computer models to compare which of several pool designs require the least amount of energy to be heated. What is the dependent variable in the computer models?
- A. Pool size
  - B. Pool shape
  - C. Pool location
  - D. Pool temperature



43. Where should hot water enter the pool to better heat the water?
- A. A
  - B. B
  - C. C
  - D. D

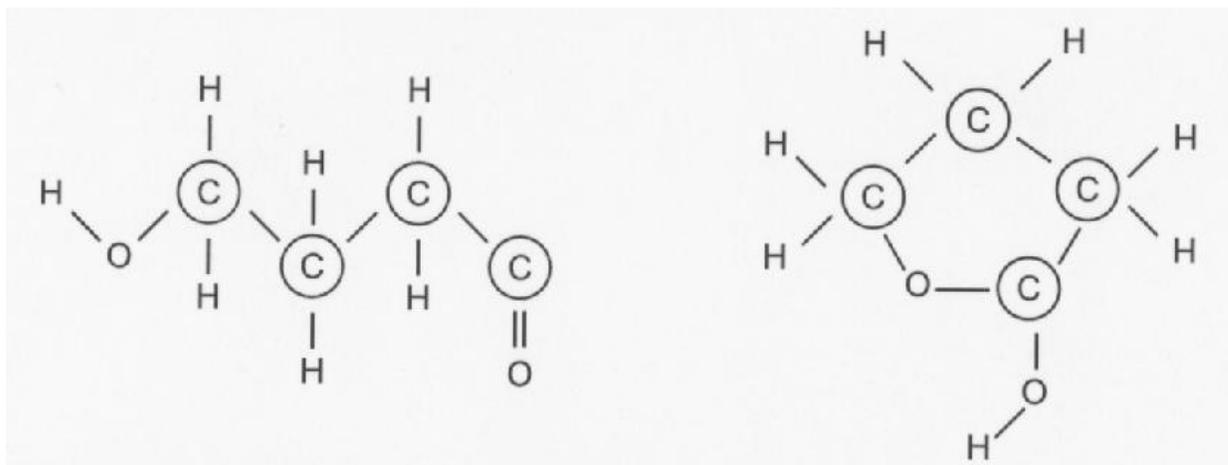
44. A student coils a bare copper wire around a metal rod and attaches the ends of the wire to an ammeter. He quickly moves a magnet past the coil and notes the resulting current. How could the student alter this apparatus to create a larger current?
- A. Use thinner wire
  - B. Use insulated wire
  - C. Increase the length of the rod that is used
  - D. Increase the number of times the wire is coiled around the rod
45. The picture below shows a turbine generator used to produce electricity at a geothermal power plant.



Electricity is produced by using steam to \_\_\_\_\_.

- A. heat the turbine generators
- B. spin the turbine generators
- C. reduce friction in the turbine generators
- D. reduce emissions from the turbine generators

46. The pictures below show the structures of two polymers.



What can be concluded from comparing these two pictures?

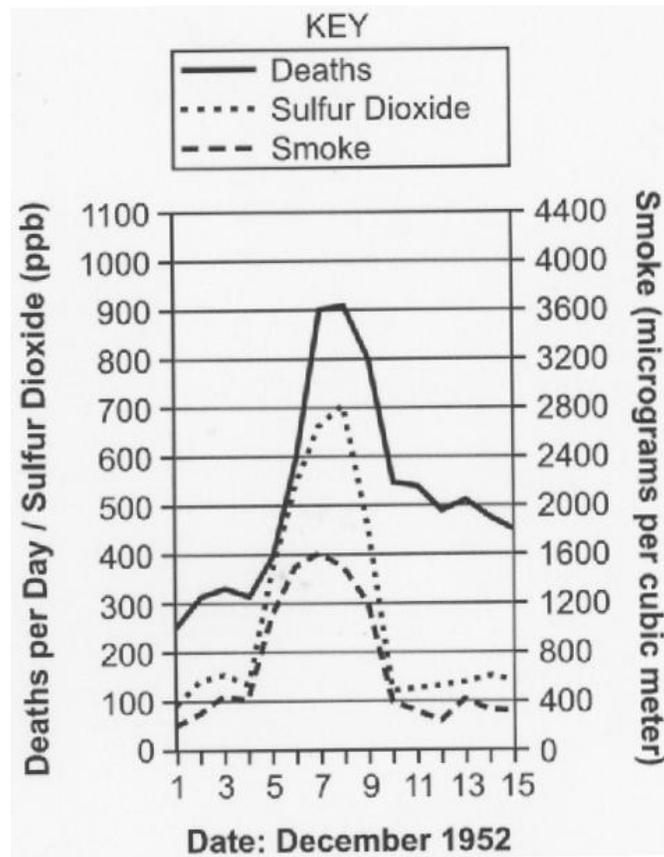
- A. Polymers are easily broken down into their component parts.
  - B. The same number of carbon atoms may be arranged in various ways.
  - C. Linear polymer structures are stronger than ringed polymer structures.
  - D. It takes fewer monomers to form a linear polymer than a ringed polymer.
47. Researchers have developed a biopolymer made from orange peels and carbon dioxide ( $CO_2$ ). According to the researchers, using  $CO_2$  to make polymers could reduce the amount of greenhouse gas emitted into the atmosphere. What question would an environmentalist **most likely** want answered before accepting this statement as credible?
- A. How long will it take the biopolymer to decompose?
  - B. Is the biopolymer as strong as hydrocarbon polymers?
  - C. Can other types of citrus be used to produce biopolymers?
  - D. What happens to the  $CO_2$  when the biopolymer decomposes?

## The London Smog Disaster of 1952

On December 5, 1952, London, England, experienced temperatures that were much colder than normal. As a result, large amounts of coal were burned in furnaces to keep residences warm. This occurred at the same time as the formation of a heavy fog. Water from the fog condensed around airborne soot particles, and a thick smog quickly developed. Nearly 12,000 human deaths resulted.

48. In addition to soot, what product of the burning coal contributed **most** to the extreme pollution of London's air?
- A. Uranium (U)
  - B. Methane (CH<sub>4</sub>)
  - C. Sulfur Dioxide (SO<sub>2</sub>)
  - D. Chlorofluorocarbons (CFC's)
49. Which government action was **most likely** the result of the London smog disaster of 1952?
- A. Establishment of youth curfews after dark.
  - B. Creation of a privately funded healthcare system.
  - C. Conversion from underground mining for coal to strip mining for coal.
  - D. Provision of grants for homeowners to convert to gas or oil-fueled heaters.

50. The graph below shows the correlation between pollutants and human deaths during the London smog disaster of 1952.



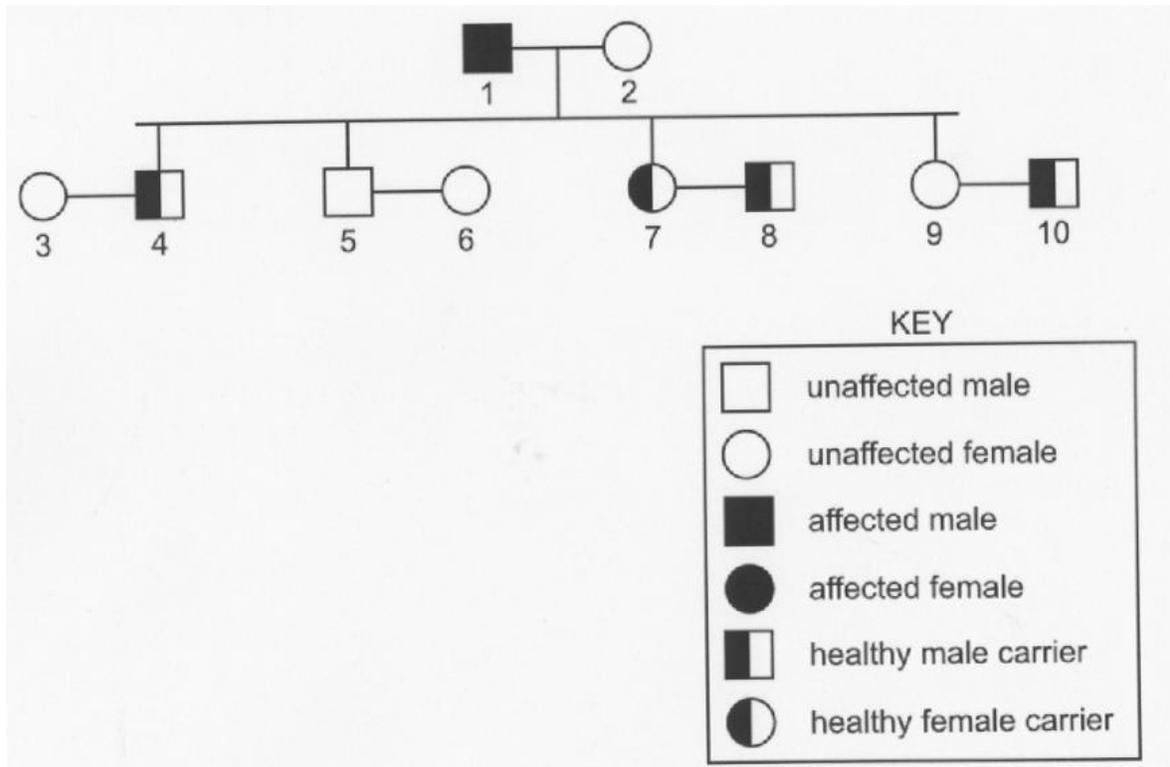
Which conclusion is **best** supported by the data?

- A. Acid rain fell from December 4 to December 10.
- B. Smoke caused more deaths than sulfur dioxide ( $\text{SO}_2$ ).
- C. Sulfur dioxide ( $\text{SO}_2$ ) remains in the air longer than smoke.
- D. Air pollution peaked between December 7 and December 8.

51. Students placed a sample of red blood cells (RBC's) and a sample of skin cells in 2 test tubes that contained the same glucose solution. After 24 hours, the students observed the cells under the microscope and found that the cells in both samples increased in size. What conclusion might be drawn from this observation?
- A. The cytoplasm of the red blood cells is more concentrated than that of the skin cells.
  - B. Skin cells absorb water faster than the red blood cells.
  - C. Both cells absorb water when placed in the glucose solution.
  - D. Both cells absorb water when placed in any solution.
52. Depending on its electric charge, shape, and chemical properties, a substance may or may not be allowed to pass through a cell membrane. This function of the cell membrane is important because it \_\_\_\_\_.
- A. prevents cell division
  - B. prevents destruction of the cell wall
  - C. allows the cell to maintain homeostasis
  - D. allows amino acids to move into and out of the cell

## Cystic Fibrosis

Cystic fibrosis (CF) is a condition characterized by difficulty in breathing and digestion. CF is caused by a defect in a specific gene. The pedigree diagram below shows the inheritance pattern of cystic fibrosis in two generations of a family.



53. Which couple has a 25% probability of producing offspring who are homozygous for cystic fibrosis?
- 3 and 4
  - 5 and 6
  - 7 and 8
  - 9 and 10
54. An individual with CF is not able to transmit the disease by physical contact because \_\_\_\_\_.
- the gene for the disorder is only carried in the bloodstream
  - CF is a genetic disorder and can only be passed from parent to offspring
  - the bacteria that transmit the defective gene must be inherited from a parent
  - CF is so rare that the probability of coming into contact with an affected individual is low

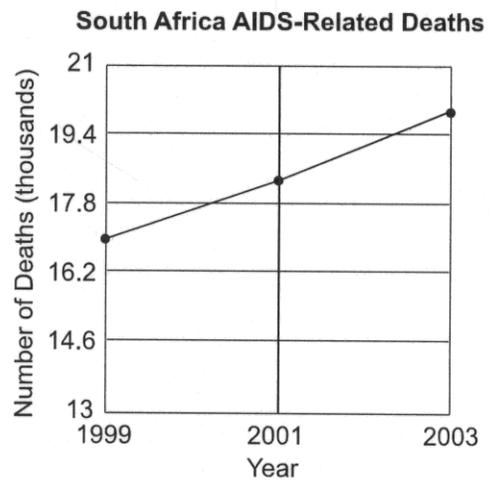
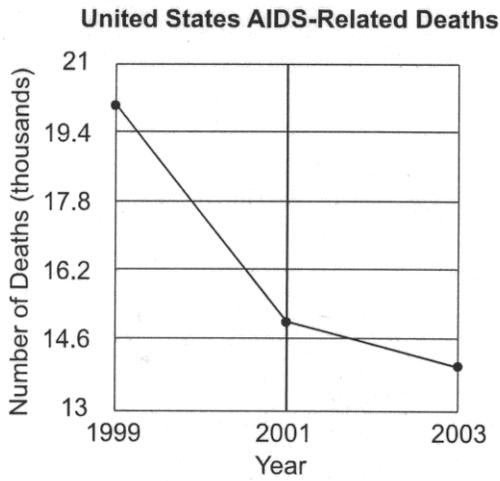
## Typhoid Mary

Mary Mallon was the first known "healthy carrier" of typhoid fever in the early 1900's. Health officials in New York investigated the households in which she worked as a maid and determined that she had transmitted the disease to dozens of people.

Typhoid fever is caused by the bacterium *Salmonella typhi*. It is generally transmitted by eating food and drinking water that has come into contact with contaminated fecal matter. Symptoms of typhoid fever include headache, fever, diarrhea, and loss of appetite.

55. Typhoid fever is BEST treated with \_\_\_\_\_.
- A. surgery
  - B. vaccines
  - C. antibiotics
  - D. gene therapy
56. In 1910, Mary Mallon was banned from ever working in kitchens again. Five years later, health officials suspected that Mary had violated the ban. What most likely alerted health officials to the fact that Mary might be working in kitchens again?
- A. A new typhoid outbreak in New York
  - B. The fact that she changed her name to Mary Brown
  - C. Identification of other healthy carriers in New York
  - D. Discovery of the typhoid bacterium on local vegetables
57. A scientist conducted a study of an organism and found that its body cells contained 40 chromosomes. These cells were cultured in the laboratory, and cell division was observed. What difference, if any, would the scientist expect to observe between body cell division and sex cell division in the organism?
- A. Body cells divide by meiosis, and sex cells divided by mitosis
  - B. Body cells divide by mitosis, and sex cells divided by meiosis
  - C. There is NO difference; body cells and sex cells both divided by mitosis
  - D. There is NO difference; body cells and sex cells both divided by meiosis

58. The graphs below show the annual number of AIDS deaths in the United States and in South Africa from 1999-2003.

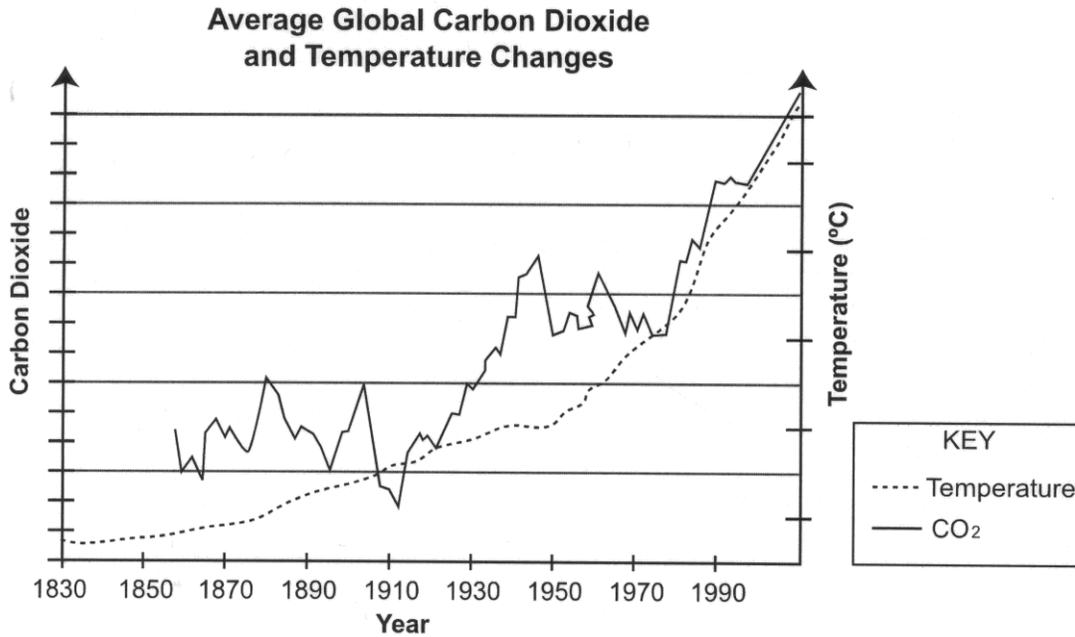


What conclusion is BEST supported by the data in the graphs?

- A. AIDS has been cured in the United States but NOT in South Africa
- B. AIDS has caused a greater population decline in South Africa than it has in the United States
- C. The number of AIDS deaths in each country is solely responsible for the population growth rate in each country
- D. The population in South Africa has increased regardless of AIDS, whereas the United States population has decreased as a result of AIDS

## Climate Change

The burning of fossil fuels to heat homes, power factories, and run automobiles is largely responsible for increasing carbon dioxide ( $CO_2$ ) emissions. Many scientists hypothesize that the increase in these greenhouse gases contributes directly to climate change (i.e., global warming). The graph below shows average global changes in carbon dioxide ( $CO_2$ ) and temperature over an extended period of time.



59. The natural greenhouse is a phenomenon that is beneficial as it results in \_\_\_\_\_.

- A. the maintenance of Earth's temperature
- B. a thinning of Earth's atmospheric ozone ( $O_3$ ) layer
- C. an increase in the amount of carbon dioxide ( $CO_2$ ) in Earth's atmosphere
- D. the bending of the rays of sunlight that penetrate Earth's atmosphere

60. A business claims to be doing "everything possible" to reduce greenhouse gas emissions. Which company practice would cause a consumer to question this claim?
- A. The company purchases recycled paper products
  - B. The building lights are triggered by motion
  - C. The building is powered by geothermal energy
  - D. The company vehicles all use diesel fuel
61. Assume the use of fossil fuels continues to increase over the next decade. What prediction are scientists **MOST LIKELY** to make for carbon dioxide ( $CO_2$ ) and temperature change?
- A. Carbon dioxide ( $CO_2$ ) will increase, causing an increase in temperature
  - B. Temperature will increase, causing a decrease in carbon dioxide ( $CO_2$ )
  - C. Carbon dioxide ( $CO_2$ ) will increase, and temperature will remain the same
  - D. Temperature will increase, and carbon dioxide ( $CO_2$ ) will remain the same