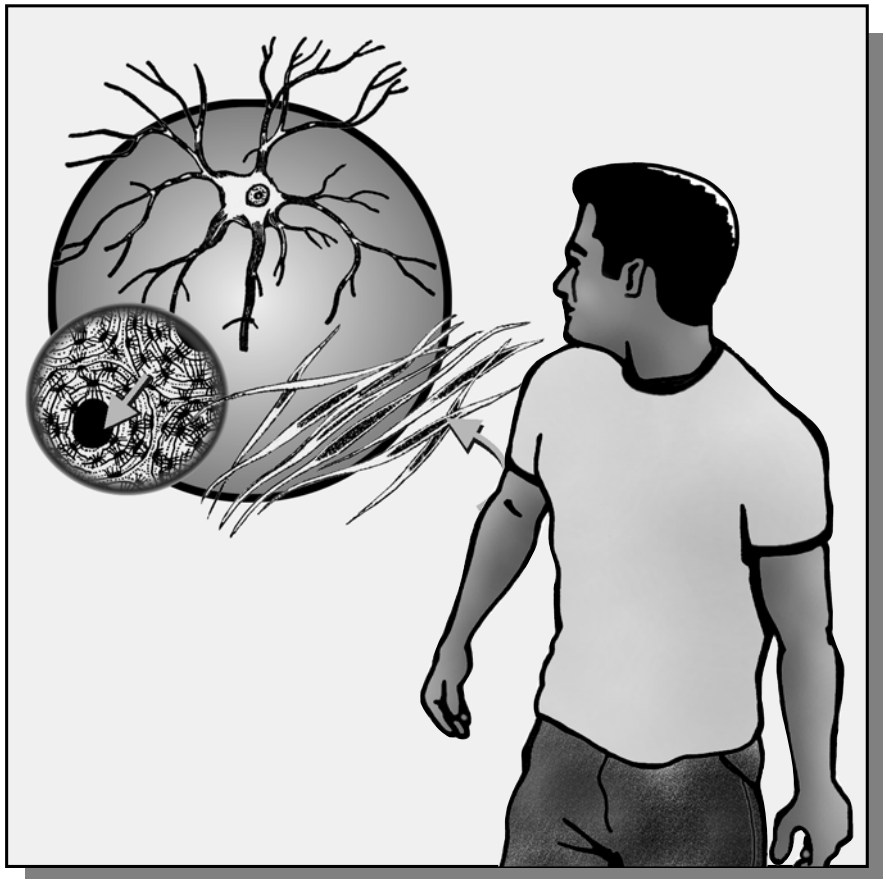
Basic Science Mysteries

Activities



Chapter 1

BSM 62937 Revision: 020905-1

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ACTIVITIES
Lesson 1:
Biology

Life Processes

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The scientific word meaning living things is: _____.
   (a) nerves
   (b) cells
   (c) organism
   (d) alive

2. The basic building blocks of all living things are: _____.
   (a) cells (b) muscles (c) organisms

3. Some ***organisms***, such as _____, have just one ***cell***.

4. Large organisms are made up of _____ of cells.

5. All organisms carry out certain activities that enable them to _____.

6. Activities that enable organisms to survive are called: _____.
   (a) cell structure
   (b) life processes
   (c) metabolism
   (d) survival skills

7. Which example best describes the ***life process*** that all living things respond to their surroundings? _____
   (a) Most human babies weigh between six and nine pounds at birth.
   (b) Bacteria are one-celled organisms.
   (c) When you touch something hot, you jerk away your hand.
   (d) Dogs give birth to puppies.

8. Which example best describes the life process that all living things grow? _____
   _____
   (a) Cats give birth to kittens.
   (b) An oak tree results from a tiny seed.
   (c) Roses come in a variety of colors.
   (d) Some organisms become extinct

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9. Which example best describes the life process that all living things obtain and use food for energy?

   _____

   (a) All organisms reproduce.
   (b) Bacteria are one-celled organisms.
   (c) Organisms receive energy from the food they produce or gather.
   (d) The sagebrush produces its on food.

10. The combination of chemical changes taking place in a living thing is called its: _____.
   (a) life processes
   (b) metabolism
   (c) response to surroundings
   (d) respiration

11. The process of absorbing oxygen, distributing it to cells, combining with food and releasing energy is called: _____.
   (a) metabolism
   (b) life processes
   (c) respiration
   (d) responding to surroundings

12. Not regularly releasing wastes from your system is hazardous to your health. _____
   (a) True or (b) False

13. All organisms reproduce more of _____.

14. All living organisms have _____ in common.
   (a) size, shape and color
   (b) location of habitats
   (c) life processes
   (d) responses to threats and environment

List the life processes in alphabetical order.

15. _____

16. _____

17. _____

18. _____

19. _____

20. _____

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21. **Effect:** In the opening episode of this lesson's story, you had to detour around an _____ be**cause** it had been smashed by an _____.

22. Write the **Life Principle:** *"*_____ _____*."*

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Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 2:
Human Anatomy



Responding to Surroundings

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Some responses to our surroundings are instinctive or _____.
2. Instinctive responses usually take a long time for the brain to process. _____
   (a) True or (b) False
3. Your ***central nervous system*** is made up of: _____.
   (a) muscles
   (b) brain and spinal cord
   (c) brain and muscles
4. The central nervous system is your body's _____ network.
5. The brain has _____ parts, each with specific functions.
6. The largest and most complex part of your brain is the: _____.
   (a) cerebrum
   (b) cerebellum
   (c) brain stem
7. The ***cerebrum*** controls your _____ and _____ _____ processes.
8. The ***cerebellum*** functions as a center for the coordination of skeletal _____ _____.
9. The _____ connects the spinal cord to the brain and controls automatic activities such as _____, _____, _____, _____, _____ and _____.
10. The vertebrae protect the brain. _____. (a) True or (b) False
11. The spinal cord is a collection of ***neurons***, which are: _____.
    (a) bacteria
    (b) vertebrate
    (c) nerve cells
    (d) neutrons

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12. An example of a ***reflex*** is: _____.
    (a) deciding on what job to take
    (b) holding your friend's books while they open their locker
    (c) blinking your eyes when a bright light hits them

13. Three things that help the central nervous system perform properly are:
    _____, _____ and _____.

14. Wearing a _____ or _____ at appropriate times can help prevent head and spinal cord injuries.

15. Illegal drug use, including alcohol and tobacco, can destroy brain cells. _____
    (a) True or (b) False

16. Dr. Ben Carson is a famous _____ who did not allow his background to hold him back.

17. The title of Dr. Carson's book forms an acrostic. Fill in the missing letter:
    T _____
    H _____
    I _____
    N _____
    K _____

    B _____
    I _____
    G _____

18. In the opening episode of this lesson's story, the passenger in the red car fired several gunshots at: _____.
    (a) you, LaKendrick and Rondarius
    (b) the convenience store operator
    (c) the man at the pay phone
    (d) a truck parked in front of the store

19. Write the **Life Principle:** "_____
    _____."

Congratulations! You have completed another lesson.
Continue working diligently.

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Growing

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The ***endocrine system*** is a system of glands that produces: _____.
   (a) blood (b) hormones (c) energy

2. Your body produces the same kinds of chemicals used to manufacture plastics and videos. _____ (a) True or (b) False

3. ***Hormones*** are: _____.
   (a) chemical messengers
   (b) bone marrow
   (c) blood types

4. The pituitary ***gland*** is called the "_____" because it produces several distinct hormones, one of which is the _____ hormone.

5. Teens develop and grow at basically the same physical rate. _____
   (a) True or (b) False

6. Which set of factors has the greatest physical effect on your future?

   _____

   (a) body size, or shape
   (b) nationality, skin color
   (c) heredity, choices (lifestyle, nutrition)
   (d) education, social standing

7. Which systems work closely together to control and regulate bodily functions?

   _____

   (a) central nervous system and circulatory system
   (b) central nervous system and respiratory system
   (c) central nervous system and endocrine system
   (d) central nervous system and digestive system

8. Endocrine glands are clustered in the upper chest area of the body. _____
   (a) True or (b) False

Refer to the Endocrine System chart in your text for questions #9-12.

9. The function of the pancreas is to _____ and _____.

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10. Which gland governs the body's response to stress and regulates the salt and water balance in the blood?

_____

11. Which gland controls how cells release energy and the calcium content of blood?

_____

12. The parathyroid gland helps control blood levels of _____.

13. The hormone *adrenaline* is secreted by which gland? _____

(a) pituitary
(b) thyroid
(c) adrenal
(d) adenoids

14. In the closing episode of this lesson's story, the man from Lone Star Chemical Company was looking for: _____

_____.

(a) the person who shot at the man at the pay phone
(b) the man at the pay phone (at whom the bullets were fired)
(c) a plastic bag with a bottle of chemicals
(c) you, LaKendric and Rondarius

15. Write the **Life Principle:** *"*_____*."*

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ACTIVITIES
Lesson 4:
Human Anatomy

Movement

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. To *contract* a muscle would mean to: _____.
   (a) strain it
   (b) sprain it
   (c) lengthen it
   (d) shorten it

2. To *extend* a muscle would mean to: _____.
   (a) strain it
   (b) sprain it
   (c) stretch it
   (d) shorten it

3. Long, fibrous bundles of tissue are called: _____.
   (a) muscles
   (b) bones
   (c) organs
   (d) limbs

4. The muscular system consists of over _____ major muscles and serves to support and move the _____ system.

5. Your skeleton is the _____ of your body and is made up of over 200 bones in all shapes and sizes.

6. Your skeleton protects _____, such as the brain, heart and lungs, without which you could not live.

Matching:

7. _____ ***cartilage***	(a) strong bands of tissue that connect bone to bone at a joint
8. _____ ***joints***	(b) gristle-like connective tissue found in ears, noses, joints
9. _____ ***ligaments***	(c) places in skeleton where bones meet, allow movement
10. _____ ***tendons***	(d) tough bands of fiber, connect muscle to bone

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11. The more you use your muscles, the _____ they become.
    (a) more efficient and strong
    (b) weaker and more painful
    (c) more inflamed

12. The best sources of calcium are _____ and _____.

13. Strained muscles, resulting from _____ at any one time can be prevented by regular _____.

14. In the opening episode of this story's lesson, Rondarius instinctively ran toward a place of safety—your _____.

15. In this lesson's closing story episode, the reader can **infer** that (**effect:**) the police were cruising the neighborhood be**cause** someone had reported _____ _____.
    (a) a stolen red vehicle
    (b) a suspicious man in fatigues
    (c) you three boys loitering near the convenience store
    (d) a series of gunshots

16. Write the **Life Principle:** *"*_____*."*

Continue working through Section 1. You will finish soon!

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ACTIVITIES
Lesson 5:
Health

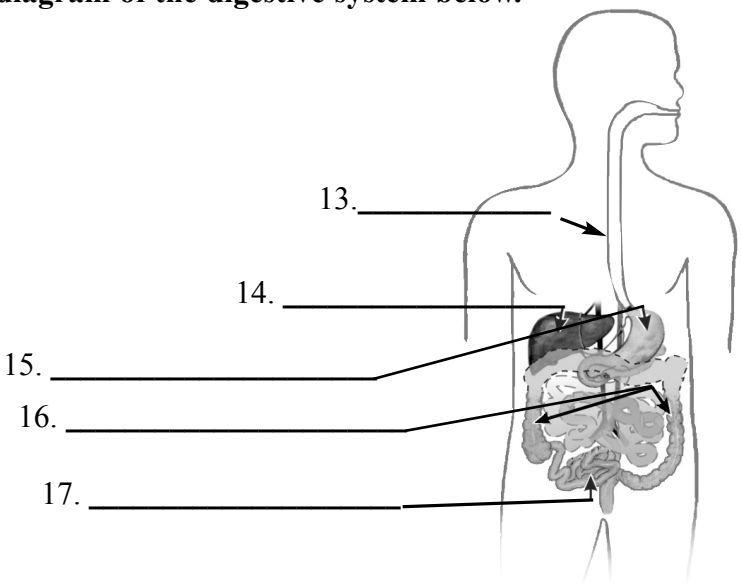
Hunger

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Most organisms receive _____ from food.
2. Your body needs _____ for its fuel or _____ source.
3. The system designed for processing the foods you eat into useable fuel is the _____ system.
4. The first step of the digestive process begins with _____.
5. The primary function of the teeth is to: _____.
   (a) moisten the food with saliva (c) break the food into smaller pieces
   (b) add bile (d) add enzymes
6. As you swallow, the food enters the ***esophagus*** on its way to the: _____.
   (a) liver (b) small intestine (c) large intestine (d) stomach
7. Most digestion takes place in the _____.
8. The liver produces _____ to help with digestion.
   (a) saliva (b) bile (c) blood (d) carbohydrates
9. The usable part of food in the small intestine is absorbed into the: _____.
   (a) liver (c) bloodstream
   (b) large intestine (d) stomach
10. _____ is liquid waste eliminated from the body.
11. Solid body waste is called _____ and is held in the _____ until it leaves the body through the process of a _____.
12. Trace the route of food through your body by numbering the steps in **chronological order** (1-8).
    _____ Food enters the small intestine.
    _____ Food enters the stomach.
    _____ Unusable (waste) products are eliminated as feces.
    _____ Food is mixed with ***saliva***.
    _____ Food is mixed with liver ***bile*** and pancreas secretions.
    _____ Food passes through the esophagus.
    _____ Water is absorbed from large intestine, carried in bloodstream to kidneys and bladder.
    _____ Undigested food enters the large intestine.

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Label the diagram of the digestive system below.



18. A healthy diet includes more _____, _____ and _____ and less _____, _____ and _____.

19. Your body is _____ water and needs _____ glasses a day to keep running smoothly.

20. Water is to the body, what oil is to machinery. _____ (a) True or (b) False

21. With what product did Dr. Louis Pasteur develop the process of pasteurization? _____
(a) water (b) corn bread (c) milk (d) fruit juice

22. Dr. Louis Pasteur was born in _____ and died in _____.

23. Although he was a chemist, Louis Pasteur is considered the greatest _____ of all time, because his work to combat germs saved many _____.

24. Dr. Pasteur was an enthusiastic supporter of the new Theory of Evolution.
_____ (a) True or (b) False

25. In the story, you were comforted to know that your _____ and _____ had your best interests at heart.

26. Write the **Life Principle:** *"* _____ _____ *"*

Note: Ask your teacher for the quiz over topics 1-5 before proceeding to the next section. Reminder: If you score 85% or higher on the three section quizzes, you may be exempt from the chapter test!

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ACTIVITIES
Lesson 6:
Human Anatomy

The Blood

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The first person to perform a type of open heart surgery was _____ in 1893.

2. Your heart and blood vessels are the main parts of your _____.

3. Your ***circulatory system*** is like which of these systems? _____
   (a) postal system
   (b) transportation system
   (c) communication system
   (d) planetary system

4. _____ is necessary to maintain life.

5. The circulatory system has the job of carrying _____ and _____ to cells throughout the body by means of the blood.

6. Which is an example of a waste product removed from the cells? _____
   (a) carbon dioxide
   (b) plasma
   (c) red blood cells
   (d) carbon monoxide

7. Blood ***plasma*** is about 55% _____ and 45% _____, which includes _____, _____ and _____.

8. Blood is produced in the _____ of most bones.

9. New blood cells pour into your bloodstream at the rate of _____.

10. Blood must be _____ in order to be transported throughout the body.

11. Your heart is about the size of your: _____.
    (a) head
    (b) foot
    (c) fist
    (d) abdomen

12. With proper care, your heart should beat about _____ times a day for _____ years.

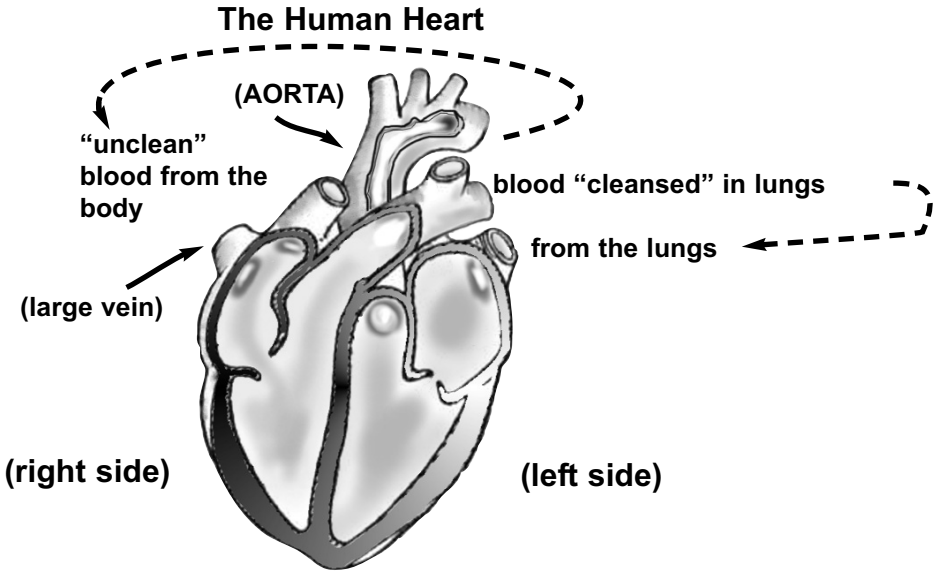
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13. The main ***artery*** of the heart is the: _____.
(a) platelet (b) aorta (c) hemoglobin (d) arteriole

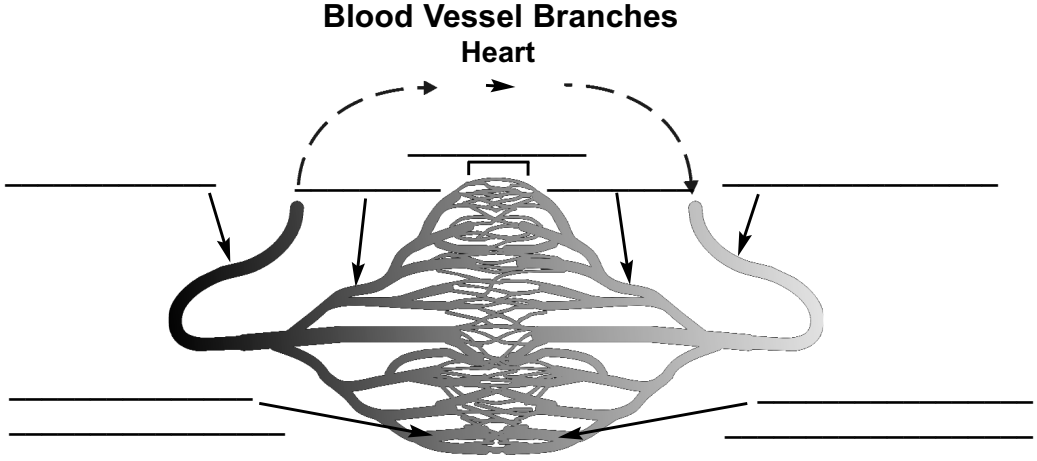
14. What carries blood from the heart to the body? _____
(a) arteries (b) capillaries (c) veins (d) arterioles

15. What carries blood back from the body to the heart? _____
(a) arteries (b) capillaries (c) veins (d) arterioles

16. In the diagram below, draw small arrows to show the complete route of "unclean" blood as it proceeds through the heart and becomes "cleansed" blood on its way back to the body. Follow the text in paragraphs #8 and 9 that describes blood flow through the body. Two (dotted lines with arrows) have been done for you.



17. Use paragraphs #8 and 9 and the illustration in your text to label each part of the accompanying diagram of the blood vessels in the circulatory system.



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18. The _____ perform a key role in removing carbon dioxide from the blood, absorbing _____ and returning "cleansed" blood to the heart.

Use the Blood chart in your text to answer #19-21.

19. What part of the blood delivers oxygen to the body tissues? _____
    (a) red blood cells
    (b) white blood cells
    (c) platelets
    (d) plasma

20. What part of the blood fights disease and infection? _____

21. What part of the blood clots to prevent blood loss? _____
    (a) red blood cells
    (b) white blood cells
    (c) platelets
    (d) plasma

22. Dr. Charles Drew set up and ran an early _____ blood bank in New York.

23. Bad fats to avoid include _____, _____ and _____.

24. Too much _____ can also be harmful to your heart and blood vessels.

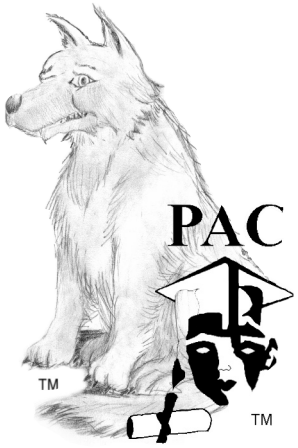
25. A regular exercise program will _____ your heart.

26. Aerobic exercise includes _____, _____, _____, _____, _____.

27. In this lesson's beginning story episode, who was stabbed? _____ _____.
    (a) the convenience store owner
    (b) the man in fatigues
    (c) an unidentified man
    (d) the driver of the red car in the drive-by shooting

28. Write the **Life Principle:** *"*_____ _____*."*

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Take a Breath

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Life cannot exist without _____.

2. The process of breathing in oxygen from the air is accomplished through the _____ system.

3. An exchange of _____ takes place every time you breathe.

4. The air you breathe is composed mostly of oxygen. _____ (a) True or (b) False

5. The air is inhaled mainly through the: _____.
   (a) nostrils (b) cilia (c) trachea (d) pharynx

6. The *larynx* is the scientific name for the: _____.
   (a) hair-like projections in the trachea
   (b) windpipe
   (c) voice box
   (d) pharynx

7. _____ are tiny hair-like structures in the ***trachea*** that are in constant motion, trying to block any harmful particles from reaching the _____.

8. What are the main organs of your ***respiratory system***? _____
   (a) heart and blood vessels
   (b) voice box and nostrils
   (c) lungs
   (d) stomach and glands

9. In the lungs, the _____ of oxygen and carbon dioxide takes place.

10. The interaction between the respiratory and circulatory systems in the exchange of oxygen and carbon dioxide illustrates which concept? _____
    _____
    (a) Each system is intricately designed to work in harmony with other body systems.
    (b) Each system came into being on its own and works independently of other body systems.
    (c) The respiratory system is the most complex of all body systems because of overlapping activities of the circulatory system.
    (d) none of these

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11. Pollutants such as _____ or _____ can damage your respiratory system.

12. _____ is a lung disease resulting from damage to the air passageways.
    (a) Alveoli
    (b) Emphysema
    (c) Hyperventilation
    (d) Cilia

13. Regular exercise strengthens your lungs. _____ (a) True or (b) False

14. Which body system directs your breathing rate? _____
    (a) Respiratory system
    (b) Circulatory system
    (c) Nervous system
    (d) Digestive system

15. Dizziness or chest pain from ***hyperventilation*** can be caused by _____ or _____.

16. In the story, your grandmother's advice about how to stop hyperventilating was simply to _____.

17. Write the **Life Principle:** *"*_____ _____*."*

Congratulations! You have completed another lesson. Continue working diligently.

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ACTIVITIES
Lesson 8:
Physics

Problems

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. All decisions have consequences that affect our lives. _____ (a) True or (b) False

2. When you arrive at a decision, what you have done is actually solved a _____.

3. An organized way of solving problems is called the _____.

Match #4-6:

4. _____ Identify the problem — (a) educated guess

5. _____ Make observations — (b) the question you want answered

6. _____ State a ***hypothesis*** — (c) what you notice

7. Experiments are used to test conclusions. _____ (a) True or (b) False

8. ***Data*** is another word for _____.

9. What is the purpose of an experiment? _____
   (a) test hypotheses, collect more data about the problem
   (b) identify the problem, state a hypothesis
   (c) make a guess, study the data
   (d) write down your observations, consider variables

10. The **main idea** of this lesson is that: _____.
    (a) no one can solve all problems
    (b) you have to guess at the solution
    (c) the scientific method provides an organized way to solve problems
    (d) you have to overcome variables for an experiment to work

Review question. Write in chronological order the steps of the scientific method.

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

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18. Our conclusions about things are often influenced by our _____.

19. The top authority on peanuts and sweet potatoes was _____, who developed a total of over _____ products from these two foods.

20. Tuskegee Institute was a fully established college when Dr. Carver accepted a position there. _____ (a) True or (b) False

21. Tuskegee Institute was operated by _____.

22. Which saying would be typical of the thinking of Dr. Carver and Booker T. Washington?

_____

(a) "If at first you do not succeed, forget it!"
(b) "The government owes me a living!"
(c) "I cannot rise above my past!"
(d) "I can conquer my circumstances!"

Match the following steps of the scientific method with "your" scenario in the closing episode of this lesson.

23. ____ observations
24. ____ hypothesis
25. ____ data
26. ____ **conclusion**

(a) Gunshots were fired and a man had been stabbed.

(b) A stranger threw a bag containing chemicals because he did not want to be caught with it.

(c) "You" should call the police and tell them the truth.

(d) The chemical in the bag held the answer to many questions.

27. Write the **Life Principle:** *"*_____
_____*."*

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Using Your Senses

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. List the five senses in alphabetical order: _____, _____, _____, _____, _____.

2. What do your senses enable you to do? _____
   (a) interpret events and remember them
   (b) make vibrations and associations
   (c) carry a pattern of sound through a medium
   (d) improve your memory bank

3. Light enters your eye through an opening called the _____.

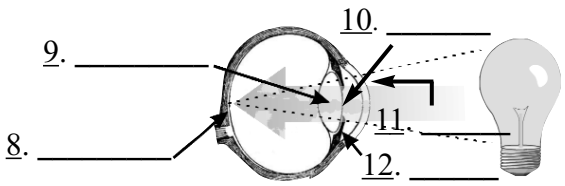
4. The ***iris*** is a ring of tiny muscles that admits light into the eyeball. _____
   (a) True or (b) False

5. The _____, a transparent disk, focuses and spreads incoming _____.

6. What is the function of the ***cornea***? _____

7. What allows you to detect colors and shapes? _____
   (a) pupil
   (b) iris
   (c) retina
   (d) cornea

Label the diagram of the eye below by using the illustration and description in your text.



13. The invention of the _____ was patterned after the workings of the eye.

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14. Be**cause** eyes can communicate thoughts, feelings, character and many other things, (**effect:**) eyes are called "_____".

15. All sounds are produced by _____ objects and are known as _____.

16. The reader can **infer** that Dr. Ivan Pavlov's experiments with salivating dogs can serve to remind us that we, too, usually behave as we have been conditioned or accustomed to do. _____ (a) True or (b) False

17. From the same experiment, we can logically **conclude** that: _____ _____.
    (a) new habits can be established by repetition of behavior
    (b) dogs establish new habits easier than do people
    (c) Pavlov's experiments are a study in scientific cruelty to animals
    (d) bad habits are harder to break than are good habits

18. What is watertight and your body's first line of defense against germs? _____ _____.

19. Name 3 occasions when thorough hand-washing is a must: _____, _____, _____

20. Your sense of taste is closely related to your sense of _____.

21. What you smell is interpreted by your: _____.
    (a) nose
    (b) receptors
    (c) taste buds
    (d) brain

22. In this lesson's opening story episode, you learned that the _____ you observed and experienced were very important in providing _____ to solve problems—in this case, a crime.

23. Write the **Life Principle:** *"*_____ _____.*"*

Keep working enthusiastically!
Continue to Lesson 10 to increase your knowledge.

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What a Waste

ACTIVITIES
Lesson 10:
Human Anatomy

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The human body is mostly: _____.
   (a) bone (b) tissue (c) water (d) oxygen

2. A person can live longer without water than without oxygen. _____
   (a) True or (b) False

3. In what form is water found in the blood? _____
   (a) red blood cells (c) plasma
   (b) oxygen (d) white blood cells

4. Failure to eliminate waste products in any organism results in death. _____
   (a) True or (b) False

5. Which is **NOT** a waste product? _____
   (a) red blood cells (c) perspiration
   (b) carbon dioxide (d) some nitrogen products

6. _____ helps maintain proper internal body temperature.
   (a) Carbon dioxide (c) Nitrogenous products
   (b) Perspiration (d) Dehydration

7. _____ occurs when you are too hot or are in a stressful situation.

8. About how much water should you drink each day? _____

9. The majority of the water lost is eliminated through (the): _____.
   (a) lungs (c) kidneys
   (b) perspiration (d) liver

10. Which does **NOT** describe your ***kidneys***? _____
    (a) bean-shaped (b) fist-size (c) two d) least important organ

11. What is the main part of the ***urinary system***? _____

12. What is the main function of the urinary system? _____
    _____

13. The _____ are the tubes that carry urine from the kidneys to the bladder.

14. In what is urine stored until it can be eliminated from the body? _____

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15. What is the function of the ***urethra***? _____

16. The tiny blood-cleaners in the kidneys are called _____.

17. The body contains about _____ quarts of blood, which circulate through the kidneys _____ times a day.

18. Your kidneys process about 2,100 quarts of blood per day. Considering that 4 quarts equal 1 gallon, about how many gallons of blood do your kidneys cleanse each day?
_____ (a) 100-300 (b) 200-450 (c) 350-500 (d) 500-550

19. Many inexpensive alternatives exist for people who experience kidney failure.
_____ (a) True or (b) False

20. The process by which wastes are mechanically filtered from the blood is called:
_____.
(a) kidney dehydration (c) kidney transplant
(b) kidney dialysis (d) kidney failure

21. The work of Dr. _____ has resulted in extending the lives of _____ patients.

22. Eating junk food, using alcohol or other chemical substances and failing to drink 6-8 glasses of water daily abuses your kidneys. _____ (a) True or (b) False

Matching: Choose the correct answers.

23. _____ carbon dioxide
24. _____ old red blood cells
25. _____ undigested foodstuffs

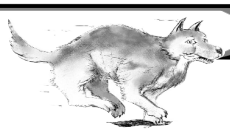
(a) filtered out of blood by the liver
(b) exhaled through the lungs
(c) removed through the large intestine

26. Which two body organs act as filters for your body? _____
(a) urinary bladder and kidneys (c) lungs and liver
(b) kidneys and liver (d) urinary bladder and lungs

27. In this story episode, the reader can **infer** that (**effect:**) you felt better after telling the truth, be**cause** you no longer felt guilty about your actions.
(a) True or (b) False

28. Write the **Life Principle:** *"*_____
_____*."*

Note: Ask your teacher for the quiz over topics 6-10 before proceeding to the next section. Reminder: If you score 85% or higher on the three section quizzes, you may be exempt from the chapter test!



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ACTIVITIES
Lesson 11:
Biology

Interactions

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Your ***environment*** consists of your _____.

2. Your environment can change as you move throughout the day. _____
   (a) True or (b) False

3. A particular place where an organism lives is its: _____.
   (a) work environment
   (b) surroundings
   (c) habitat
   (d) school environment

4. As you move through your environment, you react with _____ as well as _____ things.

5. The relationships between living and nonliving things within an environment form a(n): _____.
   (a) food chain
   (b) food web
   (c) ecosystem
   (d) interaction

6. How well organisms interact with their environments determines their _____ time.

7. Logically, organisms can be ***producers***, ***consumers*** and ***decomposers*** at the same time.
   _____ (a) True or (b) False

8. Plants are mostly: _____.
   (a) producers
   (b) consumers
   (c) decomposers
   (d) habitats

9. Animals are: _____.
   (a) producers
   (b) consumers
   (c) decomposers
   (d) habitats

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10. The means by which energy passes from one organism to another is called a(n): _____.
    (a) food chain
    (b) food web
    (c) ecosystem
    (d) food environment

11. Overlapping food _____ are called food _____.

12. Animals that catch and eat other animals are: _____.
    (a) producers
    (b) decomposers
    (c) predators
    (d) survivors

13. Which factor poses the **LEAST** problem for human survival? _____.
    (a) wild animals
    (b) domestic violence
    (c) violent crime
    (d) terrorism

14. Good _____ is important in preventing misunderstandings and conflicts.

15. _____ skills are important for understanding different perspectives.

16. Drug and alcohol use contributes to conflicts. _____ (a) True or (b) False

17. Most problems can be worked out with wise counseling and good communication.
    _____ (a) True or (b) False

18. In this lesson's opening story episode, you learned that the man in fatigues you had feared was actually an _____.

19. Write the **Life Principle:** *"*_____
    _____*."*

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ACTIVITIES
Lesson 12:
Biology

The Same Kind

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. ***Fertilization*** is the process of a(n): _____.
   (a) egg being released from the ovary
   (b) sperm and egg uniting
   (c) menstruation
   (d) sperm being manufactured in the testes

2. The _____ reproductive system produces semen or seminal fluid, in which _____, which are produced in the testes, travel during sexual activity and fertilization.

3. The female reproductive system releases the ***egg*** cell from the ovary about once every _____ days in a process called _____.

4. The ovaries, egg, fallopian tubes, and uterus are part of the _____ reproductive system.

5. Life begins at: _____.
   (a) conception
   (b) menstruation
   (c) lactation
   (d) birth

6. When an egg is not fertilized, the 3-5 day process of _____ begins.

7. ***Lactation*** in female humans and mammals is designed to provide nourishment for their offspring. _____ (a) True or (b) False

8. ***Reproduction*** is the process for producing _____.

9. An offspring is the product of _____ contributions from both parents.

10. _____ is the intensely complex genetic code of humans, plants and animals.

11. All plants, animals and humans share the same ***DNA***. _____ (a) True or (b) False

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12. What scientific principle is observable in the process of reproduction of living things?
_____
(a) Living things reproduce unlike kinds of offspring at will.
(b) Living things reproduce after their own kind.
(c) Over long time periods, living things can transition to produce species other than their own.
(d) none of these

13. Discovery of DNA reinforces the theory that some life forms can change into other types of life forms. _____ (a) True or (b) False

14. Animals mate through _____.

15. Sexual activity within _____ can bring joy and fulfillment.

16. Sexual activity outside of marriage can have serious and life-threatening _____ _____, such as premature pregnancies or _____.

17. One of the safest, healthiest decisions a person can make before marriage is to _____, and after marriage to _____.

18. In this lesson's opening episode, you learned that the suspects working at Lone Star Chemical Company were working to clone a type of _____.

19. Write the **Life Principle:** *"*_____ _____*."*

You are becoming a scholar!
Continue to the next lesson.

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Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 13:
Biology



Traits

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Any characteristic passed from parent to child is a _____.

2. Which branch of science deals with ***traits*** passed from parent to offspring? _____
   (a) physics (b) ecology (c) genetics (d) geriatrics

3. What process do farmers use to help produce the best livestock or the best crops?
   _____
   (a) selective breeding
   (b) nutrition analysis
   (c) random selection
   (d) ecological cross-breeding

4. Farmers depend upon absolute principles of genetics for plant and livestock production.
   _____ (a) True or (b) False

5. _____, an Austrian monk, experimented with plant genetics in the middle _____.

6. What types of plants did Mendel use in his experiments? _____
   (a) bean (b) pea (c) corn (d) flower

7. Mendel concluded that a trait must be controlled by factors inherited from both parents.
   _____ (a) True or (b) False

8. What part of the cell carries information which determines the traits of offspring?
   _____
   (a) chromosomes
   (b) cell wall
   (c) blood
   (d) dominant molecules

9. A human being receives _____ pairs of ***chromosomes*** at the moment of conception, with each parent contributing _____ of the chromosomes.

10. Mendel's work shows that many traits have _____ patterns of inheritance.

11. A _____ ***gene*** (indicated by a capital letter) will express itself to the exclusion of all other genes for the same trait, while a _____ gene (indicated by a lower-case letter) expresses itself only when not combined with a dominant gene.

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12. Mendel's experiments help understand _____ patterns from one generation to the next.

13. All living things demonstrate marvelous_____ and intricate, precise _____ .

14. Mendel is called the " _____."

15. The Laws of Genetics and Mendel's Laws are the same. _____
(a) True or False

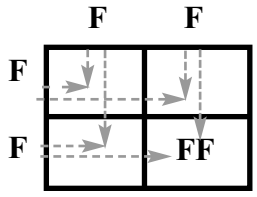
16. Mendel's experiments supported Darwin's Theory that one life form (such as a reptile) can become a different type of life form (such as a bird) over process of time.
_____ (a) True or (b) False

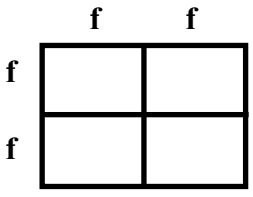
17. A clone is produced: _____
_____.
(a) by means of the normal process of reproduction
(b) by means of duplicating genetic material
(c) by means of one life form changing into a different type of life form
(d) by means of experimenting with adoption procedures

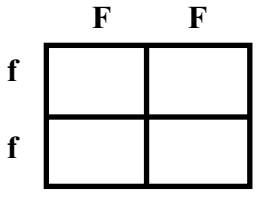
18. In the story, the source of your fear at the chemical company was a man with a _____ his face.
(a) mole (c) scar
(b) birthmark (d) nose

19. Write the **Life Principle:** *"*_____
_____*."*

Dark fur (F) is usually dominant over light fur (f). The Punnett squares below represent the shades of cat fur based on the genetics of the parents (FF and ff). What is the only possible combination of genes for the cats represented in squares #20-22? Write the genetic combination in the boxes provided (one is done for you), then write your answers on the numbered lines.







20. _____ 21. _____ 22. _____

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For questions #23-26, use the Punnett square below. One dog has a dominant dark gene (F) and a recessive light gene (f) for a combination of (Ff). The other dog has two recessive light genes (ff). What will be the shades of fur of the offspring of these two dogs if they had four puppies?

23. Label the boxes of the Punnett square with the correct gene combinations (the first one is labeled for you), then calculate your answers for #24-26

	F	**f**
f	**Ff**	
f		

24. How many of the offspring had dark fur? _____

25. What *percent* had spotted fur? _____

26. What *fraction* had light fur? _____

For questions #27-29, use the Punnett square below. This Punnett square represents dominance factors in Mendel's pea plants. A tall pea plant (Tt) is crossed with a short pea plant (tt).

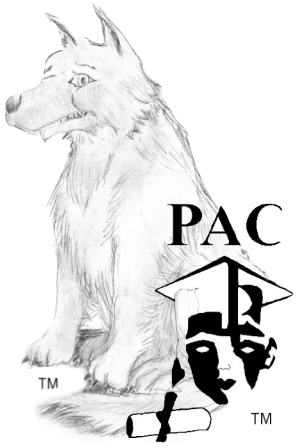
27. Label the squares in the box. One is done for you.

	T	**t**
t		
t		**tt**

28. What *percent* of the offspring are short? _____

29. What *fraction* of the offspring are tall? _____

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Staying Alive

ACTIVITIES
Lesson 14:
Biology

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. ***Pathogens*** are microorganisms (germs) that _____ your body and _____ your cells and tissues.

2. Pathogens are commonly called: _____.
   (a) immunizations
   (b) antibiotics
   (c) germs
   (d) antiseptics

3. Which is **NOT** a common form of a pathogen? _____
   (a) white blood cells
   (b) viruses
   (c) bacteria
   (d) microorganisms

4. Your _____ system is in charge of protecting your body against pathogens.

5. Which is **NOT** a means by which pathogens are spread? _____
   (a) through the air ("catching" someone's breath, coughing or sneezing)
   (b) by eating or drinking after an infected person
   (c) by genetic inheritance
   (d) by animals and insects

6. _____ provide immunity to certain diseases.

7. ***Antibodies*** are: _____.
   (a) certain kinds of communicable diseases
   (b) produced by white blood cells to fight disease
   (c) antibiotics that kill certain bacteria
   (d) a protein substance that works against your body

8. Temperature has little effect on food preservation. _____ (a) True or (b) False

9. What is the best way to keep germs off your skin? _____
   (a) Get immunized (vaccinated).
   (b) Take an antibiotic.
   (c) Wash your hands, bathe regularly.
   (d) Apply an antiseptic.

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10. Food poisoning is a ***communicable*** disease. _____ (a) True or (b) False

11. ***Antibiotics*** work to eliminate viral infections. _____ (a) True or (b) False

12. AIDS is caused by: _____.
    (a) bacteria
    (b) a virus
    (c) antibiotics
    (d) antibodies

13. The way to avoid _____ and other negative consequences is to avoid those behaviors which would put you at risk for exposure.

Review question. Summarize 8 ways you can help your immune system keep you healthy. Write short, complete sentences. The first one is done for you.

14. Avoid people with communicable diseases_____.

15. _____.

16. _____.

17. _____.

18. _____.

19. _____.

20. _____.

21. _____.

22. In this lesson's opening episode, who was being held hostage? _____
    (a) you (c) Rondarius
    (b) LaKendrick (d) agent Gomez

23. Write the **Life Principle:** *"*_____*."*

Congratulations! You have completed another lesson. Continue working diligently.

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Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 15:
Health



A Healthy Future

You are making progress! ***Answer the following questions. Fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Your future will be affected by your choices or _____.

2. Your _____ will be a significant part of your future.

3. _____ means an overall state of well-being.

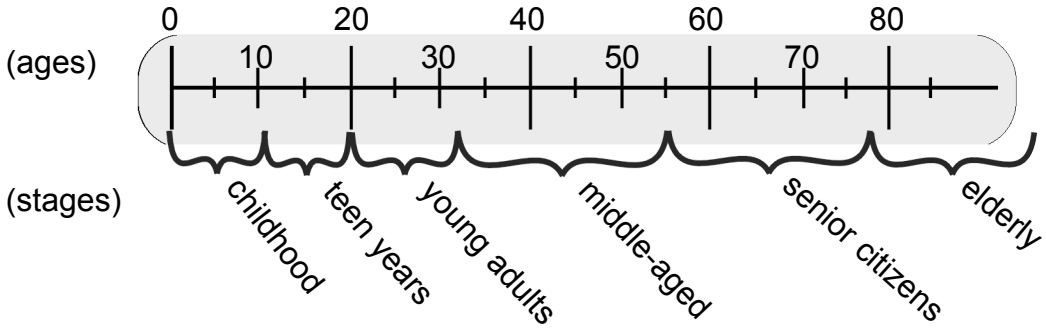
Matching:

4. _____ physical health — (a) relationships, belief system

5. _____ mental health — (b) thoughts and emotions

6. _____ spiritual/social health — (c) body systems

7. The following diagram represents your life from birth to death. Circle the time period/stage where most decisions are made that affect the rest of your life.



8. About what fraction of your life expectancy does that time frame represent? _____

9. During this time period you would be wise **NOT** to: _____
_____.
(a) pursue good social/spiritual relationships
(b) ignore the experience/counsel of older people
(c) pay attention to good nutrition and exercise
(d) keep your mind free of pornography and other mind-polluting elements

10. Research shows that your genetic coding is 90% set, and you can do little to affect your future health. _____ (a) True or (b) False

11. The average ***life expectancy*** in the early 1900s was _____ years of age.

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12. The leading causes of death in the early 1900s were the result of: _____ _____.
    (a) lifestyle factors
    (b) communicable diseases
    (c) accidents
    (d) suicides and violent crime

13. Healthy _____ will lead to a longer, happier, more productive life.

14. _____ persons live longer than _____.

15. Research indicates that families that attend _____ together and have sit-down_____ together are happier, healthier, and their children perform better in _____.

16. What we are taught, we _____, what we learn, we _____; these are called _____ behaviors.

17. Any ***learned behavior*** can be changed. _____ (a) True or (b) False

18. **Review question.** ***Lifestyle factors*** are inherited behaviors. _____
    (a) True or (b) False

19. Place an "L" for learned behavior or an "I" for inherited/instinctive behavior in each blank below.
    ____ geese flying south for the winter
    ____ salmon swimming upstream to lay eggs
    ____ a "seeing-eye" dog leading a blind person
    ____ female mammals nursing their young

20. In this lesson's opening story episode, Agent Gomez gave you two pieces of excellent advice: He said you should "_____ _____." He ended by saying that "_____ _____."

21. Write the **Life Principle:** *"*_____ _____*."*

Note: Ask your teacher for the quiz over topics 11-15 before proceeding to the next section. Reminder: If you score 85% or higher on the three section quizzes, you may be exempt from the chapter test!



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