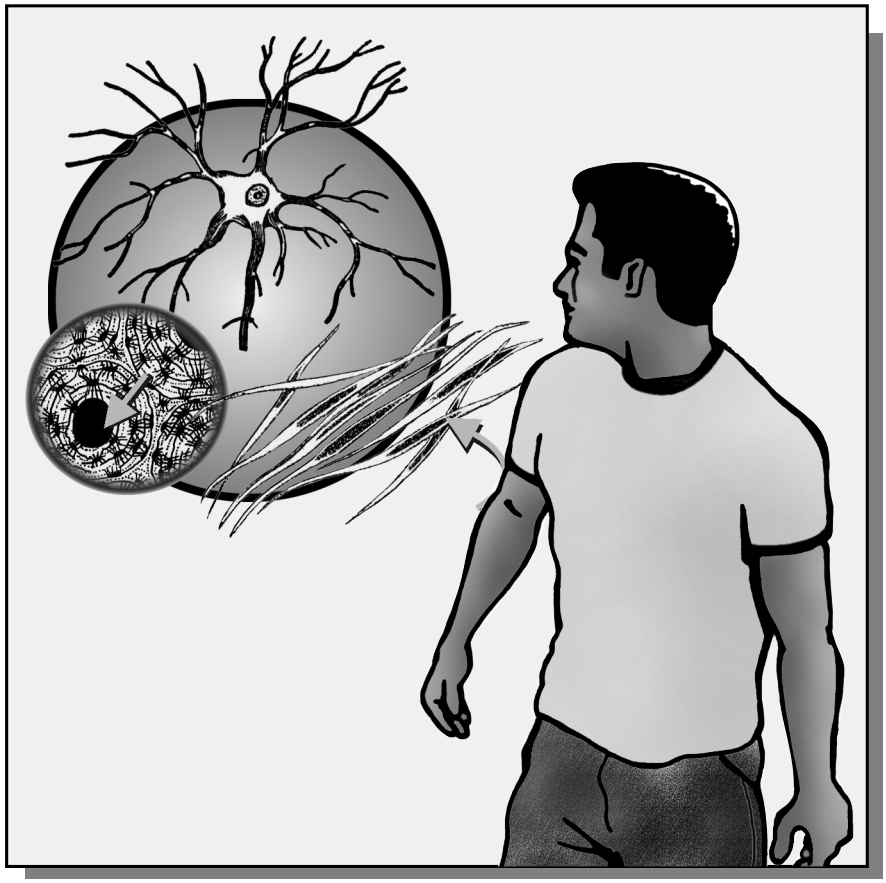
Natural Science Mysteries

Activities



Chapter 5

PROFESSIONAL CREDITS

Natural Science
Mysteries
Chapter 5

Publisher and Managing Editor
Ronald E. Johnson, Ph.D.

Writers
Dennie Lindsey
John Hudson Tiner

Editors
David Browder
Nancy Johnson
Sarah Johnson

Production Manager
H. Michael Young

Page Composition
Randy Burch
Kathy L. Dial
Pamela K. Hurst
Amy Luna
Holly Creacy Williams
H. Michael Young

Graphic Artists
Randy Burch
Pamela K. Hurst
Lydia Johnson
Amy Luna
Michael Tummillo
Holly Creacy Williams
H. Michael Young

Quality Assurance
Nancy Johnson
Sarah Johnson
Lisa Weber
Holly Creacy Williams

Revision: 100603-2

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 1:
Biology



Fish

You are making progress! ***Answer the following questions. Circle the correct answers or 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. In the story, the new ranger's name was _____.
2. From a brief first encounter between the boys and the new ranger, the reader could best **infer** or describe the ranger as: _____.
   (a) aloof but kind
   (b) impatient and arrogant
   (c) angry and hostile
   (d) efficient but compassionate
3. The manner in which the ranger handled the issue of the lock on the shed **inferred** that he: _____.
   (a) had confidence in the boys
   (b) was hostile toward the boys
   (c) did not trust the boys
   (d) wanted to demonstrate how to work the combination
4. All _____ are ***bilaterally symmetric***.
5. Which of the following diagrams best fit your text's description of bilateral symmetry?____

(a)



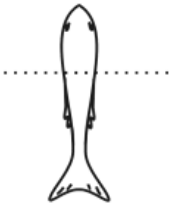
(c)



(b)



(d)

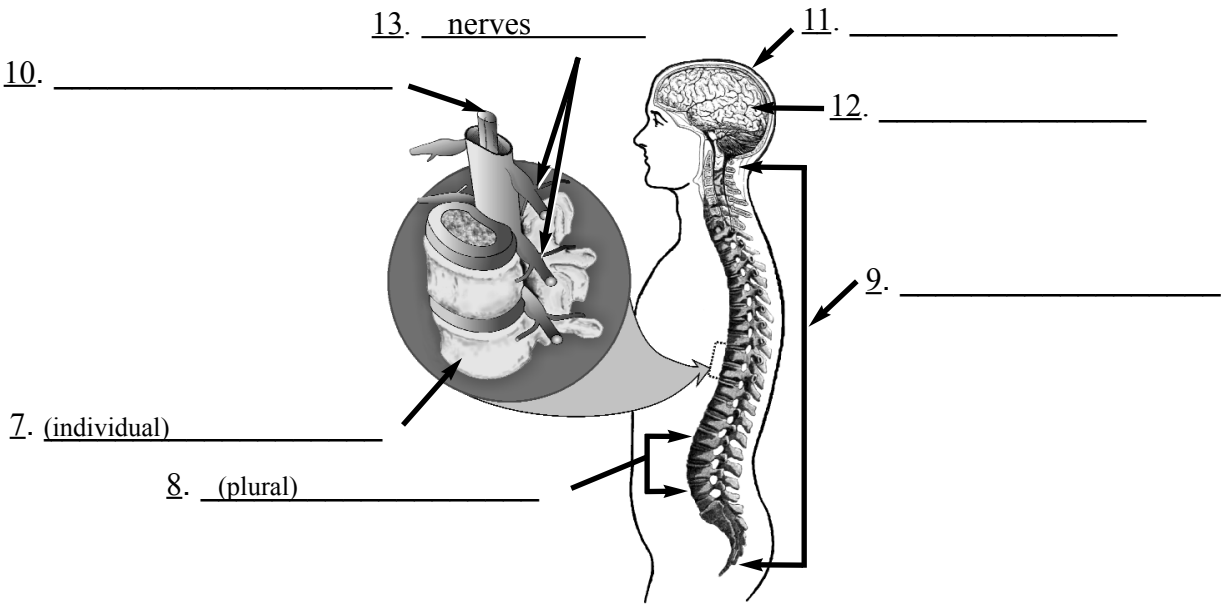


6. An easy way to remember the five types of ***vertebrates*** is to form the acrostic "farm birds." One is done for you. Finish the acrostic:

F_____
A_____
R_____
M_____
Birds_____

From the illustration in your text and the description in paragraph 12, label the parts of the spinal column as indicated. One is done for you.

Human Nervous System



14. Be**cause** a vertebrate's skeleton grows with the vertebrate and does not need to be shed periodically, (**effect:**) _____
_____.

15. The largest animals in the world are classified as: _____.
(a) vertebrates
(b) invertebrates
(c) elephants
(d) none of these

Review question: Match the bones with the soft body parts the bones protect for #16-18.

16. _____ vertebrae (a) heart, lungs
17. _____ skull (b) spinal cord
18. _____ rib cage (c) brain

19. Vertebrates throughout history have been important sources of many things, including:
F_____, E_____, C_____, D_____,
P_____, H_____ and M_____.

20. Fins and scales are parts of a fish's exoskeleton. _____ (a) True or (b) False

21. The _____ of a fish serves to propel it through the water, while the _____ keep the fish upright, provide control and brakes.

22. How do vertebrates **compare**—what do they all have in common? _____
_____

23. To what part of a fish do the lungs of a human **compare** or correspond? _____

24. The reader can **conclude** from paragraphs 21-22 that a fish constantly takes in oxygen through its _____ and expels carbon dioxide through its _____.

25. The five senses common to all vertebrates are: _____, _____, _____, _____ and _____.

26. A fish's special sense organ to detect water pressure changes is (are) its: _____
_____.

(a) internal ears
(b) lateral fins
(c) lateral line
(d) long, sensitive whiskers

27. A fish's special organ to control buoyancy at various depths is (are) its: _____
_____.

(a) gills and fins (c) lateral fins
(b) lateral line (d) air bladder

28. Place an "X" in front of the ways in which sharks **contrast** with (differ from) other fish.
_____ they have inner ears instead of external ones
_____ they have no air bladders
_____ they make grinding-teeth sounds
_____ their skeletons are made of cartilage

29. What is the **main idea** (character lesson) to be learned from the last two paragraphs in the story? _____
_____

(a) Going out of your way to do a job quickly and well will be rewarded.
(b) A person who is trying hard to do the right thing is sometimes misunderstood and falsely accused.
(c) If you never do more than is required, you will never get into trouble.
(d) If you eat a large breakfast, you can skip lunch and work longer.

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


PAC
TM
TM

Name: _____

Date: _____ Grade: _____



ACTIVITIES
Lesson 2:
Biology

Fish and Amphibians

You are making progress! ***Answer the following questions. Circle the correct answers or 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. In the story, Ranger Lemon Stewart's attitude seemed to match his name. Select a word from the list below that applies to both the ranger's name and attitude.
   (a) kind (b) fearless (c) cowardly (d) sour

2. The reader could **conclude** that the color of the ***caviar*** presented to Tom was _____.

3. Most caviar comes from _____ fish in the country of _____.

4. Number the steps in the creation of a new fish in **chronological order** (1-5).
   _____ male fertilizes eggs
   _____ eggs develop in female
   _____ female lays eggs
   _____ eggs develop further and hatch
   _____ female makes "nest" in stream bottom

5. Which of the following **dictionary** definitions best fits the word ***fry*** in your text? _____
   1. to cook in fat or oil **2.** to die by electrocution as in an electric chair **3.** a party or gathering featuring fried foods, as in a *fish fry* **4.** very young of fish, frogs or people
   (a) definition 1 (c) definition 3
   (b) definition 2 (d) definition 4

6. Most fish eggs survive to develop into mature fish. _____ (a) True or (b) False

7. The process of fish egg laying and fertilization is called _____.

8. Which is **NOT** true of salmon? _____
   (a) They travel hundreds of miles up stream to spawn.
   (b) They jump up small waterfalls.
   (c) They return to the ocean after spawning.
   (d) They die after spawning.

9. _____ fish live in lakes, rivers and streams, while _____ fish live in the oceans.

10. Fish body parts that serve as filters are: _____.
    (a) fins and scales (c) gills and kidneys
    (b) kidneys and yolk sac (d) fins and gills

11. _____ fish tend to have a higher degree of minerals in their bodies than is in the water where they live; while _____ fish have the opposite situation and live in highly mineralized water.

12. Most fish can make the transition between ***freshwater*** and ***saltwater*** with little difficulty. _____ (a) True or (b) False

On the chart below, place "Xs" in the boxes to show which characteristics belong to which (or both) fish and to tell if each characteristic represents a comparison (like feature) or a contrast (difference).

	Characteristic	Salmon	N. A. Eel	Comparison	Contrast
13.	migrates to spawn				
14.	lives in saltwater, spawns in freshwater				
15.	lives in freshwater, spawns in saltwater				
16.	swims upstream to spawn (**review** question)				
17.	swims downstream to spawn (**inference** question)				

18. A mixture of saltwater and freshwater is called _____ water.

19. Be**cause** ***frogs, toads*** and ***salamanders*** hatch and spend their youth in the water, but spend their adult life on land, (**effect:**) they are called _____, which means "_____."

20. Skins of ***amphibians*** are protected by: _____.
(a) hair/fur (b) feathers (c) scales (d) none of these

21. Amphibians require an environment with: _____.
(a) direct sunlight (c) much moisture
(b) direct moonlight (d) low humidity

22. Place an "X" in front of each example that shows a ***metamorphosis***.
_____ a tadpole becomes a frog
_____ a fry becomes a fish
_____ a caterpillar becomes a butterfly
_____ freshwater fish adapt to saltwater and visa-versa

23. Which is **NOT** an organ of respiration for amphibians? _____
(a) gills (b) lungs (c) skin (d) mouth

24. In the story, Ranger Stewart accused the boys of stealing the gasoline powered electric generator. _____ (a) True or (b) False

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

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 3:
Biology



Amphibians and Climate Zones

You are making progress! ***Answer the following questions. Circle the correct answers or 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. From the story, place an "X" in front of each statement that circumstantial evidence could indicate.
   _____ The boys accidentally left the shed unlocked and someone stole the goods
   _____ The boys purposely left the shed unlocked so an accomplice could steal the goods.
   _____ The ranger stole the goods, then blamed the boys.
   _____ An unknown thief broke in and stole the goods.

2. The reader can tell by the **context** of the first sentence of the text (not the story) that the wording pronounced "seasons" has to do with: _____
   _____.
   (a) pronouncing the word *season* correctly
   (b) the correct use of pronouns when referring to seasons
   (c) announcing something in a formal manner, as in pronouncing sentence on a person judged guilty of a crime
   (d) a thing being strongly or clearly evident, as in a pronounced difference between two things

3. **Effect:** Variation in length of daylight hours during different seasons is **caused** by
   _____
   _____.

4. The Sun's rays hitting Earth are more direct in: _____.
   (a) spring
   (b) summer
   (c) fall
   (d) winter

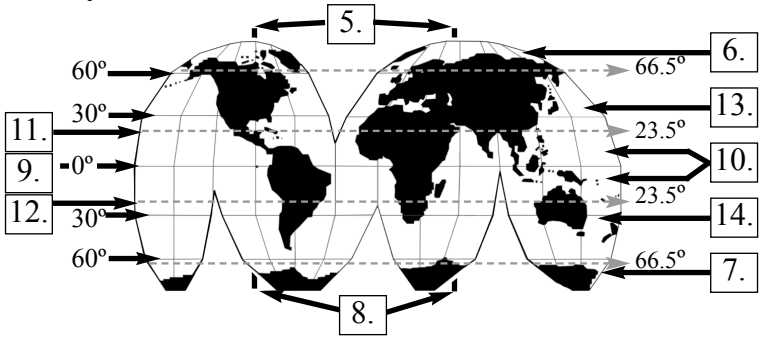
Name: _____ *Natural Science Mysteries*

Chapter 5 Activities, Lesson 3

Date: _____ Grade: _____

Label the diagram of Earth's Zones below using information from your text in paragraphs 8-11. One is done for you.

5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. South Temperate Zone



15. Which zones have no amphibians? _____

Fill in the chart below with key words from your text, then tell if each answer represents a comparison (likeness) or a contrast (difference) by placing an "X" in the proper column.

	Characteristics	Frogs	Toads	Comparison	Contrast
16.	Classification				
17.	Early life				
18.	Skin				
19.	Hind legs				
20.	Climate of adult habitation				
21.	Teeth				
22.	Coloration				
23.	Tongue				

24. What unique thing are frogs automatically designed to do to swallow their food? (Answer in a complete sentence.)

_____

25. _____ are amphibians that come in a variety of _____ and _____.

26. Salamanders resemble lizards but have _____ skin instead of scales and have no _____.

Match the salamanders with their unique characteristics.

27. _____ newt
28. _____ mud puppies
29. _____ hellbender

(a) largest in United States, has no lungs or gills, breathes through skin
(b) three inches long as adults, toxic skin can kill predators
(c) live mostly in lake or river bottoms, most have gills and lungs, can grow to be a foot long

30. Place an "X" in front of all factors, stated or **inferred**, that biologists blame for a decreasing amphibian population.
    _____ their internal design and value to ecology
    _____ water pollution, acid rain
    _____ loss of wetlands
    _____ increased disease, infection, parasites

31. In the story, how many different items did Bryan say were missing from the ranger's shed? _____

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


PAC
TM
TM

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 4:
Biology



Reptiles

You are making progress! ***Answer the following questions. Circle the correct answers or 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. In the story, what did Bryan think the men were loading into the boat? _____

2. ***Reptiles***, fish and amphibians are all _____.

3. To be ***coldblooded*** means a creature: _____
_____.
   (a) consistently has a cold body temperature
   (b) maintains a constant internal body temperature
   (c) depends upon external conditions to control its body temperature
   (d) is insensitive, mean acting or evil

4. A reptile's body temperature matches the environment only: _____
_____.
   (a) when the reptile is actively hunting prey
   (b) at night, in the shade or sun
   (c) when the reptile is inactive
   (d) all of these

5. The condition or state of being by which reptiles survive intense cold is called:
_____.
   (a) Sweden
   (b) Norway
   (c) Denmark
   (d) none of these

Match the following terms for #6-8.

6. _____ ***hibernation*** (a) hours of inactivity during hottest part of the day

7. _____ ***torpor*** (b) living in or near the water

8. _____ ***aquatic*** (c) long term inactivity during coldest months of year

9. Aquatic reptiles lay their eggs in (on): _____.
   (a) salt water
   (b) fresh water
   (c) wetlands
   (d) land

Use descriptive, key words in the chart below to contrast reptile eggs with those of fish or amphibians.

	Characteristic	Reptiles	Fish/Amphibians
10.	texture		
11.	covering		

12. In addition to protecting eggs from predators, the purpose of any egg covering is _____ _____.

13. The reader can tell by the **context** that a *porous* egg shell would contain: _____ _____.
    (a) a developing embryo
    (b) albumin
    (c) oxygen
    (d) tiny holes

14. **Contrast**. Fish and amphibian eggs are fertilized externally _____ they are laid, whereas reptile eggs are fertilized internally _____ they are laid.

15. Choose a sentence from the paragraph beginning with the words "snakes and lizards" that describes one way mother crocodiles differ from most other reptiles: "_____ _____ _____."

16. **Effect:** After hatching, baby reptiles receive no help from their parents, be**cause:** _____ _____.

17. Reptiles in harsh, cold climates give live birth to their young. _____
    (a) True or (b) False

18. Fossils were not seriously studied until: _____ _____.
    (a) about 250 B.C.
    (b) the Greeks discovered fossilized bones
    (c) the 1800s
    (d) the name "dinosaur" was coined

19. Which of the following **dictionary** definitions best fits the word "coined" as used in your text? _____
    1. coins made by stamping metal **2.** coin-operated machines **3.** inventing a new word or expression **4.** paying someone back using their own methods
    (a) definition 1 (c) definition 3
    (b) definition 2 (d) definition 4

20. Scientific artwork of dinosaurs is always based on solid evidence or complete fossilized skeletons. _____ (a) True or (b) False

21. Between which of the ***dictionary guide words*** below would you find the word ***paleontologist***? _____
    (a) pale to paleology
    (b) paleobotony to pallid
    (c) paleosol to palindrome
    (d) paleogeography to palisade

22. Geology professor _____ proposed a _____ theory to explain why dinosaurs disappeared, based on a layer of sediment he discovered while studying in _____.

23. By using the principle that the present can be a key to the past, **summarize** five possible situations from paragraph 28 that could have unbalanced nature to the extent of causing dinosaurs to become extinct: _____, _____ _____, _____, _____.

24. For _____ to be formed, animals must be buried _____ in _____ mud.

25. Massive, worldwide fossil graveyards with contorted animal forms give evidence of massive _____ and rapid _____.

26. Histories of ancient cultures worldwide tell of a massive flood that wiped out most animals and all but a few people. _____ (a) True or (b) False

27. Thousands of frozen wooly mammoth carcasses in arctic areas give evidence of a great _____.

28. Because many mammoths have been found frozen with tropical vegetation in their stomachs, the reader could **conclude** that the ancient world's climates were different than those of which we know. _____ (a) True or (b) False

29. Scientist's theories of unobservable events sometimes appear to depend more on _____ than on _____.

30. **Review question**. Use as few **key words** (main words) as possible to **summarize** each of the four main theories presented regarding what could have happened to the dinosaurs and wooly mammoths.

    _____
    _____
    _____
    _____

31. In the story, the silhouetted figure Tom recognized was _____.

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


PAC
TM
TM

Name: _____

Date: _____ Grade: _____



The Scientific Method, Frauds and Fakes

ACTIVITIES
Lesson 5:
Biology

You are making progress! ***Answer the following questions. Circle the correct answers or 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 reader can tell by the **context** that the tall man in the story who walked with an odd "gait" refers to: _____.
   (a) an odd shaped gate for which he was looking
   (b) an odd piece of equipment he carried
   (c) an odd manner of walking
   (d) none of these

2. Refusing to consider evidence at variance with commonly accepted theories is: _____.
   (a) true science (c) a theory
   (b) pseudo science (d) a hypothesis

3. In the late 1500s, _____ did research and conducted experiments that disproved the so-called "scientific" teaching, that garlic breath caused a ship's _____ to malfunction.

4. The reader can **conclude** that Gilbert's method of attacking a scientific problem was a forerunner of the scientific method used today. _____ (a) True or (b) False

5. The purpose of using the ***scientific method*** is to: _____ _____.
   (a) seek truth
   (b) conceal truth
   (c) keep pet theories in good shape
   (d) keep pet theories before the public

6. According to your text, scientists can save themselves embarrassment by: _____ _____.
   (a) not publishing their theories
   (b) admitting their mistakes
   (c) twisting the facts to fit their theories
   (d) not proclaiming mere theories as fact

7. Changing scientific descriptions of planets such as Venus show ***preconceived*** notions and fragmentary evidence are often quite different from real evidence. _____
   (a) True or (b) False

8. The cave man known as the _____, was presented in the early 1900s as the "_____" between humans and their supposed ape ancestors

9. Scientists tested the discovery before accepting and publicizing it. _____
(a) True or (b) False

10. Kenneth Oakley discovered by rigorous testing that Piltdown was: _____ _____.
(a) a true "Down Man"
(b) a hoax
(c) deficient in collagen fibers
(d) missing half of his teeth

Match the following pieced-together Piltdown items for #11-14.

11. _____ skull
12. _____ jaw
13. _____ bones
14. _____ teeth

(a) painted black, worn down
(b) old but not ancient human
(c) from a young monkey
(d) not ancient, contained collagen fibers

15. Piltdown Man is referred to as "_____."

16. In late 1999, a national magazine featured an ancient fossil of a bird called _____, which was pronounced as a transitional form of life between _____ and _____.

17. Skeptical scientists and Chinese officials exposed the "missing link" as a _____ that had sold for $_____.

18. The reader can **conclude** that: _____.
(a) many school children on field trips saw a "feathered dinosaur"
(b) scientists who fail to use the scientific method easily deceive themselves and others
(c) the "feathered dinosaur" was featured on television
(d) "feathered dinosaurs" existed at one time but are now extinct

19. In the story, Ranger Stewart was convinced the boys were telling the truth. _____
(a) True or (b) False

20. 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!

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 6:
Biology



Darwin, Agassiz and Snakes

You are making progress! ***Answer the following questions. Circle the correct answers or 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. Place the following events from the story in **chronological order** (1-5) by placing the appropriate number in front of each statement (1 notes the first event and 5 notes the last event).
   _____ Tom saw a snake in the bunker.
   _____ Bryan realized how the two men had vanished so suddenly.
   _____ Tom noticed the generator was missing from the shed.
   _____ Bryan explained to Del how the two men vanished while walking across the clearing.
   _____ Del led Tom and Bryan to the bunker.

2. Del's response to Tom concerning the snake in the bunker revealed that: _____ _____.
   (a) she had done extensive research on snakes
   (b) she loved snakes
   (c) she insisted the snake was harmless without actually seeing it
   (d) she was careful to examine the snake before she told Tom it was harmless

3. Place an "X" in front of all of the following statements that are *dogmatic.*
   _____ Science is the total knowledge of facts and principles that govern our lives.
   _____ Science is one way of discovering and interpreting facts and principles that govern some aspects of our lives.
   _____ Science alone has all of the answers.
   _____ Science provides some answers.

4. _____ discovered the Uncertainty Principle.

5. Which of the following is a contribution that the Uncertainty Principle made to science?
   _____
   (a) It revealed that all answers are within the research of scientific methods.
   (b) It encouraged scientists to cling to past theories and beliefs without testing them.
   (c) It revealed that some questions cannot be answered by scientific methods.
   (d) none of the above

Place an "X" in each appropriate box on the chart below to indicate which instruments *measure* and which *amplify* or enhance human senses.

	Instrument	Measures	Amplifies
6.	scales		
7.	barometer		
8.	stethoscope		
9.	telescope		
10.	ruler		
11.	clock		
12.	microscope		

13. To prove a scientific idea false, only _____ example of its failure is needed. To prove it true, _____ possible cases must be tried and proven true.

14. **Categorize** the following statements as "E" for evolutionary beliefs or "D" for designist beliefs concerning the origin of life.
_____ Life was originated by a superior intelligence.
_____ Life came about by chance, without purpose.
_____ Each life form came into being as a finished product.
_____ Original species changed into other species over millions of years.

15. Although evolutionists and designists have very different theories about the origin of life, the reader can **conclude** their theories are **comparable** in which of the following aspects? _____
(a) They both can be proven by scientific evidence.
(b) They both can be observed.
(c) They both qualify as scientific fact.
(d) They both must be accepted by faith.

16. A person trained to conduct religious services is known as a _____.

17. Charles Darwin, after graduating from Cambridge University where he studied to become a ***clergyman***, set sail as a(n) _____ on the *H. M. S. Beagle*.
(a) clergyman (b) evolutionist (c) naturalist (d) sailor

18. Charles Darwin studied ***variations*** in birds and other creatures on the Galapagos Islands. Which of the following best defines a ***variation***? _____
_____
(a) similarities between animals of the same species
(b) differences between animals of the same species
(c) similarities between animals of different species
(d) differences between animals of different species

19. Place an "X" in front of all statements that apply. The reader can **conclude** that Darwin was recognized as a scientist because:
_____ He had college degrees in biology and zoology.
_____ He consistently used the scientific method.
_____ He took a voyage, read geology books and collected specimens.
_____ He published books of theories about biological matters.

20. **Effect:** In 1859, Darwin published his book, *Origin of Species* without enough evidence to support his theory, be**cause** Darwin discovered that _____ had developed his own theory of _____ and was about to _____ it.

21. The *Scientist's Declaration of 1864* overwhelmingly supported Darwin's theory. _____
(a) True or (b) False

22. The _____ states that living things came into being from non-living matter and changed forms over time.

23. The Theory of Evolution is supported by transitional fossil evidence. _____
(a) True or (b) False

24. _____ became known as the "Father of Evolution."

25. Charles Darwin suffered from ***insomnia*** which is: _____.
(a) the inability to sleep when tired
(b) the inability to stay awake
(c) uncontrollable trembling
(d) the inability to dream when asleep

26. Louis Agassiz was America's first great _____ and became known as the Father of _____.

27. Agassiz had many qualifications: He was a zoologist who taught _____ at Harvard; he was a _____ and a _____ , and had an earned _____.

28. Louis Agassiz believed all of the following **except**: _____
_____.
(a) Life was intentionally created.
(b) The pieces of creation fit into a pattern.
(c) Glaciers were rivers of ice left over from the Ice Age.
(d) Creation is a jumble of mixed-up pieces.

29. **Review question**. **Contrast** the thinking of Darwin and Agassiz about women and science. Write "D" for Darwin or "A" for Agassiz in front of each statement below.
_____ believed women were incapable of scientific thought
_____ believed women were capable of scientific thought, offered science courses for women

30. Agassiz described Darwin's theory as: _____.
(a) a close and accurate investigation
(b) speculative and desolate
(c) a brilliant work
(d) a productive endeavor

31. From reading about Darwin, Wallace and Agassiz in this lesson, as well as Pasteur and other scientists from the same time period (Chapter 9, Lesson 5), the reader can **conclude** that Darwin had more scientific training than his peers from which to formulate his theories. _____ (a) True or (b) False

32. _____ and _____ study animals.

33. Place an "X" in front of all statements that correctly describe the rat snake.
    _____ lives around barns and old buildings
    _____ kills rodents by constriction
    _____ swallows prey larger than its mouth
    _____ permanently hinged jaw
    _____ venomous

34. Which of the following is the best snake bite prevention? _____
    _____
    (a) Carry a large stick when putting your hands or feet in areas you cannot see.
    (b) Wear gloves when putting your hands or feet in areas you cannot see.
    (c) Do not put your hands or feet in areas you cannot see.
    (d) Only put your hands or feet in areas you cannot see if you have someone with you.

35. A tight bandage that encircles an arm or leg to temporarily stop or slow the flow of blood is known as a _____.

36. Snake venom from a copperhead, moccasin, or rattlesnake enhances the ability of the blood to carry oxygen. _____ (a) True or (b) False

37. The largest venomous snake in the world is the: _____.
    (a) coral snake
    (b) king cobra
    (c) moccasin
    (d) rat snake

38. In the story, where did Bryan think a clue to Mr. Murphy's disappearance might be found?_____
    (a) in the manor house
    (b) in the main cellar
    (c) in the wrapped box
    (d) in a certain storage room

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

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 7:
Biology



Lizards and Turtles

You are making progress! ***Answer the following questions. Circle the correct answers or 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. Place the following events from the story in **chronological order** (1-5) by placing the appropriate number in front of each statement.
   _____ Bryan discovered two parallel skid marks.
   _____ Tom pulled out a badly damaged wooden model from the trash bin.
   _____ The rattle of dry leaves sounded from the corridor.
   _____ Bryan, Tom and Del walked along a stone corridor that opened into a number of rooms.
   _____ Del found her grandfather's wood working shop.

2. Reptiles with elongated bodies, scales, eyelids, long tapering tails, four legs, and feet that end in claws are known as _____.

3. Some species of ***lizards*** are able to regenerate their tails if they are broken off. _____
   (a) True or (b) False

4. Place an "X" in front of all statements that correctly describe the ***glass lizard***.
   _____ smooth scales
   _____ four legs
   _____ external ear openings
   _____ classified as a snake

5. All of the following are characteristics of the ***horned lizard***, **EXCEPT**: _____
   _____.
   (a) a roundish body
   (b) a long tail
   (c) a sticky tongue
   (d) rough protrusions on its body

6. The remains of animals that have died or been killed by other animals are known as _____.

7. Be**cause** extreme heat dries out reptile bodies and their eggs, (**effect:**) eggs are covered with a tough, _____-like skin that prevents water loss.

8. **Effect:** The urine of lizards is concentrated be**cause:** _____ _____.
   (a) their diet is concentrated
   (b) they conserve water when ridding their bodies of waste
   (c) they excrete minerals
   (d) they excrete wastes with an excess of water

9. A lizard must absorb heat from the sun in order to raise its body temperature. _____
   (a) True or (b) False

10. Place an "X" in front of all of the following that describes a defense mechanism of lizards.
   _____ run quickly
   _____ puff up
   _____ shrink
   _____ give up tail
   _____ produce venom

11. Place and "X" in front of each characteristic of a gecko.
   _____ can regenerate its tail
   _____ makes a "gecko" sound
   _____ is a small member of the iguana family
   _____ often found in houses
   _____ can climb on glass
   _____ can run upside down on a smooth surface

12. The ***Gila monster*** releases venom from its _____.
   (a) tongue
   (b) salivary glands
   (c) teeth
   (d) cheeks

13. The ***chameleon*** is well known for its ability to _____.

14. When a chameleon is frightened, it releases _____ that cause(s) a color change.
   (a) pigment granules
   (b) hormones
   (c) venom
   (d) mucus

15. Which of the following is true concerning the eyes of the chameleon? _____
   (a) both eye movements are identical
   (b) they are sunken into the head
   (c) they operate independently of one another
   (d) none of the above

16. Which sentence **contrasts** the ***Komodo dragon*** with the ***gecko***? _____
_____
(a) The Komodo dragon is very large and the gecko is very small.
(b) The gecko is very large and the Komodo dragon is very small.
(c) The Komodo dragon receives more attention from biologists than the gecko.
(d) The Komodo dragon is a true lizard, but the gecko is not.

17. The reader can determine from the **context** of the first paragraph about turtles that be**cause** the shell is an ***integral*** part of the turtle (**effect:**), _____
_____.
(a) the turtle can leave its shell to find other protection
(b) the turtle cannot live without its shell
(c) the shell is an advantage to the turtle, but it is not absolutely necessary
(d) the turtle is independent of its shell

18. The vertebrae and ribs of a turtle are ***fused*** to its shell. _____
(a) True or (b) False

19. Place the following events in **chronological order** (1-4) by placing the appropriate number in front of each statement.
_____ the female turtle finds a place exposed to sun light
_____ the female turtle lays her eggs
_____ the female turtle digs a depression in the sand
_____ the female turtle restores the site to its natural appearance

20. In the story, the reader could **conclude** that James Olsen: _____
_____.
(a) was sure of himself
(b) hated the boys
(c) was a hard case
(d) was afraid of his partner

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


PAC
TM
TM

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 8:
Biology



Turtles and Crocodiles

You are making progress! ***Answer the following questions. Write the correct answers 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. In the story, James Olsen revealed the mystery of the disappearance of Mr. Murphy: _____.
   (a) he had been kidnapped and robbed
   (b) he had been kidnapped and drowned
   (c) he had been kidnapped and murdered by James Olsen
   (d) he had been kidnapped and murdered by Olsen's partner

2. Place an "X" in front of each phrase that applies. The reader could **conclude** from the **context** that James Olsen:
   ___was a person of low character.
   ___would deliver the padlock key to Del's mother as promised.
   ___truly had the welfare of the young people at heart.
   ___did not want the young people to blame or think badly of him.

3. The purpose of a *turtle excluder* on a ***trawler*** is to: _____ _____.
   (a) keep turtles out of trawler nets
   (b) quickly release turtles ensnared in trawler nets
   (c) keep turtles from becoming extinct
   (d) prevent poachers from stealing turtles and their eggs

4. Sea turtles harvested in coastal areas for _____, while the shells are used for _____ and _____.

5. **Effect:** Sea turtle habitats are often destroyed along coastal areas be**cause** of increased _____ involving _____ _____ that separates turtle feeding and nesting grounds.

6. Sea turtles feed in the _____ but nest on _____.

7. Land turtles are strictly vegetarians. _____ (a) True or (b) False

8. In the United States, a ***tortoise*** is defined as a _____ turtle with a _____ shell.

9. The name, *terrapin*, refers to: _____.
   (a) most sea turtles (used for food, jewelry)
   (b) most land turtles
   (c) certain tortoises (used as pets)
   (d) certain freshwater turtles (once prized as food)

10. A tortoise's best protection is its: _____.
   (a) retractable head and feet
   (b) speed of movement
   (c) hinged shell
   (d) superior eyesight

11. Which of the following **dictionary** definitions best fits the use of the word *right* in paragraph 13?
   1. in accordance with what is good, proper or just: as in *right conduct*. **2.** sound, sane: as in *one's right mind*. **3.** to put in or restore to an upright position: as in *to right a fallen lamp*. **4.** something that is due to anyone legally, morally, politically: as in *the right of free speech.*
   (a) definition 1 (c) definition 3
   (b) definition 2 (d) definition 4

12. The Galápagos Islands are 650 miles west of which South American country? _____
   In which ocean are these islands? _____

13. The Galápagos Islands, famous for their giant _____, were named by early _____ explorers: *Galápagos* means "_____" in the _____ language.

14. In **alphabetical order**, list the types of reptiles named in paragraph 17:
   _____, _____, _____, and _____.

15. ***Crocodiles*** are found worldwide in most climates. _____ (a) True or (b) False

16. Crocodiles and other carnivores have _____ and _____ teeth for tearing apart _____.

17. Most non-meat eaters have _____ and _____ teeth for crushing and grinding _____.

18. The text **infers** that crocodiles will eat just about any creature that does not eat them first.
   _____ (a) True or (b) False

19. The reader can tell by the **context** in the first sentence of paragraph 21 that a crocodile's tail providing *motive* power refers to: _____.
   (a) having a powerful motive for an action
   (b) an internal goal, desire or urge
   (c) a type of external incentive
   (d) causing motion

20. A motionless crocodile in the water can easily be mistaken for a _____.

21. In **chronological order** (1-4), number the four key action words that explain how a crocodile hunts prey in the water.
    ___ grabs
    ___ eats
    ___ drifts (or floats)
    ___ drowns

22. What two **key phrases** tell where crocodile dens are located? _____,
    _____

23. In the story, Tom was confident James Olsen would send someone to release the young people from the bunker. _____ (a) True or (b) False

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


PAC
TM
TM

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 9:
Biology



Crocodiles, Alligators, and Birds

You are making progress! ***Answer the following questions. Circle the correct answers or 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. Number the three clues being considered by Bryan in this story episode, in the **order** (1-3) in which they are mentioned.
   _____ a French map
   _____ a dollhouse
   _____ broken plates

2. Determining the age of trees is far less difficult than measuring the normal life span of animals in the wild. _____ (a) True or (b) False

3. Animals in captivity **contrast** with those in the wild in at least two ways that affect their life spans: _____ and _____.

4. Generally, animals in captivity live _____ than/as those in the wild.
   (a) a longer time (c) about the same length of time
   (b) a shorter time (d) no studies have been made

Place an "X" in each appropriate box of the chart below to compare and contrast your text's discussion of crocodiles.

	Characteristics	Nile Crocodiles	Estuarine Crocodiles	Alligators	All types of Crocodiles
5.	worshipped by ancient Egyptians				
6.	heaviest modern crocodile				
7.	inhabit coasts of India				
8.	have blunt snouts				
9.	have pointed snouts				
10.	appear to smile				
11.	live in warm swamps, bayous				
12.	lay eggs near water				
13.	guard eggs not the young				
14.	killed for their skins				

Match the beak types for #15-20.

15. _____ sparrow (a)  (rips up grass, weeds)
16. _____ woodpecker (b)  (spears fish)
17. _____ duck (c)  (cracks seed husks)
18. _____ hummingbird (d)  (rips animal flesh)
19. _____ hawk, owl (e)  (drills to find insects)
20. _____ anhinga (f)  (sips nectar)

21. Number in **chronological order** (1-4) and define functions with a few **key words**, the chambers of a bird's digestive system through which food passes:
_____ ***gizzard*** - _____
_____ ***gullet*** - _____
_____ ***crop*** - _____
_____ main stomach - _____

22. A bird's _____ takes the place of jaws and teeth in other animals.

23. Be(**cause:**) gizzards are lighter weight than jaws and teeth, (**effect:**) a bird is able to fly better with a _____ than it could with _____.

24. The _____ is a bird's organ of sound and is located in the windpipe.

25. To which part of human anatomy would you compare a bird's ***syrinx***?
(a) brain (b) nervous system (c) voice box (d) hearing system

26. Each bird has a distinctive _____, or _____, by which it can be identified.

27. In the story, what weapon did the boys devise to rescue themselves? _____
_____ What instrument was used? _____

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

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 10:
Biology



Birds

You are making progress! ***Answer the following questions. Write the correct answers 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. In the story, when the boys reached the top of the stairs, they found: _____ _____.
   (a) Ranger Stewart's combination lock
   (b) James Olsen leaving the scene
   (c) a V-formation of geese flying south
   (d) the missing cracked plate and French map

2. Place an "X" in front of each factor that signals migration time to Canadian geese.
   _____ Daylight hours shorten due to Sun's rays becoming more slanted.
   _____ Temperature becomes cooler.
   _____ Food is harder to find.
   _____ Geese become bored with their surroundings

3. At about which speed do migrating ducks and geese fly? _____
   (a) 10-15 miles per hour
   (b) 20-30 miles per hour
   (c) 30-40 miles per hour
   (d) 40-50 miles per hour

4. Which do migrating geese **NOT** usually do?_____
   (a) complete their journey as fast as possible
   (b) take rest and feeding stops
   (c) take side trips
   (d) stay ahead of freezing weather

5. A V-formation helps geese fly _____ distances at _____ speeds with less _____.

6. **Effect:** In a V-formation, the lead bird expends the most energy be**cause:** _____ _____.

7. Geese appear to observe clues from Sun, Moon and stars as well as landmarks such as _____ and _____.

8. A more likely possibility for guiding their flight is the _____ material scientists have discovered in the brains of geese that serves as a built-in _____.

9. A ***flyway*** is a route: _____
_____.
(a) on the order of a "bird freeway," with many varieties of birds coming and going.
(b) traveled by hordes of flies which provide food for migrating birds
(c) unique to each flock of migrating birds such as geese, and followed year after year
(d) all of these

10. _____ and _____ areas can be hundreds or thousands of miles apart for migrating birds.

Compare and contrast the care given to eggs and hatchlings between fish, amphibians, reptiles and birds by placing an "X" in each appropriate box on the chart below. You will need to reference lesson nine, paragraphs three and four of the section on alligators.

	Characteristics	Fish	Amphibians	Crocodiles	Most Reptiles	Birds
11.	guard eggs					
12.	feed/guard young					
13.	young fend for themselves					

14. Very young geese are called _____.

15. Place an "X" in front of each statement that pertains to molting.
_____ Molting happens once a year.
_____ Old feathers becoming moldy is the signal to molt.
_____ New feathers grow in to replace frayed, worn feathers.
_____ Some birds lose their feathers gradually, others lose them so rapidly they are temporarily earth bound.

16. When animals stay in the same area year-around predators tend to have a dependable food supply. _____ (a) True or (b) False

17. Give the name and approximate distance traveled of the bird that migrates the farthest.
_____, _____

18. The respiration and heart rates of birds is _____ than/as humans.
(a) about the same
(b) much faster
(c) much slower
(d) slightly faster

19. Using **key words**, tell as briefly as possible six functions of feathers on a bird:

_____,
_____,
_____,
_____,
_____,
_____.

20. The reader can **conclude** that female birds are generally less colorful than male birds because:

_____.

(a) they were designed to be protected for rearing their young
(b) they are victims of discrimination
(c) they set about to be different
(d) none of these

21. As colder weather approaches, birds in frigid regions decide which species will fly south for the winter. _____ (a) True or (b) False

22. In the story, when Del hid the cracked plate, she was acting: _____.

(a) with arrogance
(b) with caution
(c) in anger
(d) in selfishness

23. 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!


PAC
TM
TM



ACTIVITIES
Lesson 11:
Biology

Mammals

You are making progress! ***Answer the following questions. Write the correct answers 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. Solving any kind of problem or mystery requires paying attention to clues and putting them together correctly to arrive at a solution. Place an "X" in front of each clue Bryan put together in this story episode.
   _____ Mrs. Murphy used special milk from a different colored carton: a clue about her lactose intolerance.
   _____ Both the map and the ferry captain referred to a thunder hole near the twisted tree which was evidence of a cave system.
   _____ Although the thunder hole near the tree had collapsed, the stone slab etched with the Runic word "portal" in the hidden valley could be the cave entrance.
   _____ The items stolen from the Ranger's shed were items needed for working in a cave.

2. ***Lactose intolerant*** people have trouble digesting _____ and _____ _____.

3. _____ converts to ***glucose*** in the body, which produces _____.

4. The enzyme _____ is needed to digest the milk sugar called _____.

5. One way in which ***mammals*** are different from other types of animals is that the young are _____.

6. Breast fed human babies are usually _____, _____ and less susceptible to _____ than bottle-fed babies.

The nutritional content of any animal mother's milk is designed to the needs of her particular offspring. Match the types of milk with their designated fat contents for #7-10.

7. _____ Human	(a)20% fat
8. _____ Seals	(b)10-20% fat
9. _____ Caribou	(c)1% fat
10. _____ Horses	(d)40% fat

11. Proteins are composed of 20 identified _____.

12. Man and animals can produce only _____ amino acids.

13. Be**cause** humans and animals cannot produce them, (**effect:**) the remaining _____ amino acids are called _____.

14. In order to receive all of the essential amino acids, humans and animals must eat plant food or eat the flesh of animals that have eaten plant food. _____
(a) True or (b) False

15. A ***complete protein*** must contain all 20 known amino acids. _____
(a) True or (b) False

Compare and contrast the characteristics of mammals with other animals given in paragraphs 18-27 of your text. Place an "X" in each appropriate box on the chart below.

	Characteristic	All Mammals	Most Mammals	Crocodiles	Birds	Whales	Platypuses
16.	provide milk for young						
17.	have four-chambered heart						
18.	covered with body hair						
19.	warm blooded						
20.	give birth to live young						
21.	protect, train young						

22. According to the chart, which single characteristic is unique to mammals? _____
_____

23. The **platypus** seems to be an odd combination of several animals. It also lays eggs. Why, then, is it classified as a mammal?
(a) It is covered with fur. (c) It is warm blooded.
(b) It has a four-chambered heart. (d) It provides milk for its offspring.

24. Only _____ of the _____ species of mammals lay eggs.

25. If this ratio were expressed mathematically, it would read: _____.
(a) 2 ÷ 5,000 (b) 2 × 5,000 (c) 2 : 5,000 (d) 5,000 : 2

26. In the story, what was Ranger Stewart's response to the boys' request? _____
_____
(a) He refused to listen.
(b) He agreed to listen if certain conditions were met.
(c) He showed disinterest in what the boys were saying.
(d) He agreed to help them if a certain condition was met.

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

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 12:
Biology



Kangaroos and Other Marsupials

You are making progress! ***Answer the following questions. Write the correct answers 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. In the story episodes of lessons one through six of this chapter, Ranger Lemon Stewart lived up to the "Lemon" part of his name. His attitude toward the boys was sour, suspicious and demanding. Now, he is cordial and helpful. **Analyze**: which response below can be proven from the story and could have produced such a change? _____
   _____
   (a) He "got up on the right side of the bed," for a change.
   (b) He started thinking how badly he had behaved and acted nicer.
   (c) By working hard and not arguing or taking offense at the ranger's grouchiness, the boys proved their worth. Now the ranger knew he could trust them.
   (d) none of these

2. The reader could **predict** that using the same approach (hard work, no arguing or taking offense and proving oneself trustworthy) could dramatically improve nearly any relationship, especially with those in authority. _____ (a) True or (b) False

3. Place an "X" in front of the concerns Ranger Stewart voiced about the proposed cave exploration.
   _____ running out of flashlight batteries
   _____ safety issues for explorers
   _____ disruption of small animal life
   _____ getting lost

4. **Effect:** Animals become extinct be**cause** of _____,
   _____,
   _____,
   _____ and
   _____.

5. Most mammals native to Australia are marsupials. _____ (a) True or (b) False

Place an "X" in each appropriate box on the chart below concerning animal characteristics and to indicate if each one is a comparison (similar) or a contrast (difference)

	Characteristic	Mammals	Marsupial	Comparison	Contrast
6.	gives live birth				
7.	offspring requires further development, in mother's pouch				

8. **Reread** paragraph 28 of lesson 11. According to the definition of a marsupial, is the spiny anteater a marsupial or a regular mammal? _____

9. The ***kangaroo*** is the best known _____ in Australia.

Match the following terms for #10-14.

10. _____ ***kangaroo*** (a) flat grasslands of warm climates
11. _____ rat kangaroo (b) medium-sized specie of kangaroo
12. _____ ***wallabies*** (c) largest marsupial, hops on powerful hind legs
13. _____ ***savanna*** (d) young kangaroo offspring
14. _____ ***joey*** (e) smallest specie of kangaroo

15. The rat kangaroo's main enemy is _____, the wallaby's main enemy is _____, the kangaroo's main enemy is _____.

16. Kangaroos of all sizes are beneficial to pasture lands. _____
(a) True or (b) False

Place an "X" in each appropriate box on the chart below concerning animal characteristics.

	Characteristic	Wombat	Koala	Tasmanian Wolf	Dingo	Tasmanian Devil
17.	burrows, eat roots					
18.	climbs trees, eats eucalyptus leaves					
19.	carnivorous, extinct					
20.	wild dog of Australia					
21.	carnivorous, bad-tempered scavenger					

22. The only marsupial in North America is the _____.

23. The Virginia _____ has a wide ***range***, extending from the United States all the way into _____.

24. Opossums are ***omnivorous***, meaning they eat both _____ and _____ foods.

25. A defense mechanism of pretending to be dead is known as "_____ _____."

26. In the story, the reader can tell by the **context** what was meant when the group "struck a path" into the valley:
_____.
(a) Members of the group took turns striking the pathway with an object.
(b) The group followed a clearly marked path.
(c) They made their own path because there was no marked trail to follow.
(d) They crossed off that particular path from the map they carried so no one could follow them.

27. Where did Bryan find the cave opening? _____
_____

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


PAC
TM
TM

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 13:
Biology



Belly Buttons and Shrews

You are making progress! ***Answer the following questions. Write the correct answers 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. In the story, the reader can tell by the **context** that the cave explorer used the term "wild goose chase" to mean: _____
   _____.
   (a) the boys would probably encounter a wild goose in the cave
   (b) the boys could have a hard time finding what they were looking for
   (c) the boys could be chased by wild geese
   (d) the boys would have no trouble finding what they were looking for

2. Why did the cave explorer insist that Tom eat a power bar? _____
   _____
   (a) His feelings would be hurt if Tom did not eat it.
   (b) Tom looked too undernourished to stand up to the demands of exploring the cave.
   (c) Tom needed energy for the physical exertion and to keep warm.
   (d) He was a power bar salesman.

3. An individual who studies and explores caves is known as a _____.

4. Place an "X" in front of all of the following words and phrases that have to do with ***nocturnal*** animals.
   _____ search for food during the day
   _____ active at night
   _____ bats
   _____ cows
   _____ opossums

5. The opossum has _____ toes on its back feet and a _____ tail.

Match the following terms with the appropriate definitions for #6-9.

6. _____ ***placental***
7. _____ ***umbilical cord***
8. _____ ***placenta***
9. _____ pregnant

(a) the connection between the navel of the fetus with the placenta of the mother

(b) a mammal with a placenta

(c) the site of the exchange of nutrients and wastes between the fetus and the mother

(d) carrying a developing fetus within the body

10. The blood from a pregnant mother mixes with her baby's blood. _____
(a) True or (b) False

11. The virus that causes AIDS is known as _____.

12. Be**cause** many chemicals and some viruses can pass through the vessel walls from a mother to her baby, (**effect:**) _____
_____.
(a) doctors recommend that human mothers continue to take drugs and drink alcohol while they are carrying a developing baby
(b) nicotine, cocaine, speed, ecstacy or heroine taken by a mother can harm her baby
(c) a developing baby will not be directly affected by the addictions of the mother
(d) doctors prescribe drugs that can addict the mother but not the child

13. An unborn mammal is called a _____.

14. Place an "X" in front of all the following statements that correctly describe the ***shrew***.
_____ short, blunt snout
_____ weighs less than half an ounce
_____ between three and five feet long
_____ breaks down food slowly to provide energy
_____ faster heart rate than any other creature
_____ sleeps constantly, rarely hunts

15. Which of the following characteristics help a shrew to glide silently through tiny tunnels?
_____
(a) a long, pointed snout (c) sharp teeth
(b) a keen sense of smell (d) velvety soft-brown fur

16. ***Insectivores*** are animals that eat meat in the form of _____.

17. ***Shrews*** use _____ to find their prey in the dark.
(a) night vision (b) x-ray vision (c) echolocation (d) antennal

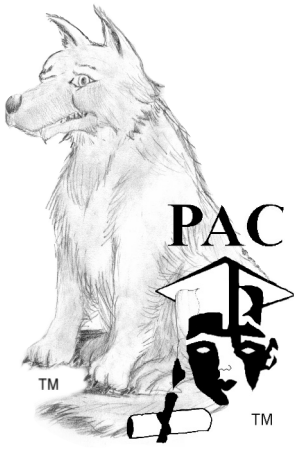
18. Which of the following would a shrew most likely eat? _____
(a) crickets (b) seeds (c) grass (d) mice

19. Why do animals seldom attack shrews? _____
    (a) They are too aggressive.
    (b) They emit a foul odor.
    (c) They shoot poison from a gland on their heads.
    (d) all of the above

20. The shrew's life span is : _____.
    (a) 24 to 38 months
    (b) 1 to 2 months
    (c) 14 to 18 months
    (d) 10 years

21. What **caused** the boys to gape in astonishment? _____
    _____

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


PAC
TM
TM



ACTIVITIES
Lesson 14:
Biology

Bats

You are making progress! ***Answer the following questions. Write the correct answers 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. Place the following events from the story in **chronological order** (1-5) by placing the appropriate number in front of each statement.
   _____ James Olsen struck the block holding the ship in place.
   _____ Bryan and Tom stared up at a blindly bright sky.
   _____ The man in the rubber boat started the outboard motor.
   _____ Bryan and Tom scrambled into the stern of the Viking ship.
   _____ The cave explorer worked around to a higher viewpoint.

2. Place an "X" in front of all of the following statements that correctly describe the ***mole***.
   _____ It constantly needs food to maintain its internal temperature.
   _____ It rests during the day and hunts at night.
   _____ It has powerful, shovel-like front feet.
   _____ It has weak eyes and detects danger by vibrations.
   _____ It is clawless.
   _____ It lives in a sub-terranean environment.

3. A mole detects danger by _____ through the soil.

4. Which shows the proper **contrast** of uses of a mole's two levels of tunnels. _____
   _____
   (a) The upper tunnel is used to search for food, and the lower tunnel is used to escape predators.
   (b) Both tunnels are used to search for food.
   (c) The upper tunnel is used as living quarters, and the lower tunnel is used to search for food.
   (d) Both tunnels are used for protection from predators.

5. A burrowing rodent that is also known as a *ground hog* is a _____.

6. Place an "X" in front of all of the following that are characteristic of all mammals.
   _____ vertebrates
   _____ internal temperature depends on environment
   _____ females provide milk for the young
   _____ lungs
   _____ two-chambered heart
   _____ hairless as adults
   _____ birth live young (except for the platypus and spiny anteater)

7. The smallest mammal is a(n): _____.
   (a) bumblebee (c) South American bat
   (b) blue whale (d) shrew

On the chart below, name the correct mammal for each listed characteristic.

	Mammals	Characteristics
8.		largest mammal, mass of 150 tons
9.		shortest lifespan of any mammal
10.		life span of about 15 years
11.		life span of about 20 years
12.		life span of about 40 years
13.		life span of about 75 years

14. **Contrast** the human heart to the hearts of other mammals. _____
_____
   (a) The human heart beats less in a lifetime than the hearts of other mammals.
   (b) The human heart is smaller than the hearts of other mammals.
   (c) The human heart beats more in a lifetime than the hearts of other mammals.
   (d) none of the above

Match each mammal with its appropriate habitat for #15-20.

15. _____ polar bear (a) underground
16. _____ camel (b) mountains
17. _____ mountain goat (c) air, caves
18. _____ sperm whale (d) arctic
19. _____ mole (e) ocean
20. _____ bat (f) desert

21. Bats are divided into two groups depending on whether they eat _____ or _____.

22. Biologists who have tested bat vision report that _____.
   (a) they have limited vision in dim light
   (b) they are blind
   (c) they see well in dim light
   (d) they see well in bright light

23. Female bats give birth to several offspring at once. _____ (a) True or (b) False

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

Name: _____

Date: _____ Grade: _____

ACTIVITIES
Lesson 15:
Biology



Whales, Rodents and Carnivores

You are making progress! ***Answer the following questions. Write the correct answers 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. In the story, which of the following words best describes James Olsen's reaction when he saw Bryan and Tom? _____
   (a) anger
   (b) fear
   (c) disgust
   (d) enthusiasm

2. Why was Bryan still concerned even after the ship was safe? _____
   (a) the ship had been seriously damaged
   (b) the ship was sinking
   (c) most of the ship's contents were probably on the cabin cruiser
   (d) James Olsen had taken Tom as a hostage

3. Fingers, thumbs, and toes of primates are known as _____.

4. All of the following describe ***primates***, except _____.
   (a) high intelligence
   (b) broad shoulders
   (c) forward facing eyes
   (d) opposable thumbs

5. Place the following categories of classification in order from the broadest to the most specific (1 notes the broadest and 7 notes the most specific).
   _____ phylum
   _____ family
   _____ kingdom
   _____ species
   _____ class
   _____ genus
   _____ ***order***

6. _____ aids primates in accurately judging the distance to an object.

7. Place an "X" in front of all of the following statements that correctly describe ***whales***.
   _____ live entire lives in water
   _____ give birth on land
   _____ babies called calves
   _____ breathe through gills
   _____ blubber preserves body heat
   _____ cold-blooded

8. ***Blubber*** is a storehouse of _____ and it helps the whale to _____ effortlessly in water.

9. Why can whales stay underwater for an hour or more without breathing? _____
   _____
   (a) they get oxygen from the water
   (b) their blood is rich in hemoglobin
   (c) their organs require very little oxygen
   (d) their blood is rich in white blood cells

On the chart below, provide the name of each body part (from paragraphs 15 and 16) opposite its given function for whales during a dive.

	Body Part	Function
10.		helps body digest and store nutrients, stores oxygen rich blood
11.		reserve supply of oxygen rich blood
12.		limits flow of blood to organs whose functions can be reduced
13.		needed for hunting
14.		needed for swimming

15. A horn-like material attached to the upper jaw of some whales that is used as a filter to catch plankton and krill is know as a(n) _____.

16. About one-half of all mammals are _____.

Match the following terms with their appropriate definitions for #17-19.

17. _____ ***incisors*** (a)the hard outer coating of teeth

18. _____ ***enamel*** (b)the sharp front teeth, most distincitve rodent feature

19. _____ ***dentine*** (c)the softer tooth material under the enamel

20. The _____ is a deadly disease transmitted to humans by _____ that live on rats.

21. Which of the following rodent-type creatures are **LEAST** threatening to crops?
_____
(a) squirrels
(b) rats
(c) mice
(d) rabbits

22. Characteristics that help carnivores catch prey include all of the following, **EXCEPT**:
_____.
(a) long tails
(b) sharp eyes
(c) sensitive ears
(d) intelligence

23. The special teeth carnivores have for holding their prey are called _____.

24. **Review Question**: On the chart below, identify the **order** to which each of the following mammals belong (primate, rodent, carnivore).

	Order	Mammals
(a)		monkeys
(b)		rabbits
(c)		mice
(d)		dogs
(e)		apes
(f)		bears
(g)		rats
(h)		minks
(i)		squirrels
(j)		raccoons

25. 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!


PAC
TM
TM