The Six Kingdoms of Life Review Sheet

1. List the Six Kingdoms of Life.

2. Match each term to its definition.

Letter	Term
	Prokaryotic
	Eukaryotic
	Autotrophic
	Heterotrophic
	Motile
	Sessile
	Unicellular
	Multicellular

Definitions
a. Can move on their own
b. Can produce their own energy, usually by photosynthesis
c. Cannot move on their own
d. Cells have membrane-bound organelles, especially a nucleus
e. Cells have no membrane-bound organelles
f. Made of more than one cell
g. Made of only one cell
h. Must get their energy from outside their bodies, usually by eating it

3. Fill in the chart with the appropriate information.

Kingdom	Prokaryotic or Eukaryotic?	Autotrophic, Heterotrophic or both?	Mostly motile, mostly sessile or both?	Unicellular or Multicellular?
Archaebacteria				
Eubacteria				
Protist				
Fungi				
Plant				
Animal				

4. Cross out the things that are not common to all living things.

a.
b. Photosynthesis
c. Cellular respiration
d. Need for energy
e. DNA
f. Ribosomes
g. Nucleus
h. Mitochondria
i. Chloroplast
j. Cell membrane
k. Cell wall

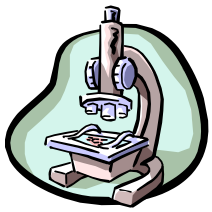
5. Our modern classification system uses seven levels to classify and organize organisms. What are the seven levels?
   - ❖

6. Which of these is written correctly and why?
   - ❖

a. *homo sapiens*
b. *Homo Sapiens*
c. *homo Sapiens*
d. *Homo sapiens*

- ❖ Why did you choose that answer?

7. Which of these organisms is <u>least</u> closely related to a dog, *Canis familiaris*?
   _____a.
   _____b. A coyote, *Canis lantrans*
   _____c. A fox, *Vulpes fulva*
   _____d. A wolf, *Canis lupus*
8. Mark each statement that is <u>true</u> about our modern classification system.
   _____a. The system can apply to organisms that are alive today and organisms that are now extinct.
   _____b. The system can incorporate new scientific discoveries.
   _____c. The system organizes organisms by groups according to how closely they are related.
   _____d. The system was first developed by Linneus.



9. The earliest classification system only had two groups. What were they?
10. What invention led to the discovery of bacteria and protists?

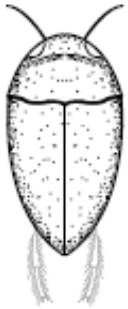
11. Use this dichotomous key to identify these organisms.

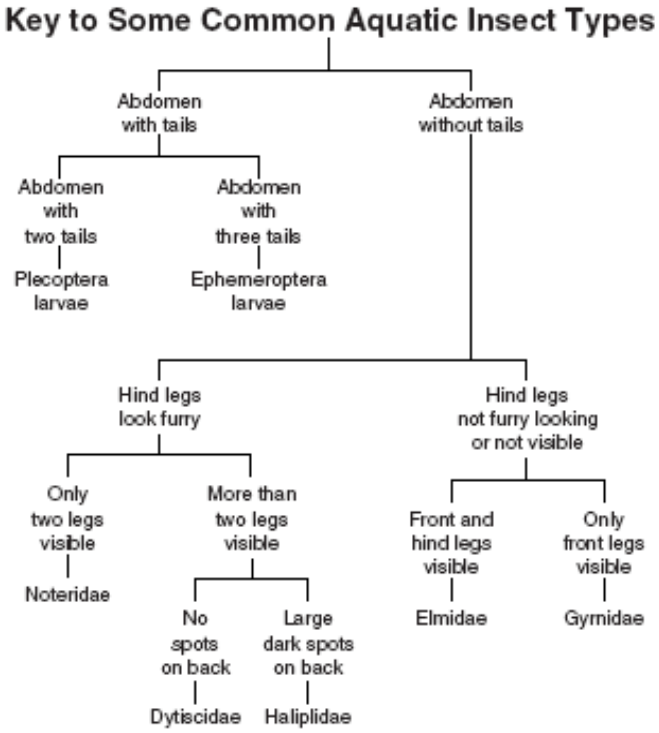
_____

_____

1a. Wings covered by an exoskeleton…go to 2.
1b. Wings not covered by an exoskeleton…go to 3.
2a. Body has a round shape…ladybug
2b. Body has an elongated shape…grasshopper
3a. Wings point out from the body…dragonfly
3b. Wings point behind the body…housefly

12. Use this identification tree to identify this organism.





13. A bacterium is unicellular. Unicellular organisms get all their nutrients and water through their cell membrane. Why does this keep any unicellular organisms from growing too large?

14. Read the following paragraph and answer the questions.

> Robert Koch, a German doctor, discovered he could isolate bacteria from a cow that had anthrax. When he injected a mouse with the bacteria, the mouse developed anthrax. This discovery led to the Germ Theory of Disease. The Germ Theory says that bacteria, virus or fungi cause many diseases. In the 1940's, penicillin was isolated and used to treat bacterial infections. It was the first antibiotic.

a. In 1847, some physicians decreased the number of infections simply by washing their hands before treating their patients. Does this *support* or *reject* the Germ Theory?

b. In 1928, Alexander Fleming first discovered that a mold called *Penicillium* could prevent the growth of bacteria. In 1939, Ernst Chain and Howard Florey isolated penicillin from the mold and began using it as the first antibiotic. All three scientists received the Nobel Prize for Medicine in 1945. Does this story show that scientists should always work together and continue each other's work or does it support the idea that scientists should work alone?

c. Which one of these people can be treated with antibiotics?
   - Patient with the common cold caused by a rhinovirus
   - Patient with the flu, caused by the Orthomyxoviridae virus
   - Patient with AIDS, caused by HIV
   - Patient with Strep Throat, caused by the streptococcus bacteria

15. Put a check next to each characteristic of a fungus.

- ❖
- ❖ Multicellular
- ❖ Prokaryotic
- ❖ Heterotrophic
- ❖ Cell walls
- ❖ Nucleus

16. Plants carry out photosynthesis. What organelle does photosynthesis take place in?

17. What essential gas does photosynthesis produce?

18. There are 9 major phylums of animals. How many are invertebrates?

19. Match the animal to its description.

Letter	Animal
	Amphibians
	Annelids
	Arthropods
	Birds
	Echinoderms
	Mammals
	Porifera
	Reptiles

Description
a. "jointed leg" animals—crustaceans, insects, arachnids
b. Feathers, lay hard-shelled eggs; front limbs modified into wings—robins, jays
c. Fur or hair, bear live young, produce milk, perspire—dogs, humans, wombats
d. Moist skin; lay soft eggs in water; live in moist environments—frogs, newts
e. No specialized shells, aquatic, sessile—sponges
f. Radial symmetry—sea stars, sand dollars
g. Scaly, dry skin; lay leathery-shelled eggs—snakes, lizards
h. Segmented worms—earthworms

20. According to this table, what organism's embryos do not develop legs?

Structures Present In Vertebrate Embryos

Stage of Development	Structure	Frog	Fish	Pig	Bird	Turtle	Human
early	tail	✔	✔	✔	✔	✔	✔
early	gill slits	✔	✔	✔	✔	✔	✔
early	notochord	✔	✔	✔	✔	✔	✔
late	external ears			✔			✔
late	limbs	✔		✔	✔	✔	✔

21. Match the adaptation to the environment its best suited for.

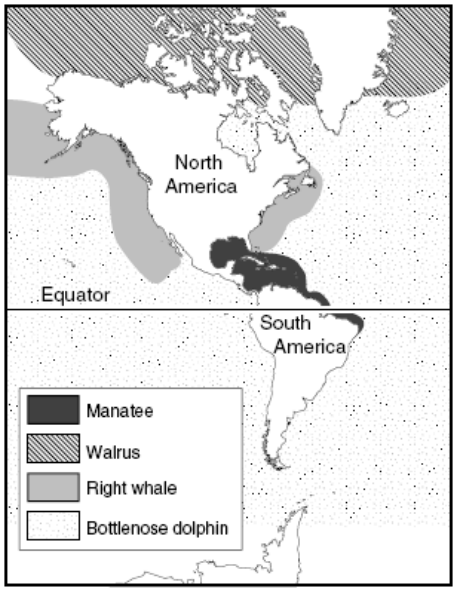
Letter	Adaptation
	Echolocation
	Large ears
	Large eyes
	Long Claws
	Opposable thumbs
	Streamlined body

Environment
a. Digging in the ground
b. Finding objects in the dark
c. Hearing improvements; cooling body
d. Moving through tree branches
e. Nocturnal movement, such as hunting at night
f. Swimming

32. What are the major groups of vertebrates?

33. What phylum do all vertebrates belong to?

34. This map shows the normal range of aquatic mammals. Which two mammals are most likely to be seen off the coast of Virginia?



35. Feathers are a modification of _____.