

The Animal Kingdom

Major Animal Phyla

1. SPONGES — sponges
2. COELENTERATES — hydras, jellyfish, sea anemones, and corals
3. FLATWORMS — free-living flatworms, flukes, and tapeworms
4. ROUNDWORMS — roundworms
5. SEGMENTED WORMS — bristle worms, earthworms and their relatives, leeches
6. MOLLUSKS — chitons, clams, snails, and octopuses
7. ARTHROPODS — insects, crustaceans, centipedes, millipedes, and arachnids
8. ECHINODERMS — starfish, sea urchins, sea cucumber, brittle star, and sea lily
9. CHORDATES — vertebrates such as fish, amphibians, reptiles, birds, and mammals

Generally, we think of an animal as something with four legs, eyes, ears, a nose and a mouth. However, the Animal Kingdom includes all the organisms (living things) which: a) have more than one cell; b) do not make their own food; and c) produce embryos (young forms) from an egg and a sperm.

Some of these organisms may look like plants to us. Sea anemones and some worms that live in tubes in the bottom of the ocean have colorful tentacles (arms) that make them look like pretty flowers. But they are animals nonetheless because they fit the qualifications listed above.

The list above gives nine of the major phyla (groups) in the Animal Kingdom. The sponges are the simplest animals and the chordates, including man, are the most complex. Scientists have found animals with similar structures into the same phylum. Animals in the first five phyla have increasingly complex structures. The animals in phyla 5, 6, and 7 have similar embryos. The animals in phyla 8 and 9 also have embryos which are similar. These are some reasons why scientists have placed the phyla in this order.

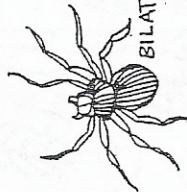
Read the above paragraphs carefully. Then write the answers to the following questions:

1. What are three characteristics of an animal? _____

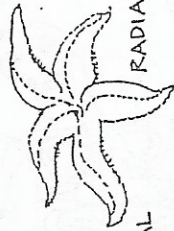
2. Which are the simplest animals? _____ the most complex? _____
flatworms segmented worms sponges coelenterates roundworms
3. Arrange the following phyla in order from simplest to most complex:
1. _____ 2. _____ 3. _____
4. _____ 5. _____
4. Which three phyla have similar embryos? _____
5. Why do you think that having similar embryos tells scientists that two phyla should be listed near each other? _____
6. Give the name of the phylum to which each of the following belongs:
Insects _____ man _____ flukes _____
starfish _____ snail _____ sponge _____
coral _____ earthworm _____ roundworm _____
7. On the back of this page, define: organism, phyla, embryo, Animal Kingdom.

A SIDE VIEW

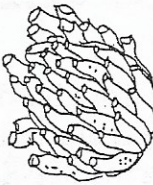
Bertram Bi Oily Gist wants to classify these animals according to their symmetry. Help him out. Label each animal with *B* for bilateral, *R* for radial, or *N* for no symmetry.



BILATERAL



RADIAL



NO SYMMETRY

Symmetry is a similarity or likeness of two parts.

An organism with **bilateral symmetry** has two sides or parts that are alike.

An organism with **radial symmetry** has an arrangement of similar parts around a central axis like spokes of a wheel.



1. FROG: _____



2. CRAB: _____



3. ANT: _____



4. MAN: _____



5. ANEMONE: _____



6. JELLY FISH: _____



7. HONEY BEE: _____



8. SPONGE: _____



9. SEA CUCUMBER: _____



10. DOG: _____



11. CAT: _____



12. STAR FISH: _____



13. ROUND WORM: _____



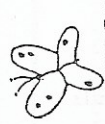
14. HYDRA: _____



15. OCTOPUS: _____



16. SEA URCHIN: _____



17. BUTTERFLY: _____



18. CRAW FISH: _____



19. SPIDER: _____



20. OYSTER: _____

By the way, does Bertram's body have symmetry? _____

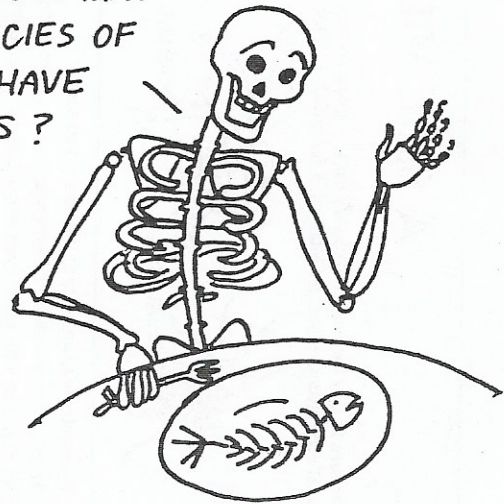
Name _____

BONES OR NO BONES?

Some animals have them. Some do not. A backbone may not seem like a big deal to you, but it is a major feature in the classification of animal species. Look at all the characteristics and animals in this list. Write the number of each one where it belongs—either in the BONES (vertebrates) or the NO BONES (invertebrates) category.

1. salamander
2. 95% of known species
3. toad
4. phylum chordata
5. snail
6. coral
7. pelican
8. turtle
9. soft bodies
10. internal skeleton
11. snake
12. sponge
13. tarantula
14. humans
15. exoskeletons
16. earthworm
17. wasp
18. clam
19. goldfish
20. ostrich
21. dolphin
22. spinal cord
23. skeletons made of bone
24. spider
25. slug
26. whale
27. skeletons made of cartilage
28. shark
29. closed circulatory systems
30. fly
31. zebra
32. crocodile

**DID YOU KNOW THAT
42,000 SPECIES OF
ANIMALS HAVE
BACKBONES ?**



BONES


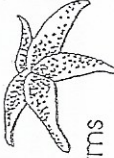



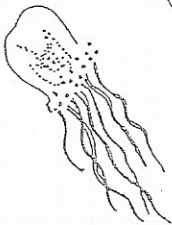

NO BONES

Name _____

Animal Kingdom

Name _____

The animal kingdom is often divided into subgroups called phyla. Draw a line from each phylum to the animal that belongs in it. Then draw a line from each animal to its characteristics.


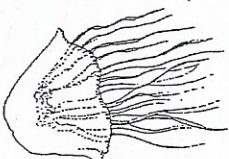
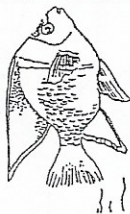

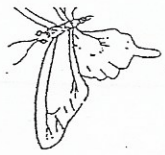

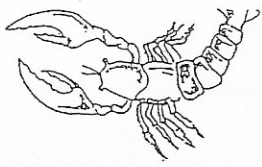


PHYLUM	ANIMAL	CHARACTERISTICS
Flatworms		The body of these long animals is divided into segments.
Segmented worms		The bodies of these marine animals have silmy plates with spines.
Arthropods		These animals have three body parts and jointed legs.
Mollusks		These animals have a notochord that supports the body.
Echinoderms		These animals have soft, thin, flat bodies.
Chordates		These soft-bodied animals are usually covered by a silmy shell.
Coelenterates		These jelly-like animals usually live in the sea and have cylindrical, bell or umbrella shapes.

Symmetrical Critters

Name _____

There are three kinds of symmetry: radial, bilateral, and asymmetrical.

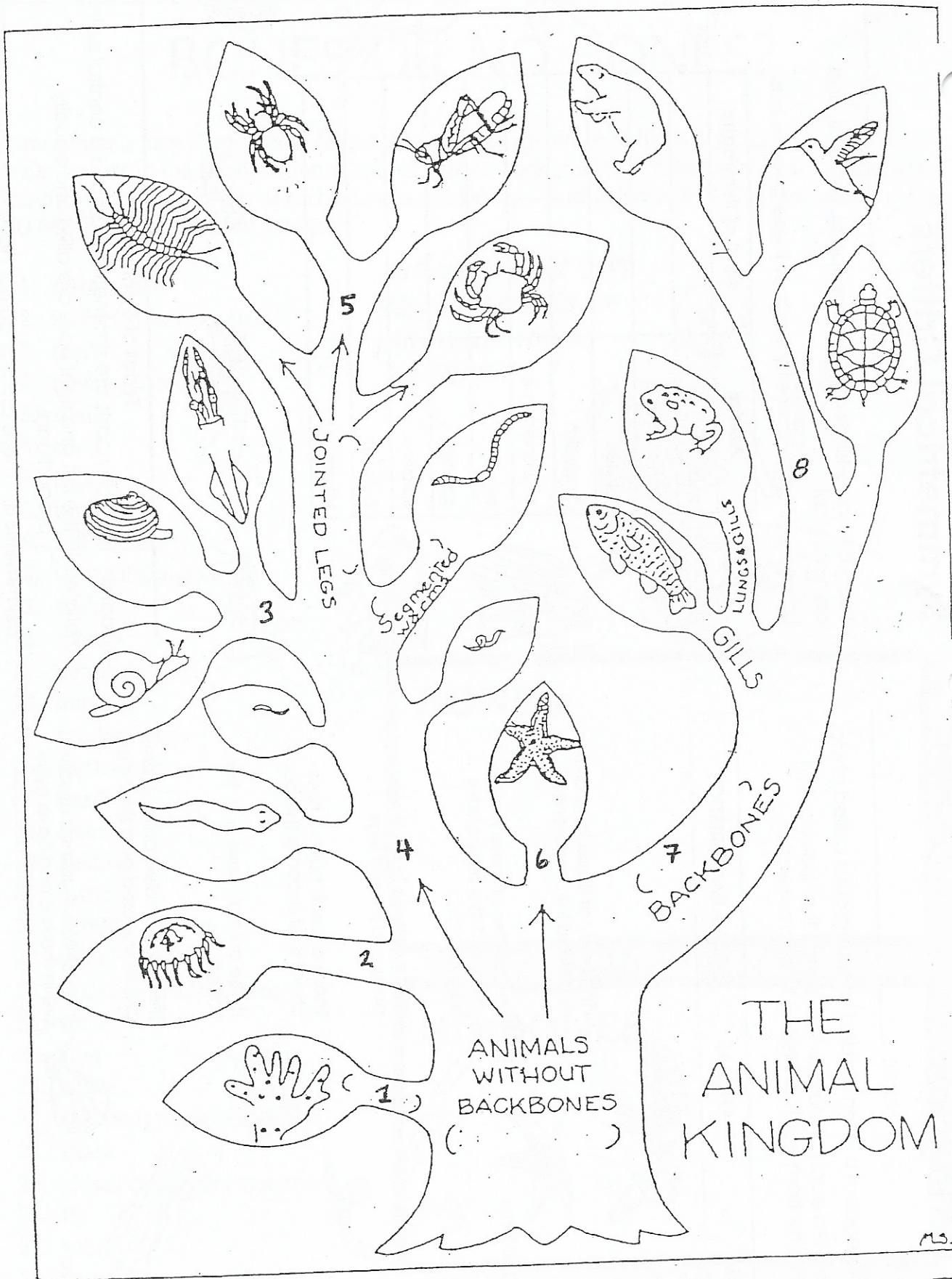
Label the kind of symmetry each of these animals has.

Animal	Kind of Symmetry
	
	
	
	
	
	
	
	
	

Types of Symmetry

radial: The body parts are symmetrical around a central point
bilateral: The left and right sides are alike and equally proportional.

asymmetrical: These animals do not have a definite shape and therefore, do not have symmetry.



* Suggest a Hypothesis for each numbered branch on the above diagram.

Excerpt: The Seaside Naturalist
D. Coulombe