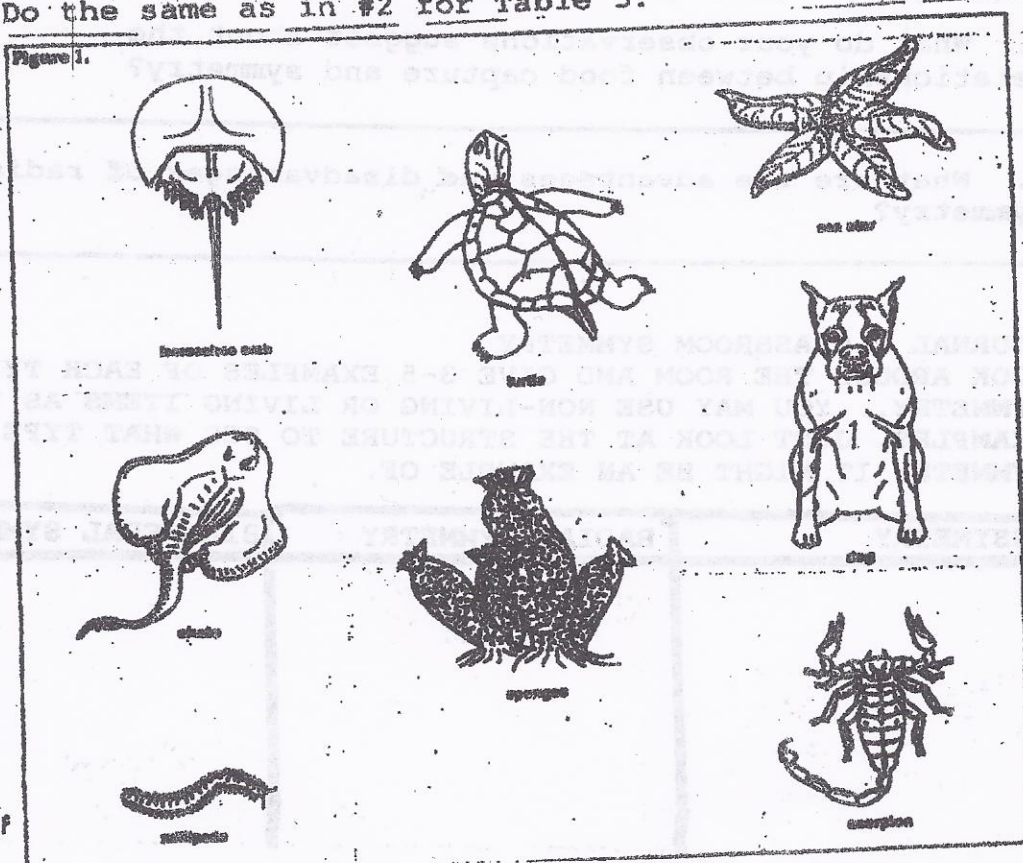


**INTRODUCTION:** Animals vary in the patterns of embryonic development, type of support, mechanisms for food capture, type of nervous response, structure of digestive and transport systems, methods of excreting wastes, and methods of locomotion. Animals also exhibit differences in SYMMETRY, or the arrangement of their body parts. Organisms that lack a regular arrangement of parts are categorized as ASSYMETRIC. Animals with parts that radiate from a central point or from a central axis have RADIAL SYMMETRY. And animals that can be divided into approximately mirror-image halves along a central plane are BILATERALLY SYMMETRICAL. Animals with BILATERAL SYMMETRY have definite front and back (anterior and posterior) ends and a concentration of nervous tissue in the anterior region, often with external sense organs. The symmetry of an animal affects the way it moves and obtains its food. Some scientists think that symmetry even affects mate choice and serves as an indicator of an organism's health.

1. Study the animals drawn in figure 1. Identify the type of symmetry that characterizes each animal's body plan and record it in Table 1. Draw a line through the center of each animal to help you make the identifications.
2. For Table 2, tell the type of symmetry each organism has. If you need help identifying what each organism looks like, refer to page numbers from your textbook written beside the name of the organism.
3. Do the same as in #2 for Table 3.





Organism	Symmetry
horseshoe crab	
sea star	
turtle	
skate	
dog	
sponges	
millipede	
scorpion	

Table 2.

Organism	Symmetry
Sunstar p.	
sea urchin p. 720	
brittle star p. 720	
jellyfish p. 707	
sea anemone p.	
butterfly/moth p. 731	
squid p. 713	

Table 3.

Organism	Symmetry
(Flatworm) Planaria p. 710	
Spider p. 741	
Hydra p. 709	
Crayfish p. 736	
fish p. 764	
Lizard p. 797	
Grasshopper p.	

ANSWER THE FOLLOWING QUESTIONS:

1. What do your observations suggest about the relationship between movement and symmetry?

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2. What do your observations suggest about the relationship between food capture and symmetry?

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3. What are the advantages and disadvantages of radial symmetry?

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JOURNAL CLASSROOM SYMMETRY

LOOK AROUND THE ROOM AND GIVE 3-5 EXAMPLES OF EACH TYPE OF SYMMETRY. YOU MAY USE NON-LIVING OR LIVING ITEMS AS YOUR EXAMPLES, JUST LOOK AT THE STRUCTURE TO SEE WHAT TYPE OF SYMMETRY IT MIGHT BE AN EXAMPLE OF.

ASSYMETRY	RADIAL SYMMETRY	BILATERAL SYMMETRY
1.		
2.		
3.		
4.		
5.		