Name _____ Class _____ Date _____

Comparing Limb Structure and Function

Could you tell if two people were related just by looking at them? What kinds of evidence would help you determine their relationship? In this lab, you will observe parts of various animals and look for evidence that these animals are related to one another.

OBJECTIVES

Observe and **describe** the limb structures of different organisms.

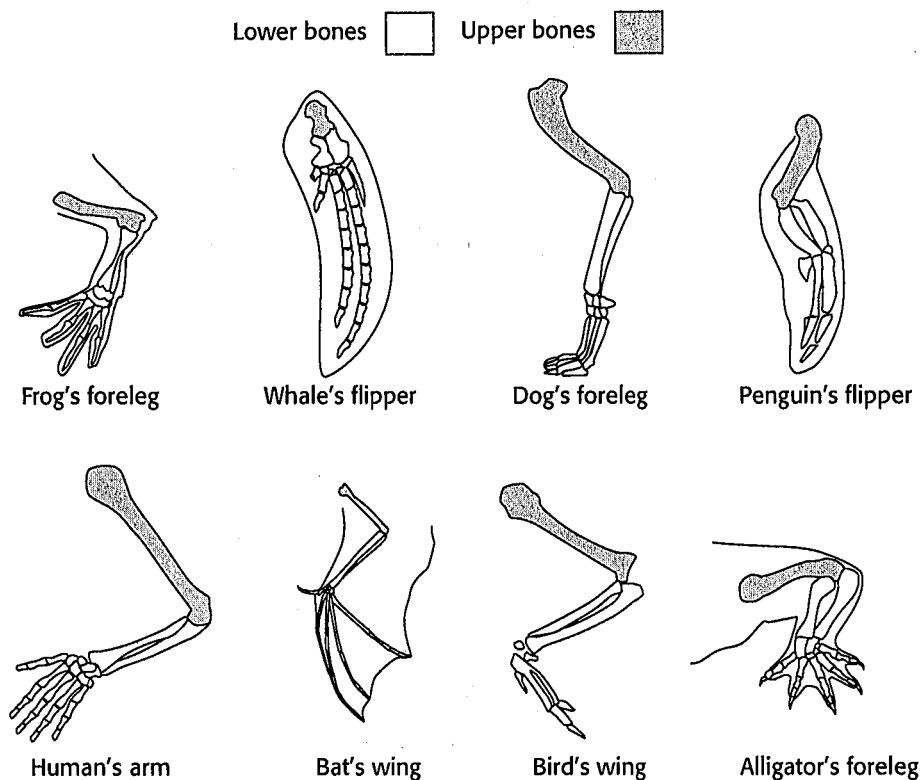**Identify** relationships between the structures of different organisms.

MATERIALS

• pen or pencil

Procedure

1. Observe the forelimbs of the animals shown in **Figure 1.** Count the approximate number of bones in each of the upper and lower limbs. Record this data in **Table 1.** Then record the function of each limb.

FIGURE 1 LIMBS OF DIFFERENT ANIMALS

Lower bones ☐   Upper bones ▨

Frog's foreleg   Whale's flipper   Dog's foreleg   Penguin's flipper

Human's arm   Bat's wing   Bird's wing   Alligator's foreleg

▌Comparing Limb Structure and Function *continued*

TABLE 1 COMPARING ANIMAL LIMBS

	Approximate number of bones in upper limb	Approximate number of bones in lower limb	Function of limb
Frog			
Whale			
Dog			
Penguin			
Human			
Bat			
Bird			
Alligator			

Analysis and Conclusions

1. **Examining Data** Observe the arrangement of bones of each animal. Compare these observations with the approximate number of the bones of each animal. How are the limbs of the frog, whale, dog, human, bat, bird, and alligator similar?

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How do the limbs differ?

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2. **Classifying** Look again at the data you collected. Classify the animals according to the functions of their limbs.

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3. **Drawing Conclusions** Which is the better indicator of the relationship between two organisms—structure or function? Explain your reasoning.

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