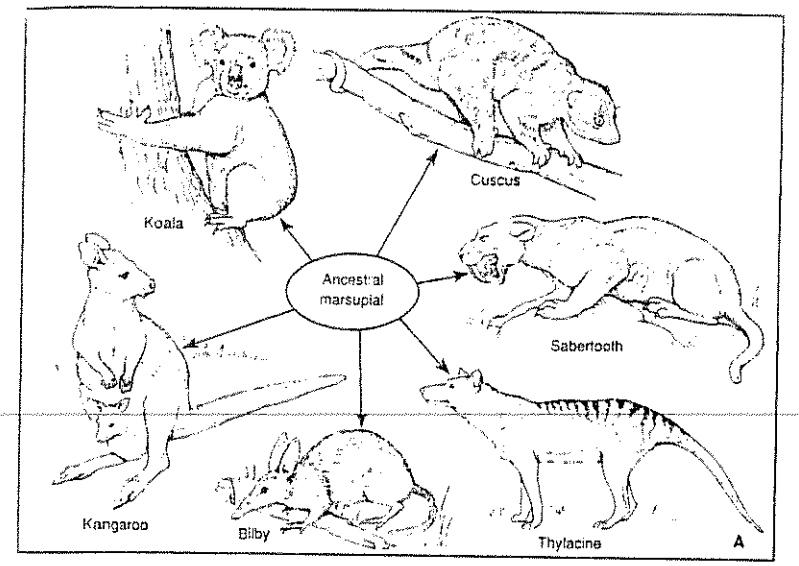
Work #_____: Patterns of Evolution

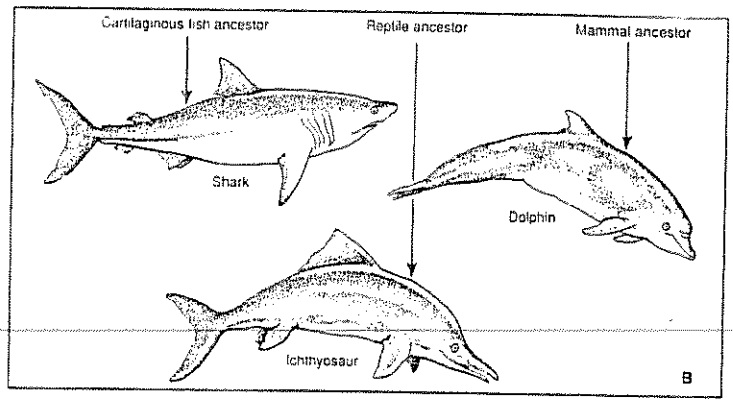
Name: _____
Hour: _____ **Date:** _____

PART I: CONVERGENT VS. DIVERGENT EVOLUTION

1. Examine the diagrams below.

   a) Which diagram shows convergent evolution? _____
   b) Which diagram shows divergent evolution? _____





PART II: HOMOLOGOUS STRUCTURES

1. Examine the drawings of bones shown in Figure 1. (On a separate sheet!) Look for similarities among the various animals.

2. Color each part of the human arm a different color. (All bones of the wrist should be a single color, all bones of the hand should be a single color, etc.)

3. Using the same colors that you used for the human arm, color the corresponding bones in each of the other animals.

4. Functions of the different bones sets in Figure 1 are given in the table below. Write the name of the animal next to the appropriate function. (Hint: One of the functions will have 2 corresponding animal names!)

Animal(s)	Function
	walking
	swimming
	flying
	grasping, manipulating
	locomotion, catching prey

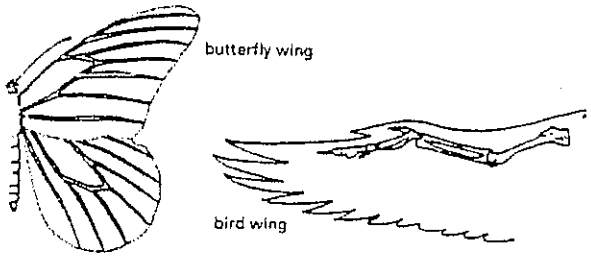
5. Staple Figure 1 to the back of this sheet!

PART III: ANALOGOUS STRUCTURES

1. Examine the butterfly wing and the bird wing shown in Figure 2 below.
2. What function do these structures share? _____
3. How do these structures differ anatomically?

   _____
4. Are birds and insects closely related? _____

FIGURE 2



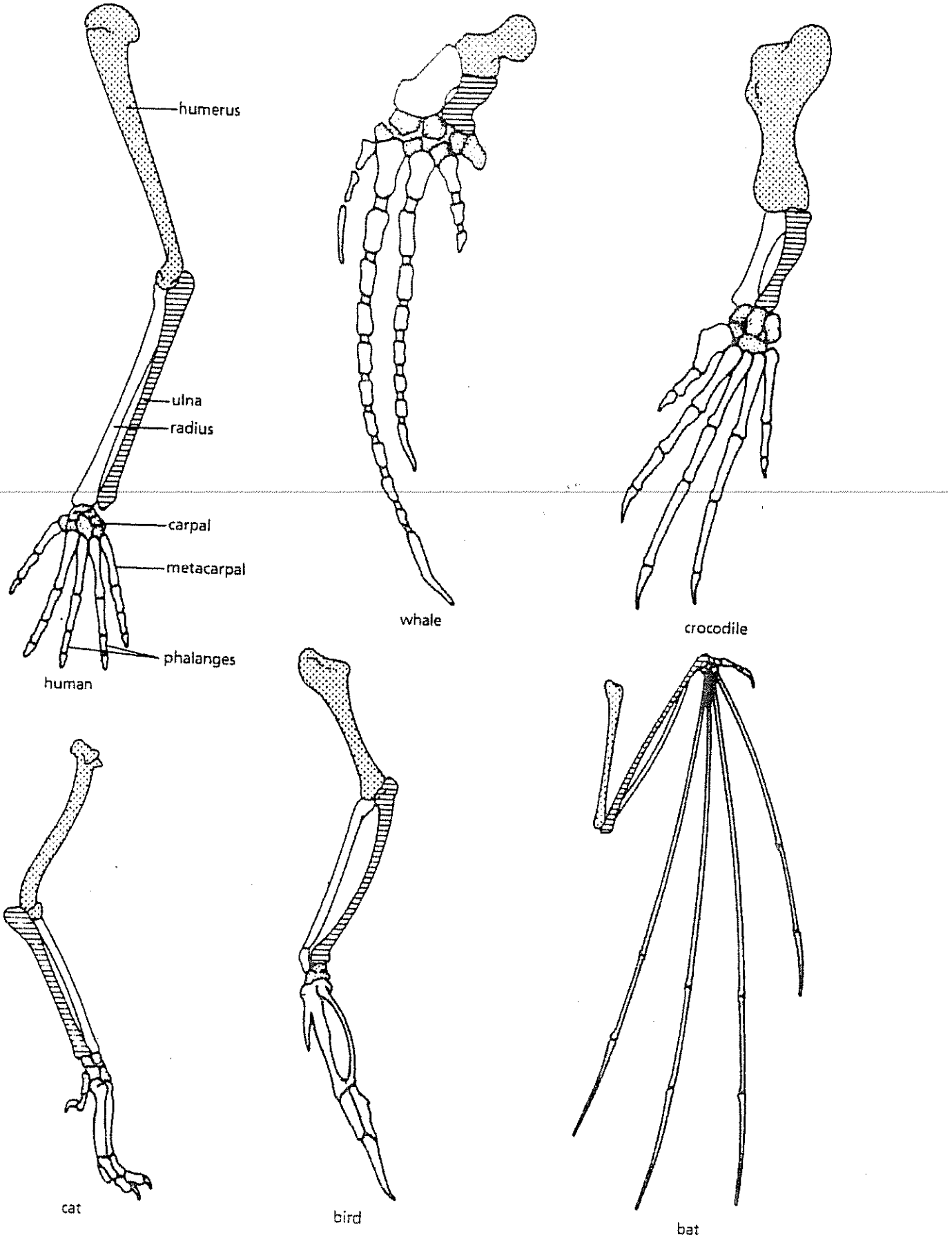
PART III: COEVOLUTION

The following chart describes some common agents of pollination. Use this information to decide which agents would pollinate each of the flowers described in the list.

Agent	*Special Characteristics*
Honeybees 	• excellent vision but cannot see the color red • can see blue, yellow, and ultraviolet best
Night-Flying Moths 	• cannot see color • excellent sense of smell
Flies 	• attracted to scents that resemble dead or decaying animals
Hummingbirds 	• good sight • attracted to orange and red • poor senses of smell
Bats 	• active at night • attracted to sour, musty odors

1. The banana plant has a hanging flower that opens at night and gives off a musty odor. _____
2. Skunk Cabbage releases an odor like that of decayed meat. _____
3. Flower A is bright orange with little fragrance. _____
4. Flower B has small white flowers that open at night and produce a sweet scent. _____
5. Flower C is bright yellow with nectar located close to its surface. _____
6. Flower D. is bright red with nectar located in long tubes. _____

FIGURE 1


humerus
ulna
radius
carpal
metacarpal
phalanges
human
whale
crocodile
cat
bird
bat