Name _____ Date _____ Bio - _____

Is a Shark just a Shark?

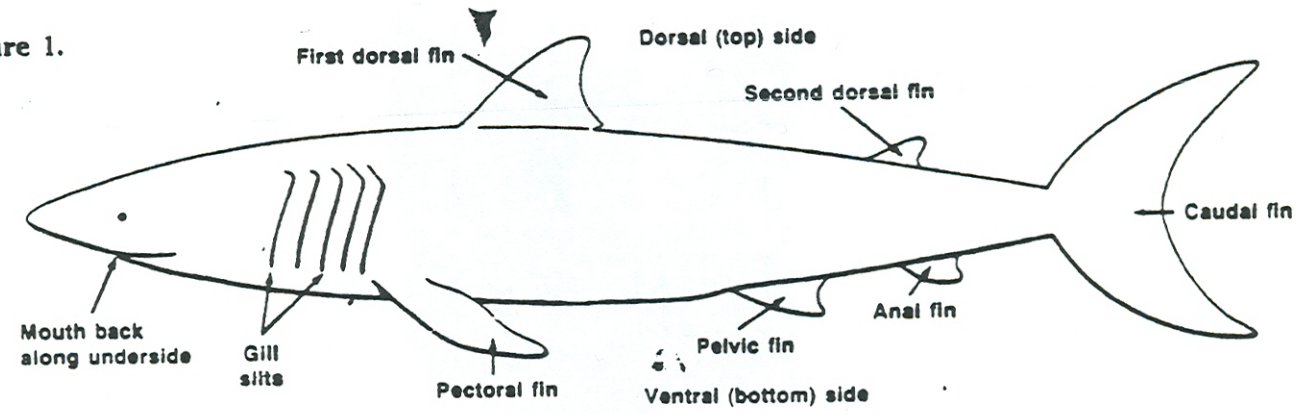
Purpose: To use a dichotomous key to determine the 14 different types of shark families.

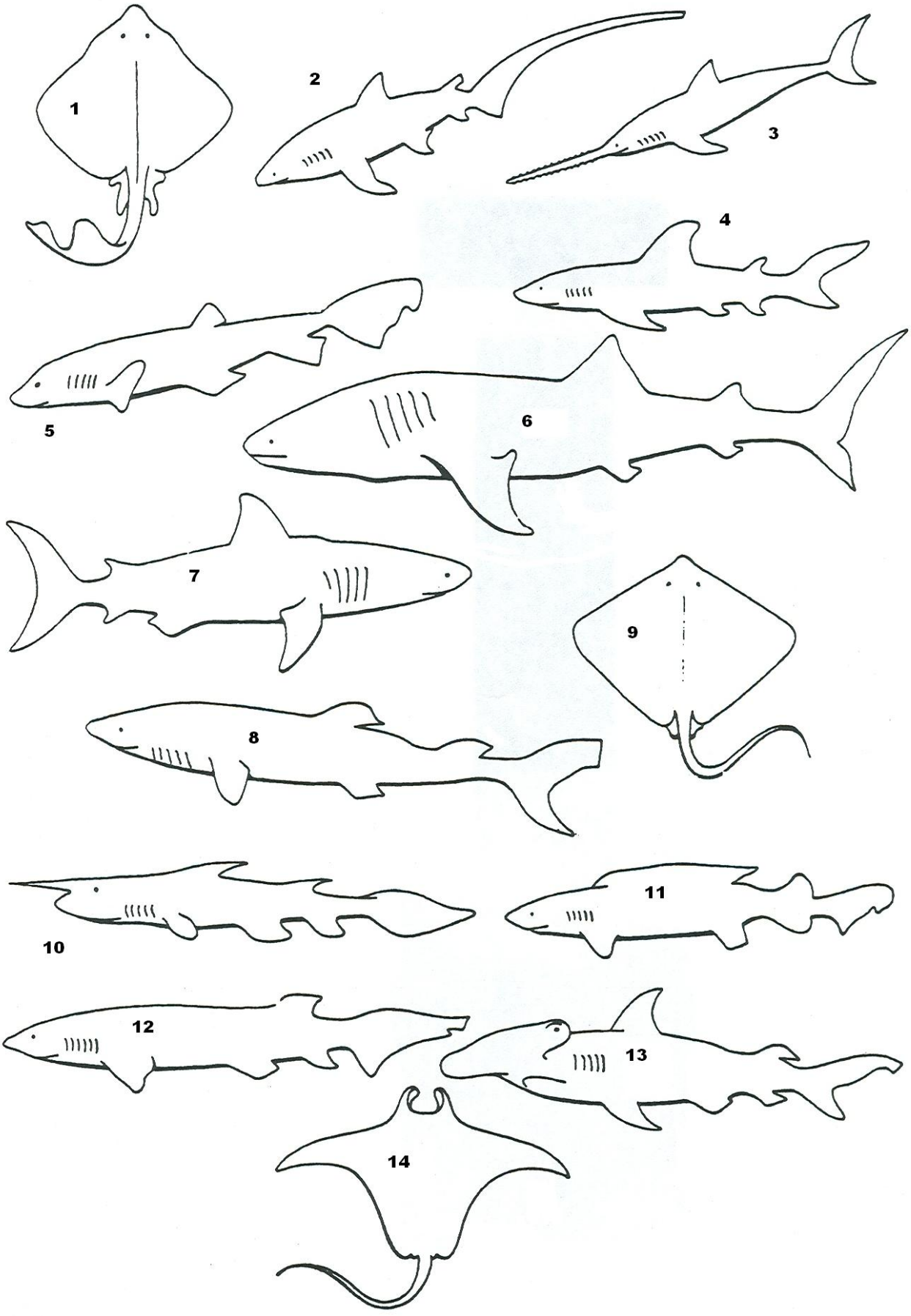
Information: To identify an organism scientists use a key. A key is a listing of characteristics, such as structure and behavior, organized in such a way that an organism can be identified.

Procedure:

1) Use figure 1 as a guide to the shark parts used in the key.
2) Read statements 1A and 1B of the key. They describe a shark characteristic that can be used to separate the sharks into two major groups.
3) Then study the shark 1 in figure 2 for the characteristic referred to in 1A and 1B. Follow the directions in these statements and continue until a family name for Shark 1 is determined. For example, to key a shark that has a body that is not kite shaped, and has a pelvic fin, and six gill slits, follow the directions of 1B and go directly to statement 2. Follow statement 2B to statement 3. At statement 3A, identify the shark as belonging to Family Hexanchidae.
4) Continue keying each shark until all have been identified. Write that family name for each shark on the table that corresponds to the number of each shark.
5) Make you own key using the fish in figure 3. Use the same format as the given key. The family names to be used are I, II, III, IV, and V. Your key should correctly use traits that will lead you to each fish family.

Figure 1.




1
2
3
4
5
6
7
8
9
10
11
12
13
14

Shark Key

1. A. Body kite like in shape (if viewed from above)	Go to statement 12
B. Body not kite like in shape (if viewed from above)	Go to statement 2
2. A. Pelvic fin absent and nose saw like	Family Pristophoridae
B. Pelvic fin present	GO to statement 3
3. A. Six gill slits present	Family Hexanchidae
B. Five gill slits present	Go to statement 4
4. A. Only 1 dorsal fin present	Family Scyliohinidae
B. 2 dorsal fins present	Go to statement 5
5. A. Mouth at front of head rather than back along underside of head	Family Rhinocodontidae
B. Mouth back along underside of head	Go to statement 6
6. A. Head expanded on side with eyes at end of expansion	Family Sphyrnidae
B. Head not expanded	Go to statement 7
7. A. Top half of caudal fin exactly same size and shape of bottom fin	Family Isuridae
B. Top half of caudal fin different in size and shape from bottom fin	Go to statement 8
8. A. 1st dorsal fin very long, almost ½ the total length of the body	Family Pseudotrikidae
B. 1st dorsal fin length much less than ½ the total length of the body	Go to statement 9
9. A. Caudal fin very long, almost as long as entire body	Family Alopiidae
B. Caudal fin length much less than length of entire body	Go to statement 10
10. A. Nose with long needlelike point on end	Family Scapanorhynchidae
B. Nose without needlelike point	Go to statement 11
11. A. Anal fin absent	Family Squalidae
B. Anal fin present	Family Carcharhinidae
12. A. Small dorsal fin present near tip of tail	Family Rajidae
B. Small dorsal fin absent near tip of tail	Go to statement 13
13. A. Hornlike appendages at front of shark	Family Mobulidae
B. Hornlike appendages not present at front of shark	Family Dasyatidae

Shark Name Table

1 _____	2 _____	3 _____
4 _____	5 _____	6 _____
7 _____	8 _____	9 _____
10 _____	11 _____	12 _____
13 _____	14 _____	

Questions:

1) What is a biological key?

2) List 3 different characteristics that were used in the shark key.

   a. _____

   b. _____

   c. _____

3) Which main characteristic could be used to separate shark 4 from shark 8?

4) Which main characteristic could be used to separate shark 4 from shark 7?

5) Make you own key. To get started, the first 2 statements have been given for you. Statement 1 divides the 5 fish into 2 main groups, based on body shape. Next, choose another characteristic that will divide the fish not have tube like bodies into 2 groups. Continue to choose characteristics that will separate a group into smaller groups.

Key

1. A. Fish with long tube like body _____

   B. Fish with body shape not tube like _____

2. A. _____

   B. _____

3. A. _____

   B. _____

4. A. _____

   B. _____

Figure 3.