

Name _____

Date _____

Student # _____

Lab # _____

Shark Key

A classification system is a way of separating a large group of closely related organisms into smaller subgroups. With such a system, identification of an organism is easy. The scientific names of organisms are based on the classification systems of living organisms.

To classify an organism, scientists often use a key. A key is a listing of specific characteristics, such as structure and behavior, in such a way that an organism can be identified through a process of elimination.

In this investigation, it is expected that you:

- (a) use a key to identify 14 shark families
- (b) study the method used in phrasing statements of a key
- (c) construct your own key which will identify fictitious organisms appearing on page 209

Procedure

• Read sentences 1A and 1B of the key. Then study Shark 1 in Figure 46-2 for the characteristics referred to in 1A and 1B. Follow the directions in these sentences and continue with this process until a family name for Shark 1 is determined.

For example, if the shark has an anal fin and its body is not kite shaped, follow the directions of 1A and go directly to sentence 2. If the shark

lacks an anal fin or has a kite shaped body, follow the directions of 1B and go to sentence 10.

• Continue this process with each shark until all animals have been identified. Write the family name on the line below each animal.

• Use Figure 46-1 as a guide to the anatomical features used in the key.

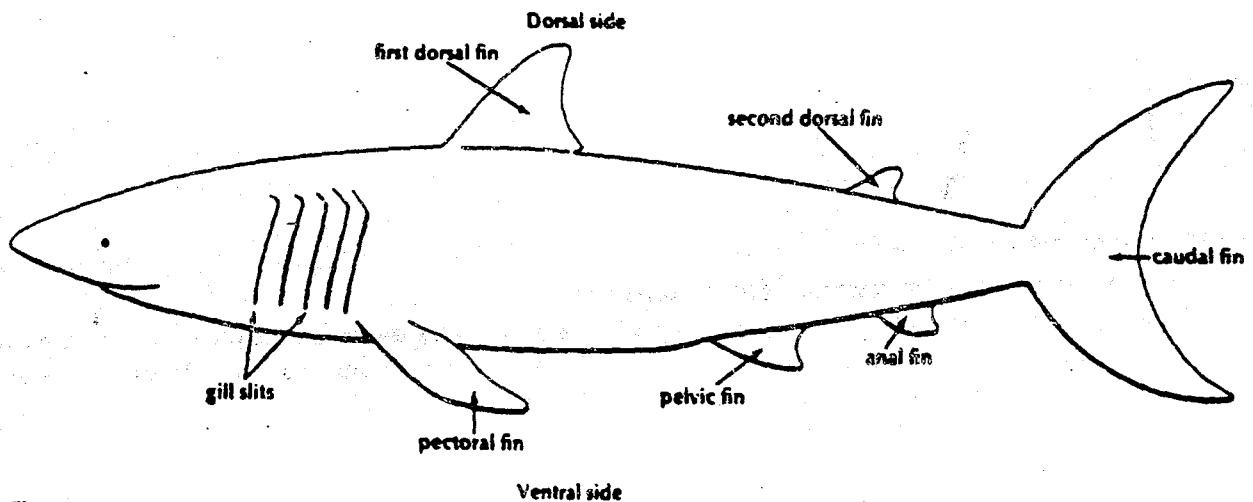


Figure 46-1

KEY

- 1.A. Body kitelike (if viewed from the top) Go to 12
 B. Body not kitelike (if viewed from the top)..... Go to 2
- 2.A. Pelvic fin absent..... Family Pristiophoridae
 B. Pelvic fin present Go to 3
- 3.A. Six gill slits present..... Family Hexanchidae
 B. Five gill slits present Go to 4
- 4.A. Only one dorsal fin..... Family Scyliorhinidae
 B. Two dorsal fins..... Go to 5
- 5.A. Mouth at front of snout rather than on underside of head..... Family Rhincodontidae
 B. Mouth on underside of head..... Go to 6
- 6.A. Head expanded on side with eyes at end of expansion Family Sphyrnidae
 B. Head not expanded..... Go to 7
- 7.A. Top half of caudal fin exactly same size and shape as bottom half..... Family Isuridae
 B. Top half of caudal fin different in size and shape than bottom half..... Go to 8
- 8.A. First dorsal fin very long, almost half total length of body..... Family Pseudotriakidae
 B. First dorsal fin regular length..... Go to 9
- 9.A. Caudal fin very long, almost as long as entire body..... Family Alopiidae
 B. Caudal fin regular length..... Go to 10
- 10.A. A long point on end of snout..... Family Scapanorhynchidae
 B. Snout without long point..... Go to 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. No dorsal fin present near tip of tail Go to 13
- 13.A. Front of animal with two hornlike appendages..... Family Mobulidae
 B. No hornlike appendages..... Family Dasyatidae

Analysis

Write a key that will identify the fictitious animals in Figure 45-2. Use the following guidelines and suggestions in preparing your key:

- (a) Prepare your key to identify phylum groups.
- (b) Use all animals shown.
- (c) Each animal must represent a different phylum.
- (d) Assign a phylum name to each representative animal. This name should describe some major characteristic not found in the other animals. This characteristic should be one that could be used in placing other animals having this same trait into only this phylum. (Example: Animal 8 may belong to Phylum Toenail Tentacles.)

56

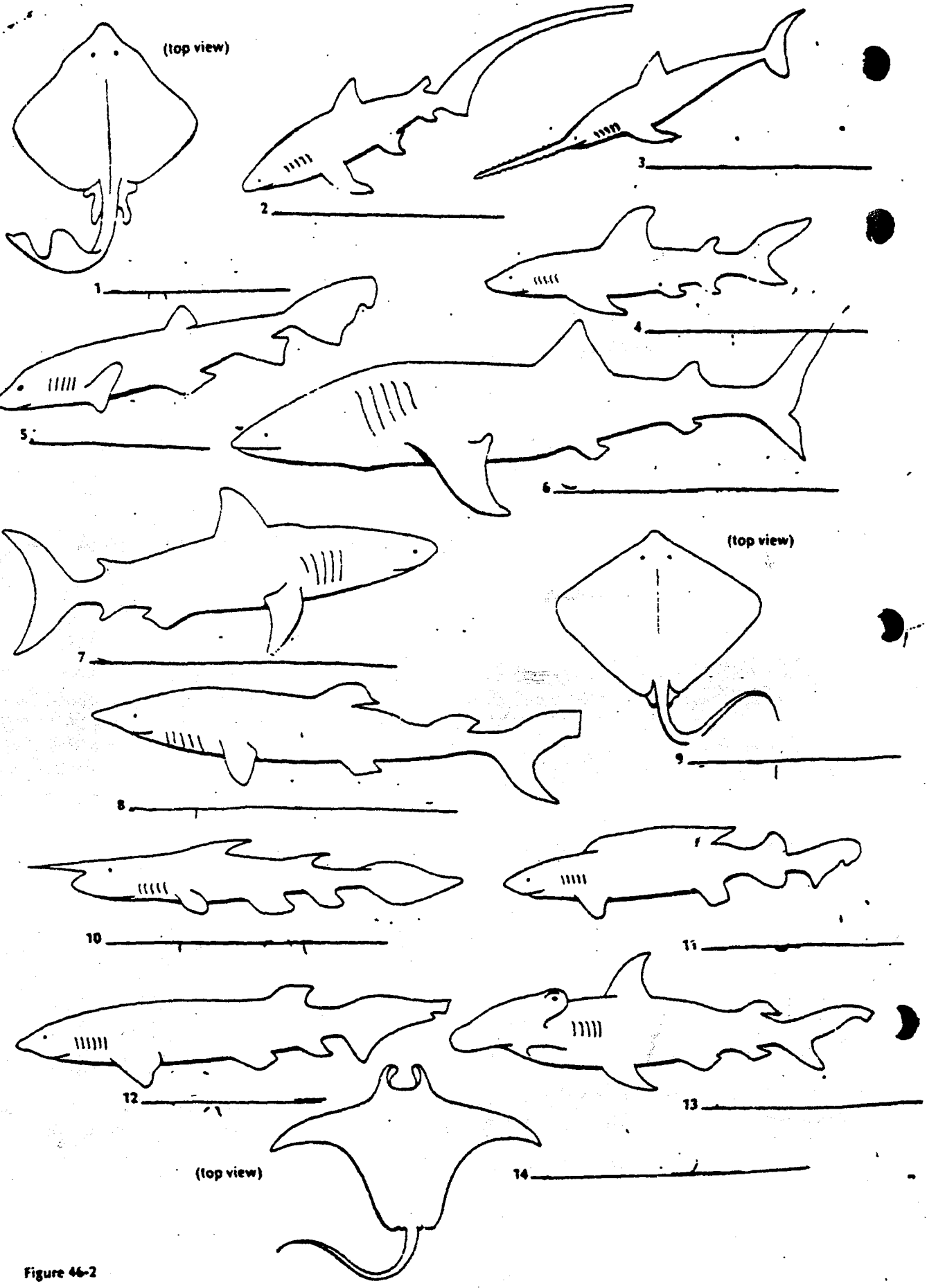


Figure 46-2



Figure 45-2