

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.

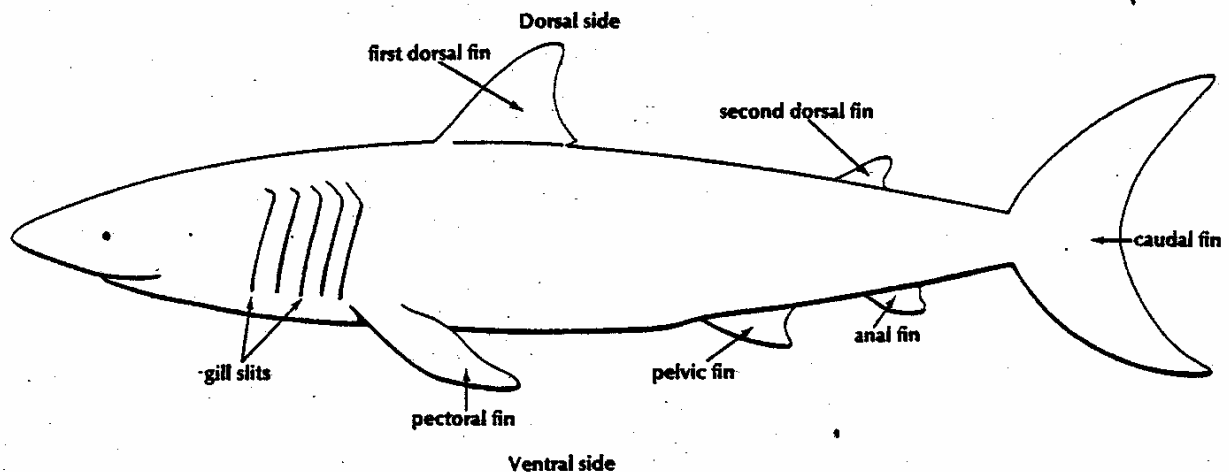
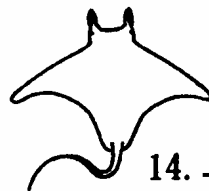
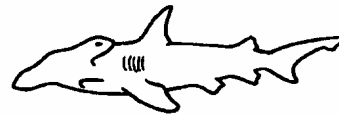
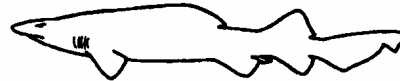
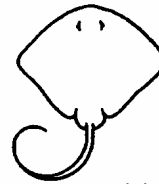
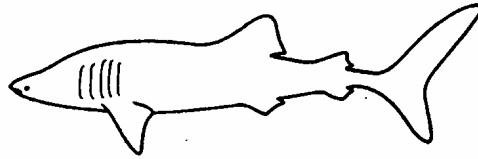
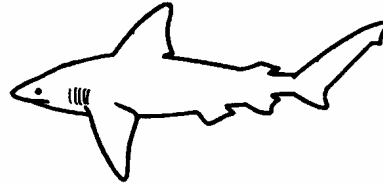
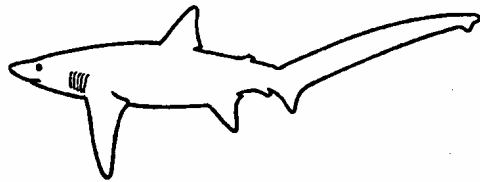
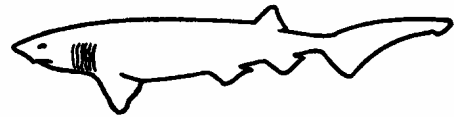
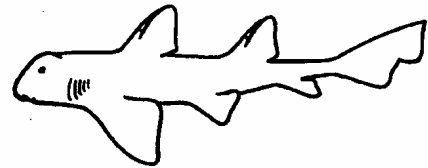
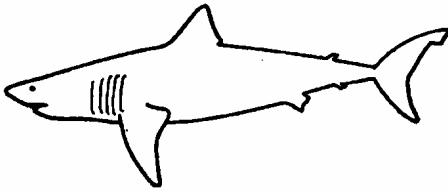
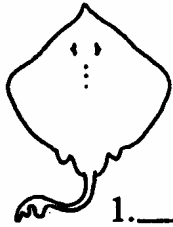


Figure 46-1

Name That Fish

Use "*Key to Families*" to help you identify the family of each shark or batoid on this page.



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. anal fin absent	go to 11
B. anal fin present	go to 3
3. A. six gill slits present	cow shark
B. five gill slits present	go to 4
4. A. dorsal fin with spines	bullhead shark
B. no spines on dorsal fin	go to 5
5. A. mouth at front of snout (rather than on underside of head)	whale shark
B. mouth on underside of head	go to 6
6. A. head expanded with eyes at ends of expansion	hammerhead shark
B. head not expanded	go to 7
7. A. top half of caudal fin about the same size as bottom half	mackerel shark
B. top half of caudal fin different in size than bottom half	go to 8
8. A. first dorsal fin very long, almost half the total length of the body	false cat shark
B. first dorsal fin regular length	go to 9
9. A. caudal fin very long, almost as long as entire body	thresher shark
B. caudal fin "regular" length	go to 10
10. A. base of first dorsal fin behind pelvic fins	cat shark
B. base of first dorsal fin in front of pelvic fins	requiem shark
11. A. long point on the end of snout	saw shark
B. snout without long point	dogfish sharks
12. A. front of animal has two hornlike appendages	mantas
B. no hornlike appendages	go to 13
13. A. small dorsal fin present near tip of tail	skate
B. no dorsal fin present near tip of tail	stingray

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.)



Figure 45-2