

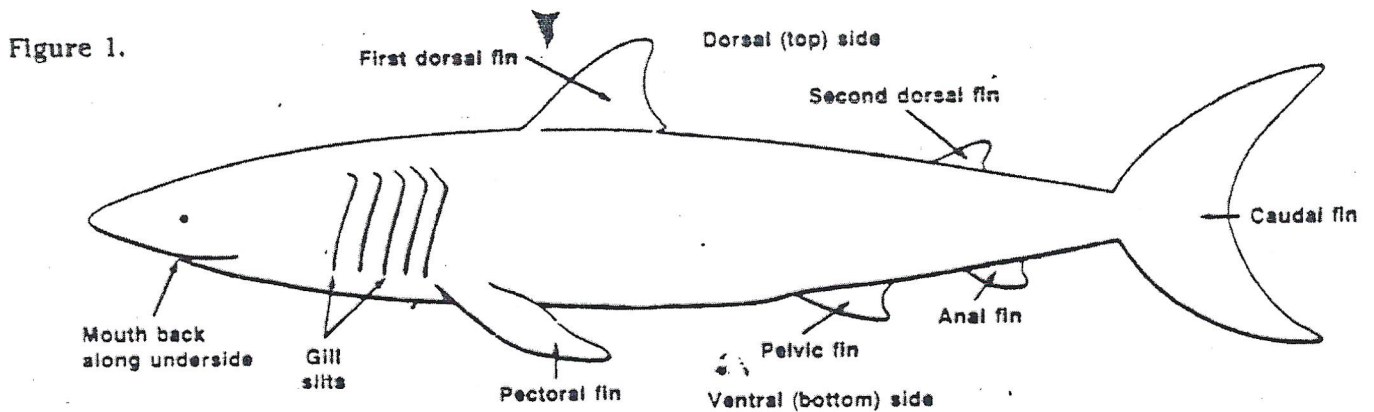
Is a Shark just a Shark?

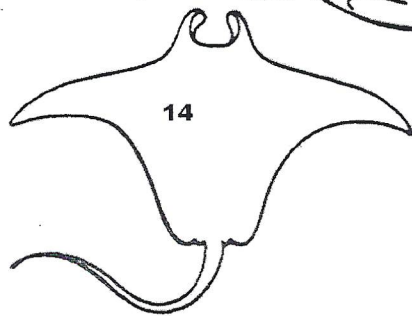
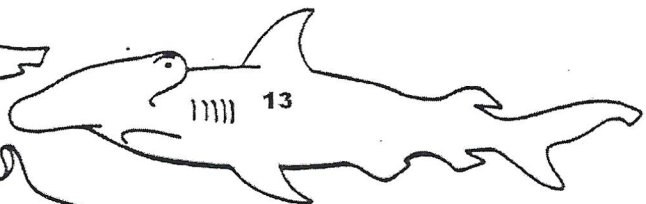
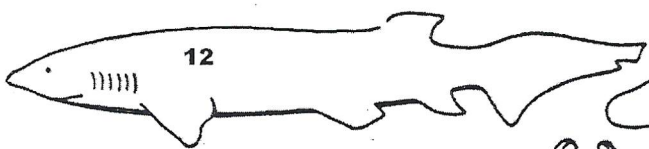
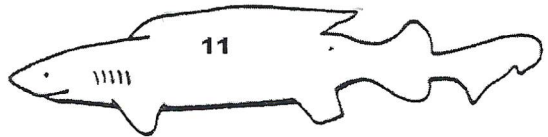
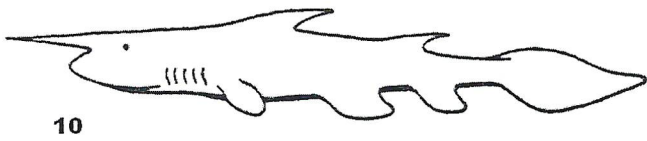
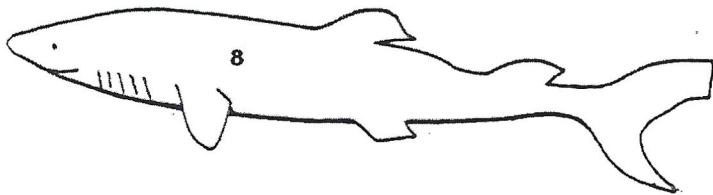
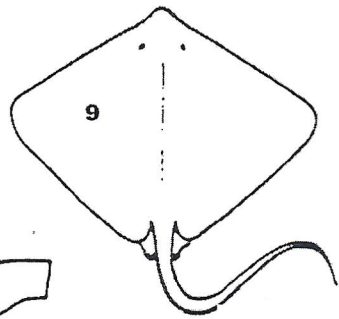
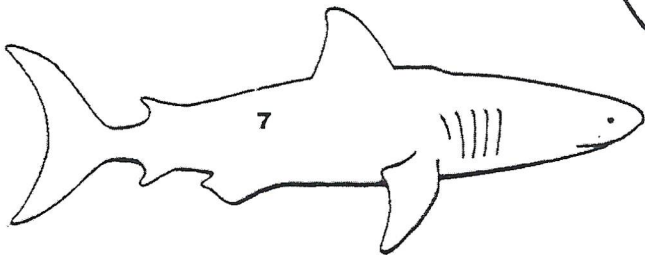
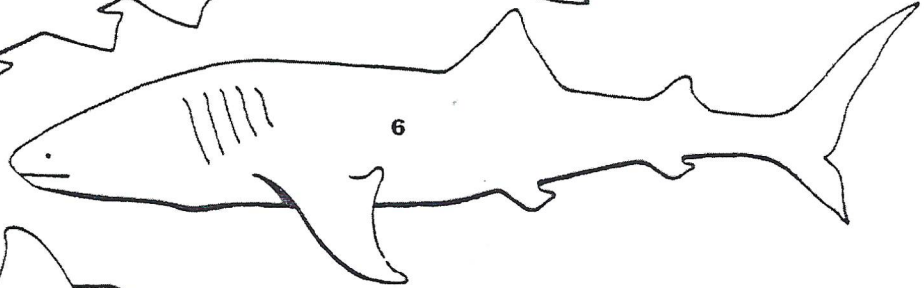
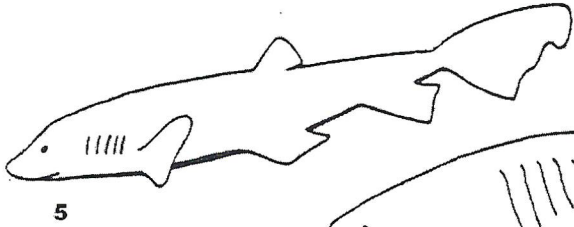
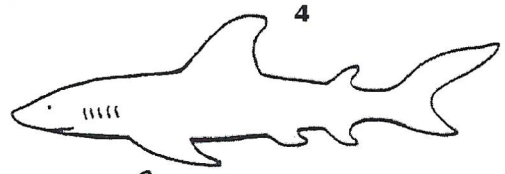
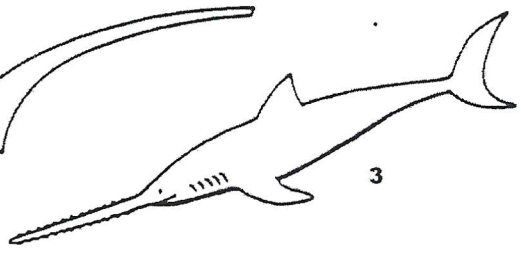
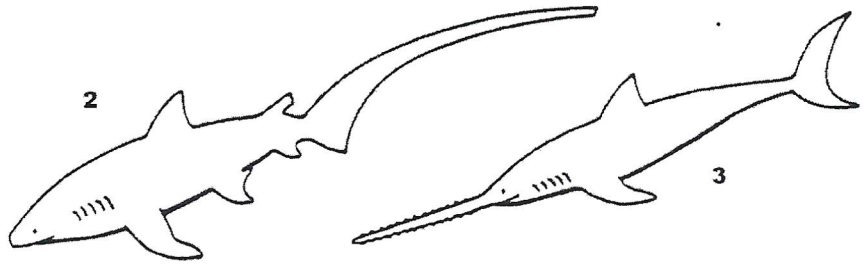
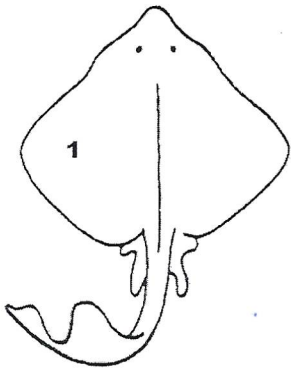
Purpose: To use a dichotomous key to determine the 14 different types of shark families.

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.





Shark Key

- | | |
|--|---|
| <p>1. A. Body kite like in shape (if viewed from above)
 B. Body not kite like in shape (if viewed from above)</p> | <p>Go to statement 12
 Go to statement 2</p> |
| <p>2. A. Pelvic fin absent and nose saw like
 B. Pelvic fin present</p> | <p>③ Family Pristophoridae
 GO to statement 3</p> |
| <p>3. A. Six gill slits present
 B. Five gill slits present</p> | <p>⑫ Family Hexanchidae
 Go to statement 4</p> |
| <p>4. A. Only 1 dorsal fin present
 B. 2 dorsal fins present</p> | <p>⑤ Family Scyliorhinidae
 Go to statement 5</p> |
| <p>5. A. Mouth at front of head rather than back along underside of head
 B. Mouth back along underside of head</p> | <p>⑥ Family Rhinocodontidae
 Go to statement 6</p> |
| <p>6. A. Head expanded on side with eyes at end of expansion
 B. Head not expanded</p> | <p>⑬ Family Sphyrnidae
 Go to statement 7</p> |
| <p>7. A. Top half of caudal fin exactly same size and shape of bottom fin
 B. Top half of caudal fin different in size and shape from bottom fin</p> | <p>⑦ Family Isuridae
 Go to statement 8</p> |
| <p>8. A. 1st dorsal fin very long, almost ½ the total length of the body
 B. 1st dorsal fin length much less than ½ the total length of the body</p> | <p>⑪ Family Pseudotriakidae
 Go to statement 9</p> |
| <p>9. A. Caudal fin very long, almost as long as entire body
 B. Caudal fin length much less than length of entire body</p> | <p>② Family Alopiidae
 Go to statement 10</p> |
| <p>10. A. Nose with long needlelike point on end
 B. Nose without needlelike point</p> | <p>⑬ Family Scapanorhynchidae
 Go to statement 11</p> |
| <p>11. A. Anal fin absent
 B. Anal fin present</p> | <p>⑧ Family Squalidae
 ④ Family Carcharhinidae</p> |
| <p>12. A. Small dorsal fin present near tip of tail
 B. Small dorsal fin absent near tip of tail</p> | <p>① Family Rajidae
 Go to statement 13</p> |
| <p>13. A. Hornlike appendages at front of shark
 B. Hornlike appendages not present at front of shark</p> | <p>⑭ Family Mobulidae
 ⑨ Family Dasyatidae</p> |

Shark Name Table

- | | | |
|------------------------------------|----------------------------------|---------------------------------|
| 1 <u>Family Triidae</u> | 2 <u>Family Alopiidae</u> | 3 <u>Family Pristophoridae</u> |
| 4 <u>Family Carcharhinidae</u> | 5 <u>Family Scyliorhinidae</u> | 6 <u>Family Rhinocodontidae</u> |
| 7 <u>Family Isuridae</u> | 8 <u>Family Squalidae</u> | 9 <u>Family Pseudotriakidae</u> |
| 10 <u>Family Scapanorhynchidae</u> | 11 <u>Family Pseudotriakidae</u> | 12 <u>Family Hexanchidae</u> |
| 13 <u>Family Sphyrnidae</u> | 14 <u>Family Mobulidae</u> | |

Questions:

- 1) What is a biological key? *A list of questions or statements that are used to identify an organism.*
- 2) List 3 different characteristics that were used in the shark key.
 - a. gill slits
 - b. caudal fin
 - c. body shape
- 3) Which main characteristic could be used to separate shark 4 from shark 8? *8 has no anal fin*
- 4) Which main characteristic could be used to separate shark 4 from shark 7? *shape of caudal fin*
- 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 #1
- B. Fish with body shape not tube like go to #11, #111, #IV, #V
2. A. Fish with one dorsal fin #IV; #V
- B. Fish with two dorsal fins #11, #111
3. A. Fish with puckered mouth #11, #V
- B. Fish with wide mouth #IV; #III
4. A. _____
- B. _____

Figure 3.

