

## Classification & Taxonomy Key Terms to note:

Classification:

Taxonomy:

Taxa:

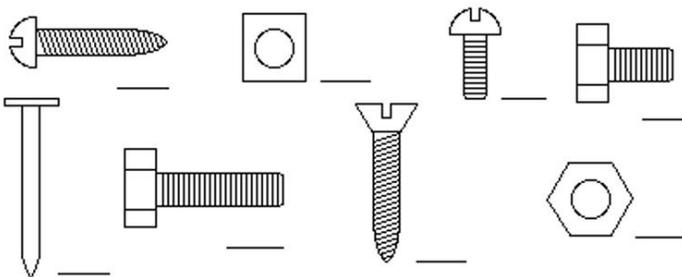
Carolus Linneus:

Hierarchy:

Binomial nomenclature:

Scientific name vs. common name:

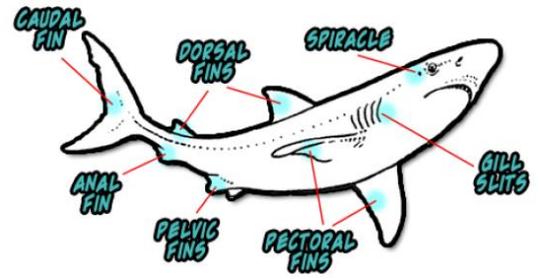
Dichotomous key:



1a. With a hole	Go to Question 2
1b. Without a hole	Go to Question 3
2a. Six sided	<b>It is Species #1</b>
2b. Four sided	<b>It is Species #6</b>
3a. With threading	Go to Question 4
3b. Without threading	<b>It is Species #8</b>
4a. Pointy tip	Go to Question 5
4b. No pointy tip	Go to Question 6
5a. Rounded head	<b>It is Species #4</b>
5b. Not rounded head	<b>It is Species #7</b>
6a. Flat head	Go to Question 7
6b. Not flat head	<b>It is Species #2</b>
7a. Body length twice the width of head	<b>It is Species #5</b>
7b. Body length not twice the width of head	<b>It is Species #3</b>

## Using Dichotomous Key to Identify Sharks

Classification is a way of separating a large group of closely related organisms into smaller subgroups. The scientific names of organisms are based on the classification systems of living organisms. The identification of an organism is easy with a classification system. To identify an organism, scientists often 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 the image below as a guide to the parts of a shark's body that are used in the dichotomous 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. Then study organism #1 in the image below for the characteristic referred to in 1A and 1B. Follow the directions until the name for Shark 1 is determined.

For example, to key a shark that has a body that is NOT kite-shaped when viewed from above and has a pelvic fin and six gill slits, follow the directions of 1B and go directly to statement 2. Follow statement 2B to statements 3. At statement 3A, identify the shark as belonging to Family Hexanchidae.

3. Continue using the key, always starting back at Statement 1a and 1b for each shark until all have been identified. Indicate the family name for each shark in Figure 2 on your word processing document. Then complete the questions under "Conclusion."

### Conclusion

1. What is a classification key and how is it used?

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

3. Which main characteristic could be used to distinguish shark 4 from shark 8?

4. Which main characteristic could be used to distinguish shark 4 from shark 7?

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 sawlike	Family <b>Pristiophoridae</b>
	B	Pelvic fin present	Go to statement 3
3	A	Six gill slits present	Family <b>Hexanchidae</b>
	B	Five gills present	Go to statement 4
4	A	Only one dorsal fin present	Family <b>Scyliorhinidae</b>
	B	Two dorsal fins present	Go to statement 5
5	A	Mouth at the front of the head rather than back along underside of head	Family <b>Rhinocodontidae</b>
	B	Mouth back along underside of head	Go to statement 6
6	A	Head expanded on the side with eyes at the end of expansion	Family <b>Sphyrnidae</b>
	B	Head not expanded	Go to statement 7
7	A	Top half of caudal fin exactly same size and shape as bottom half	Family <b>Isuridae</b>
	B	Top half of caudal different in size and shape from the bottom half	Go to statement 8
8	A	First dorsal fin very long, almost half the length of the total body	Family <b>Pseudotriakidae</b>
	B	First dorsal fin length much less than the half the total length of body	Go to statement 9
9	A	A. Caudal fin very long, almost as long as the entire body	Family <b>Alopiidae</b>
	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 <b>Scapanorhynchidae</b>
	B	A light stripe extending the length of the body, a marked constriction at the base of the tail	Go to statement 11
11	A	Anal fin absent	Family <b>Squalidae</b>
	B	Anal fin present	Family <b>Carcharhinidae</b>
12	A	Small dorsal fin present near tip of tail	Family <b>Rajidae</b>
	B	Small dorsal fin absent near tip of tail	Go to statement 13
13	A	Hornlike appendages at front of shark	Family <b>Mobulidae</b>
	B	Hornlike appendages not present at front of shark	Family <b>Dasyatidae</b>