Name:_____ Date:_____ Period:_____

Classifying Sharks using a Dichotomous 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 **dichotomous key**. A **dichotomous 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:

1) Use a key to identify 14 shark families.
2) Study the method used in phrasing statements in a key.

Procedure

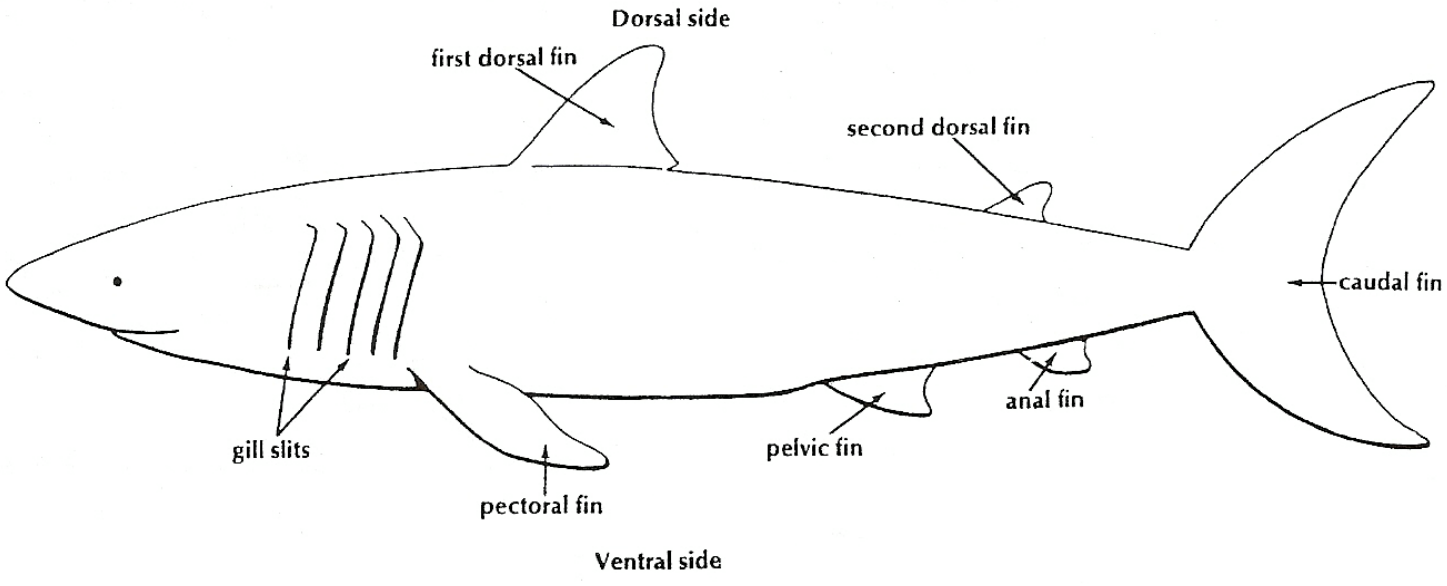
1. Read sentences 1A and 1B of the key. Then study shark 1 in figure A for the characteristics referred to in 1A and 1B. Follow the directions in these sentences and continue with this process until a family name for Shark 1 is determined.

   For example, if the shark has an anal fin, and its body is not kite shaped, following the directions of 1A and go directly to sentence 2. If the shark lacks and anal fin or has a kite shaped body, follow the directions of 1B and go to sentence 10.

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

3. Use figure 1 as a guide to the anatomical features used in the key.

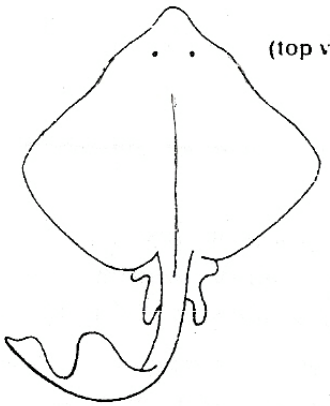
Figure 1 – Anatomy of a Shark



Name:_____ Date:_____ Period:_____

Key to Shark Identification

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	Sawfish (Family Pristiophoridae)
	B.Pelvic fin present	Go to 3
3.	A.Six gill slits present	Cow Shark (Family Hexanchidae)
	B.Five gill slits present	Go to 4
4.	A.Only one dorsal fin	Cat Shark (Family Seyliorhinidae)
	B.Two dorsal fins	Go to 5
5.	A.Mouth at front of snout rather than on underside of head	Whale (Family Rhincodontidae)
	B.Mouth on underside of head	Go to 6
6.	A.Head expanded on side with eyes at end of expansion	Hammerhead (Family Sphyrnidae)
	B.Head not expanded	Go to 7
7.	A.Top half of caudal fin exactly same size and shape as bottom half	Mako (Family Isuridae)
	B.Top half of caudal fin different in size and shape as bottom half	Go to 8
8.	A.First dorsal fin very long, almost half total length of body	False Cat Shark (Family Pseudotriakidae)
	B.First dorsal fin regular length	Go to 9
9.	A.Caudal fin very long, almost as long as entire body	Thresher (Family Alopiidae)
	B.Caudal fin regular length	Go to 10
10.	A.A long point on end of snout	Goblin (Family Scapanorhynchidae)
	B.Snout without long point	Go to 11
11.	A.Anal fin absent	Dogfish Shark (Family Squalidae)
	B.Anal fin present	Requiem Shark (Family Carcharhinidae)
12.	A.Small dorsal fin present near tip of tail	Skate (Family Rajidae)
	B.No dorsal fin present near tip of tail	Go to 13
13.	A.Front of animal with two hornlike appendages	Manta Ray (Family Mobulidae)
	B.No hornlike appendages	Sting Ray (Family Dasyatidae)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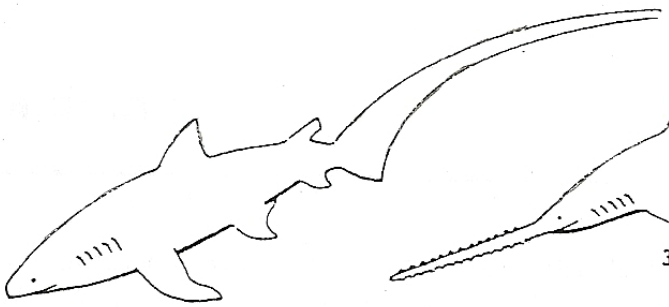

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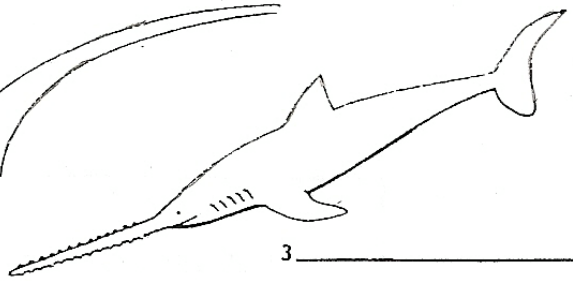

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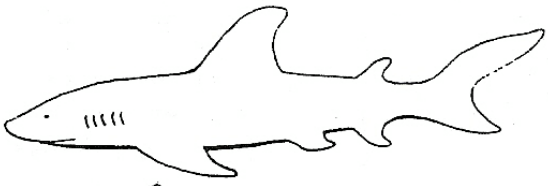

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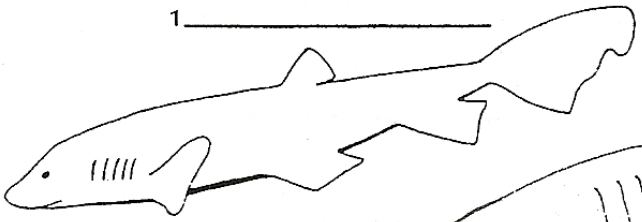

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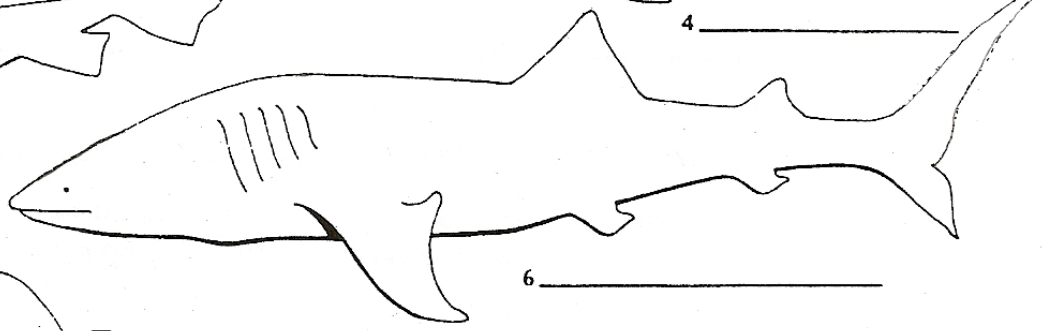

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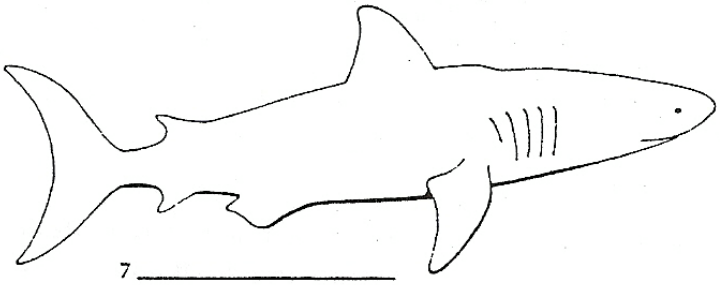

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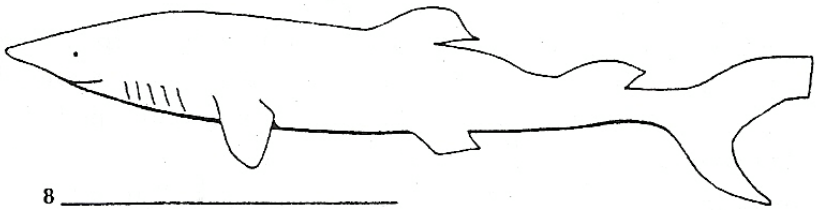

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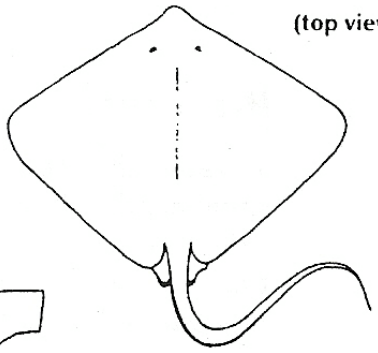
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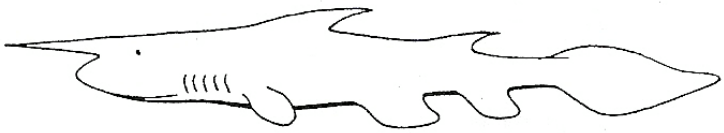

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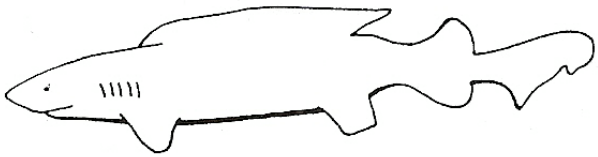

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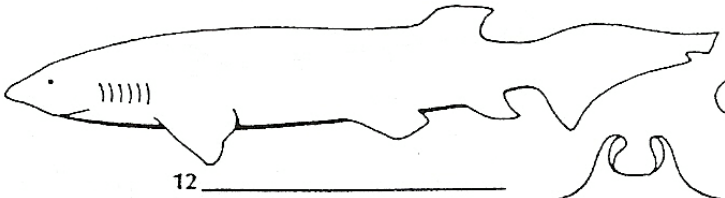

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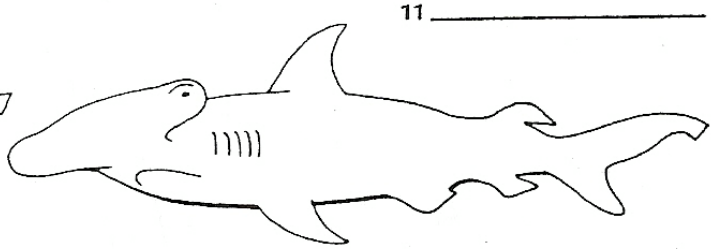

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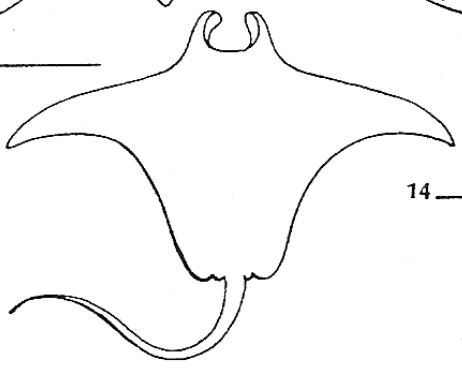
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