

NAME _____

DATE _____

Part 3 USING A CLASSIFICATION KEY TO IDENTIFY CERTAIN SPECIES OF FISH

Procedure and Observations

Study the terms defined below. All of these refer to structures of a fish.

TERMS REFERRING TO THE STRUCTURE OF FISH

barbel — a fleshy projection from the lips or head.

FINS

adipose — a small fin on the top mid-line of the body near the tail fin.

anal — a fin along the lower mid-line of the body near the tail fin.

caudal — tail fin.

dorsal — the fin or fins along the top mid-line of the body.

pectoral — the paired fins nearest the head, corresponding to front legs or arms.

pelvic — the paired fins nearest the tail, corresponding to hind legs.

scales — overlapping outgrowths of the skin.

Closely examine one of the drawings of a fish shown on the next page. Read both statements listed under number 1 in the classification key. One of these statements should describe the fish you have chosen; the other should not. Refer to the number after the statement that fits your fish and look for that number in the key. Again select the statement that describes the fish you picked. Continue through the key until you come to a name after one statement. This should be the name of the fish you picked. Practice using the key to identify several of the fish shown.

Example:

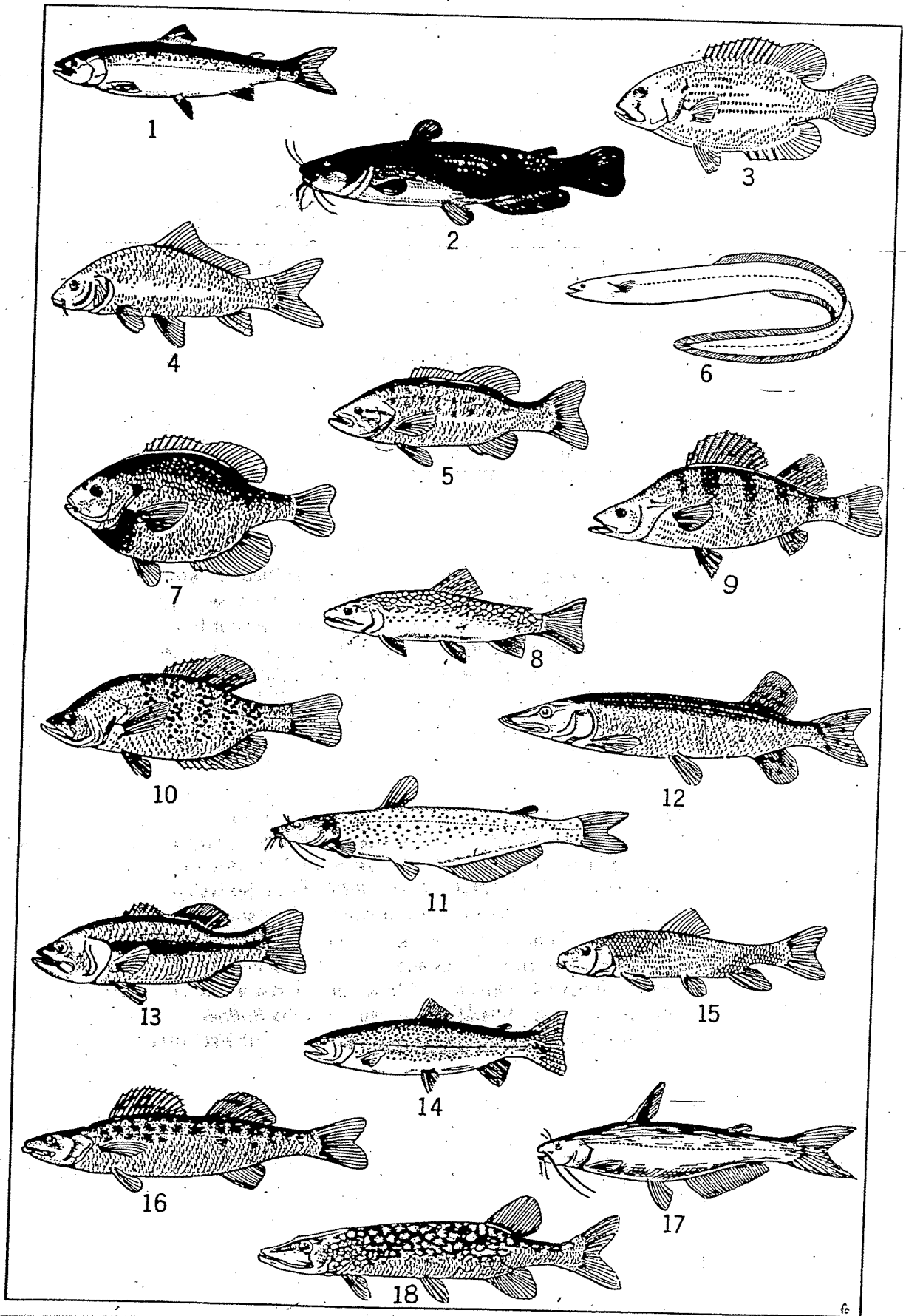
Suppose you want to find the name of fish number 2. Look at the classification key. Note that each numbered item presents two possibilities. We see that our fish has no scales, or at least we cannot see any. So we choose item 1b. This refers us to number 12. So we go down the page to number 12. Our fish is not elongated or snakelike (item 12b), so we go to number 13 of the key. The fish we are classifying has barbels growing from its lips and the top of its head (item 13a), so we go to number 14 of the key. Since our fish has a caudal fin that is rounded, and a blunt head, we see that it is the *Bullhead Cathead catfish* (also known as *horn pout* in some parts of the country.)

NAME _____

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CLASSIFICATION KEY TO CERTAIN FISH

- 1a. Body noticeably covered with scales 2
- 1b. Scales not covering body or too small to be seen 12
- 2a. Dorsal fin single 3
- 2b. Dorsal fins two or more, joined or separated. 6
- 3a. Body more than four times as long as broad (top to bottom); front edge of dorsal fin far back on body; mouth large, hinge back of eye. 4
- 3b. Body less than four times as long as broad; front edge of dorsal fin about midway between head and tail; mouth not large, hinge in front of eye 5
- 4a. Dark lines forming netted design on body; fins not spotted *Pickereel*
- 4b. Body covered with yellow spots; fins spotted *Northern pike*
- 5a. Mouth turned downward; barbels absent; dorsal fin not elongated *White sucker*
- 5b. Mouth not turned downward; barbels present; dorsal fin elongated *Carp*
- 6a. Two dorsal fins separated, the anterior spiny and the posterior soft. 7
- 6b. Two dorsal fins united, forming an anterior spiny portion and a posterior soft portion 8
- 7a. Top of head concave, forming a hump in front of dorsal fin; dark vertical bars on body *Yellow perch*
- 7b. Top of head not concave, body sloping to dorsal fin and not forming a hump; dark blotches on body *Wall-eyed pike*
- 8a. Body more than three times as long as broad 9
- 8b. Body less than three times as long as broad. 10
- 9a. Hinge of jaws behind the eye; notch between spiny and soft dorsal fin deep and nearly separating into two fins. *Large-mouth black bass*
- 9b. Hinge of jaws below the eye; notch between spiny and soft dorsal fin not nearly separating into two fins *Small-mouth black bass*
- 10a. Mouth large, hinge below or behind eye. 11
- 10b. Mouth small, hinge in front of eye *Bluegill*
- 11a. Five to seven spines in dorsal fin; dark spots forming broad vertical bars on sides. *White crappie*
- 11b. Ten or more spines in dorsal fin; sides flecked with dark spots *Rock bass (Redeye)*
- 12a. Body much elongated and snakelike; dorsal, caudal, and anal fins continuous *Eel*
- 12b. Body not elongated and snakelike; dorsal, caudal, and anal fins separate; adipose fin present 13
- 13a. Barbels growing from lips and top of head; head large and broad 14
- 13b. Barbels lacking; head not large and broad. 16
- 14a. Caudal fin deeply forked; head tapering. 15
- 14b. Caudal fin rounded or slightly indented but not forked; head blunt. *Bullhead catfish*
- 15a. Dorsal fin rounded at top; body silvery, speckled with black markings. *Channel catfish*
- 15b. Dorsal fin long and pointed at top; body bluish-gray without speckles. *Blue catfish*
- 16a. Caudal fin deeply forked; back not mottled and with few spots *Atlantic salmon*
- 16b. Caudal fin square or slightly indented; back mottled or spotted 17
- 17a. Back and caudal fin spotted; broad horizontal band along sides *Rainbow trout*
- 17b. Back mottled with dark lines; caudal fin not spotted; fins edged with white *Brook trout*



Native fish

Summary

(a) Based on what you have learned in this Investigation, discuss how classification is a useful tool for a biologist. _____

Fill in the blanks:

- (b) A group of closely related species is a _____
- (c) A subdivision of a family is a _____
- (d) The largest of the classification categories is the _____
- (e) The most specific of the classification groupings is the _____
- (f) A group of closely related classes is a _____
- (g) The subdivision of an order is the _____
- (h) A _____ is composed of several closely related orders.

INVESTIGATIONS ON YOUR OWN

Select commonly seen groups of related objects (automobiles, canned goods, etc.) and classify them into the major classification categories. Construct a key to their identification. Try your classification key with some individuals in your class to see how well it works.

Name Fish Here:

1.	10.
2.	11.
3.	12.
4.	13.
5.	14.
6.	15.
7.	16.
8.	17.
9.	18.