

Student Sheets – Read a Fish

Look at your fish, and compare it to these features. Check which ones fit your fish.

Shape of Body

(tells where a fish may live)

- body tapered at the ends



- round and thin



- flat or wide-bottomed



- long and slender



Shape of Tail

(tells how a fish swims)

- rounded = swims in weedy beds
- forked = speed and long distance



Position of Mouth

(tells where a fish feeds)

- mouth faces upward = surface feeder



- mouth faces downward = bottom feeder



- mouth opens forward = picks food off objects



Shape of Mouth

(tells what a fish eats)

- horizontal oval = scavenger
- vertical oval = predator
- round = picks food off objects or eats plankton



Teeth

(tells how a fish eats its food)

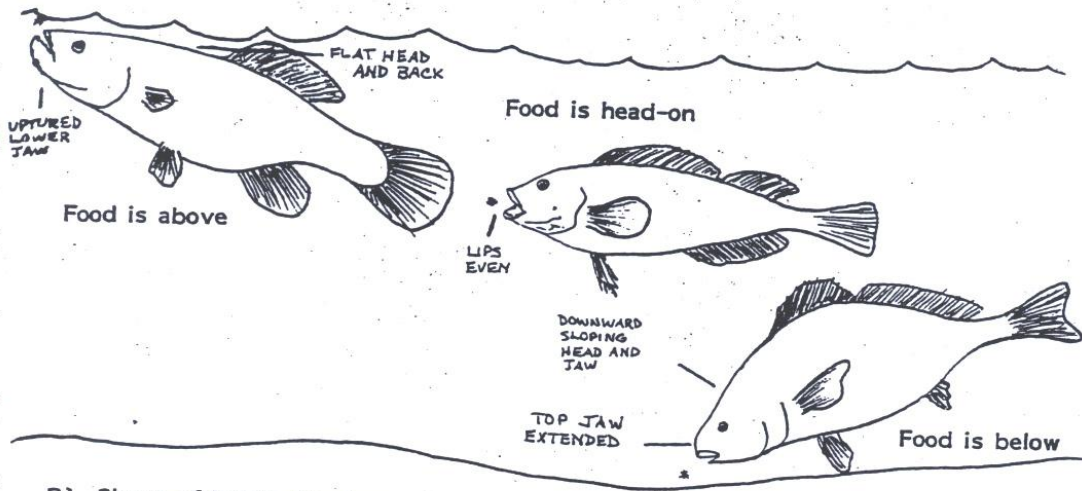
- sharp, cutting teeth = rips at prey
- many tiny teeth = grasps and gulps
- no teeth = strains water for plankton or sucks up food

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Student Sheets – Read a Fish, Continued

Here's how to interpret your fish's adaptations:

A) Position of fish relative to its food



B) Shape of Mouth Head-on

Horizontal Oval

Scavengers, bottom
bottom dwellers
shellfish eaters



Vertical Oval

Predators - fisheaters
or for
filtering plankton



Round

Selective plankton eaters
or for
picking sessile organisms



C) Teeth



Predators often have small sharp teeth for seizing prey - which is usually swallowed whole.

Herbivores (who eat vascular plants) and shellfish eaters may have massive mouths with stout grinding teeth farther back in the jaw.

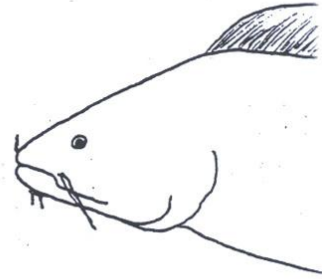
Filter feeding plankton eaters have large delicate mouths with hairs on the inner cheeks called gill rakers. The gill rakers sieve food from the water.

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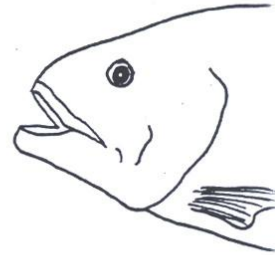
Student Sheets – Read a Fish, Continued

III EYES

Small - Nocturnal, bottom, and cave dwelling fish. May have barbels which have glands to taste and smell. Usually slow swimmers.



Medium - Top feeders.



Large - Fish which live on the edge of darkness. Also associated with fast swimmers.



IV BEHAVIOR

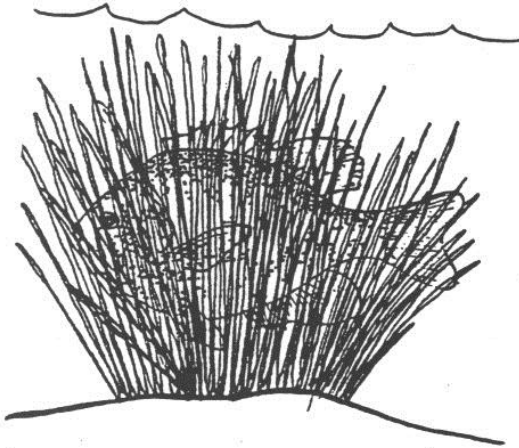
- | | |
|----------------------------------|--|
| • Constantly swimming in circles | High energy consumption,
many plankton eaters,
long distance swimmers |
| • Tries to hide | Territorial fish,
many bottom dwellers |
| • Still | Low energy consumption
can stand poor D.O.
conditions for long periods |

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Student Sheets – Read a Fish, Continued

A) Fish may rely on

- 1) outrunning enemies
- 2) out-maneuvering them, or
- 3) hiding in crevices or sediments.



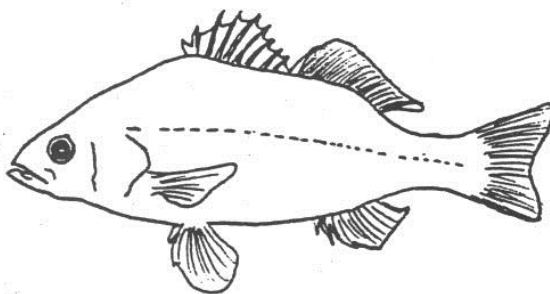
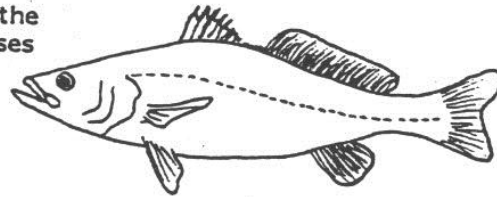
B) Camouflage

- 1) markings
- 2) colors
- 3) shapes

help fish blend with their surroundings.

C) Lateral Line

Some fish have this line, between the gill covers and the tail, which senses vibrations (movements) in the water.



D) Spines

When locked in place increase the size of a fish. Hard, clear spines can be in combination with softer flexible rays in any of the fins on your fish.



Spines



Rays

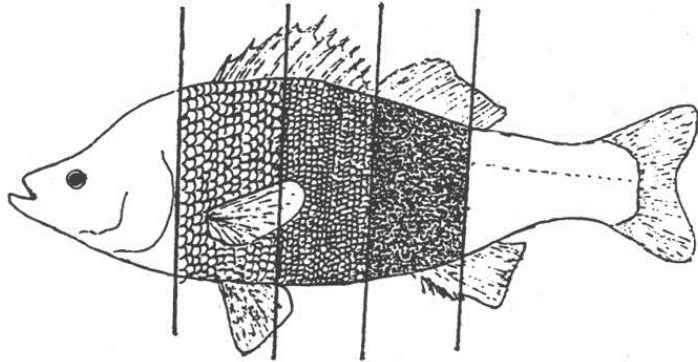
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Student Sheets – Read a Fish, Continued

(Defenses Continued)

E) Scales –

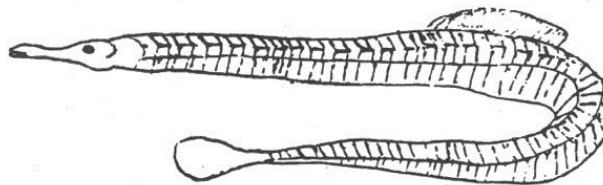
Protect fish, but also add weight and friction (speed loss). Faster constantly swimming fish usually have smaller scales. Scale is estimated relative to body size.



No scales – Rough skin – scales replaced by tiny erect spines, giving skin the feel of sand paper.

Smooth skin – fish is protected by an extra thick layer of slime and extremely tough skin. These fish may have habits like backing in and out of holes.

Plates – In some species large bony plates protect the fish which is often an extremely slow swimmer.



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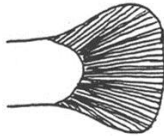
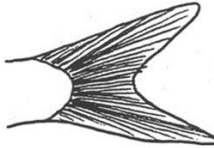
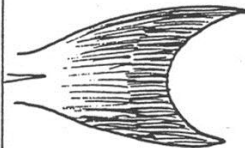


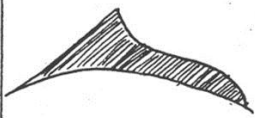




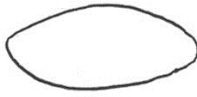

Student Sheets – Read a Fish, Continued

Compute the speed of your fish:

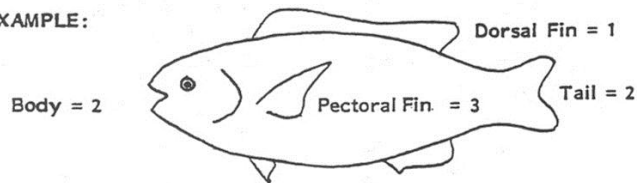
A GUIDE TO UNDERSTANDING FISH HABITS BY FORM/FUNCTION AND BEHAVIOR

I SPEED The shape of a fish's body and fins determines its speed and maneuverability. Use the chart below to rate your fish's swimming equipment.

The more streamlined shapes have the highest top speed and are most suited for fish that swim constantly. The slower shapes are more suited to short bursts of speed, sharp turns and quick stops.

	Slow (1 pt.)	Medium (2 pts.)	Fast (3 pts.)
CAUDAL FIN (TAIL) Main thruster			
DORSAL FIN Keeps fish upright			
PECTORAL FIN Turns and stops			
BODY SHAPE			

EXAMPLE:



$$2 + 1 + 2 + 3 = 8 \text{ points}$$

Total Points

10-12 Fast
7-9 Medium
4-6 Slow

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Student Sheets – Read a Fish, Continued

Using all the information you have gathered about your fish:

1. What would be a good name for your fish?
2. Where does your fish live – near the top of the water? The bottom? In open water? Under cover? Explain your answers.
3. What does your fish like to eat?
4. What kind of defenses does your fish have? Explain your answer.
5. Does your fish migrate, or does it live here all year?

