

Name(s) _____ Period _____ Date _____

Perch Dissection

Introduction:

In this lab each student will work with a lab group in order to learn from the dissection of a Perch. Dissection gives the student the opportunity to observe the placement of organs and their relationships to one another. Before beginning the lab each student must perform **pre-lab research** in order to familiarize themselves with the Perch. Pictures and diagrams will aid in the completion of this lab dissection. Be thorough and do not rush through the lab. Read all directions carefully and make all **drawings as accurate and neat** as possible.

Materials:

- Preserved perch
- hand lens
- dissecting tray
- dissecting probe and scissors
- pre-lab pictures & diagrams

Procedure

A. External Anatomy:

1. Place a preserved perch on a dissecting tray. Locate the head region. Examine the eyes.

Are there any eyelids present? _____.

***Label the eye on the external view (figure 1) of the fish.**

2. Examine the two flaps located on either side of the head.

What is the name of these flaps? _____

What is their function? _____

***Label these on the external view (figure 1) of the fish.**

3. Examine the 5 types of fins. In each box below, draw one of each of the fish's five types of fins.

Dorsal	Caudal	Anal
Pelvic	Pectoral	(nothing goes in here)

***Label each fin on the external view (figure 1) of the fish.**

4. How many of each of these fins? Caudal ____ Dorsal ____ Anal ____ Pelvic ____ Pectoral ____

5. Each fin has a purpose or job, what is the purpose of the following fins?

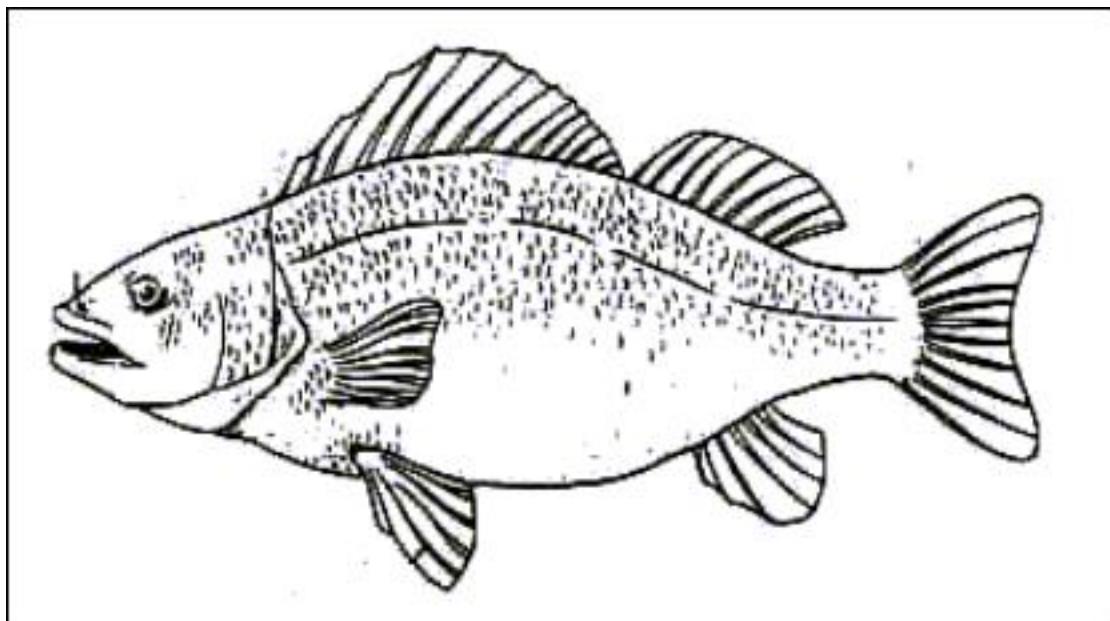
- a). caudal fin _____
- b). dorsal fins _____
- c). pectoral fin _____
- d). anal _____
- e). pelvic _____

6. Locate the lateral line. Using the hand lens, look at the line and the surrounding area.

What is its function? _____

***Draw and Label the lateral line in the space below.**

Figure 1



B. Internal Anatomy: Gill

7. Using your thumb, lift up the edge of the operculum and raise it up as far as you can. Using your scissors, cut the operculum off (as close to the eye as possible). You have exposed the gills. The gills are layered one on top of another. Using your probe, carefully lift each of these layers.

8. How many layers do you find? _____



9. Using your scissors, remove one of these layers. Examine the feathery structure.

10. Draw the gill structure in the space.

11. To expose the internal organs you will cut away part of its muscular wall. Grasp your fish, holding it with your thumb on one side and fingers on the other. Turn your hand upward to expose the ventral (belly) surface. Using your scissors, insert the point into the skin just *in front* of the anus. Cut forward to the gills. Be careful not to destroy any of the internal organs, since they are mostly found in this area.

Place your thumb into the open cut area and lift up, separating the bottom from the top. Using your scissors, cut upward near the anus and the operculum and form a flap of skin and muscle. Finish cutting along the lateral line and remove the flap of tissue. See the figure below.

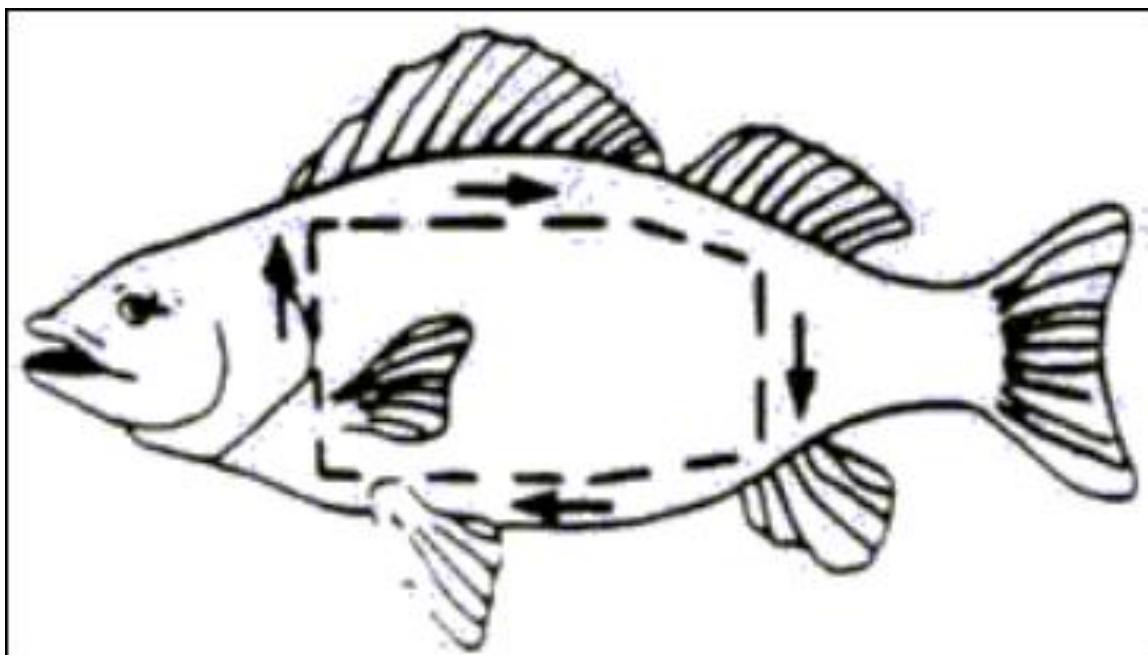
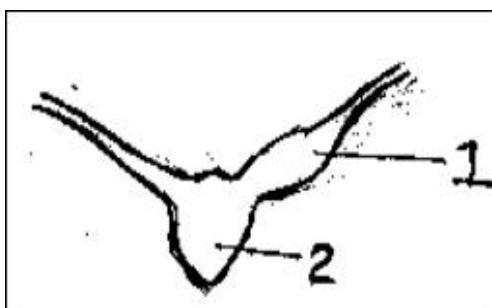


Figure 2.

12. The fish contains a 2-chambered heart. Locate this organ found just behind and below the gills.



Fish Heart

Chamber 1 _____ Function: _____

Chamber 2 _____ Function: _____

* Label the heart on figure 3 on the next page.....

13. Locate the tube-like digestive system. Begin just behind the mouth in the area called the pharynx. This area leads into the gullet or the opening of the esophagus. This area is very elastic and can stretch when the fish is alive.

How could this help the fish? _____

***Label the mouth on figure 3.**

***Label the pharynx on figure 3.**

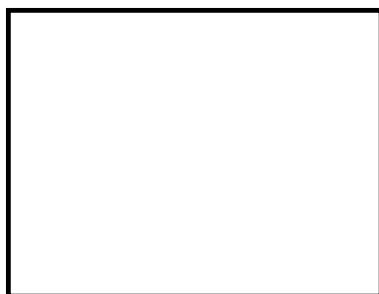
***Label the esophagus on figure 3.**

15. The esophagus leads into the stomach. Cut out the stomach and split it open. *List anything found in the stomach of your fish or other groups.*
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***Label the stomach on figure 3.**

16. Locate the rather large liver located just in front of the stomach. *What is its digestive function?*

17. Draw the liver in the space below.



***Label the liver on figure 3.**

18. Follow the intestine to the anus.

***Label the intestine and anus on figure 3.**

19. Locate the kidneys, found just below the spinal column. *Their main function is _____.*

***Label the kidneys on figure 3.**

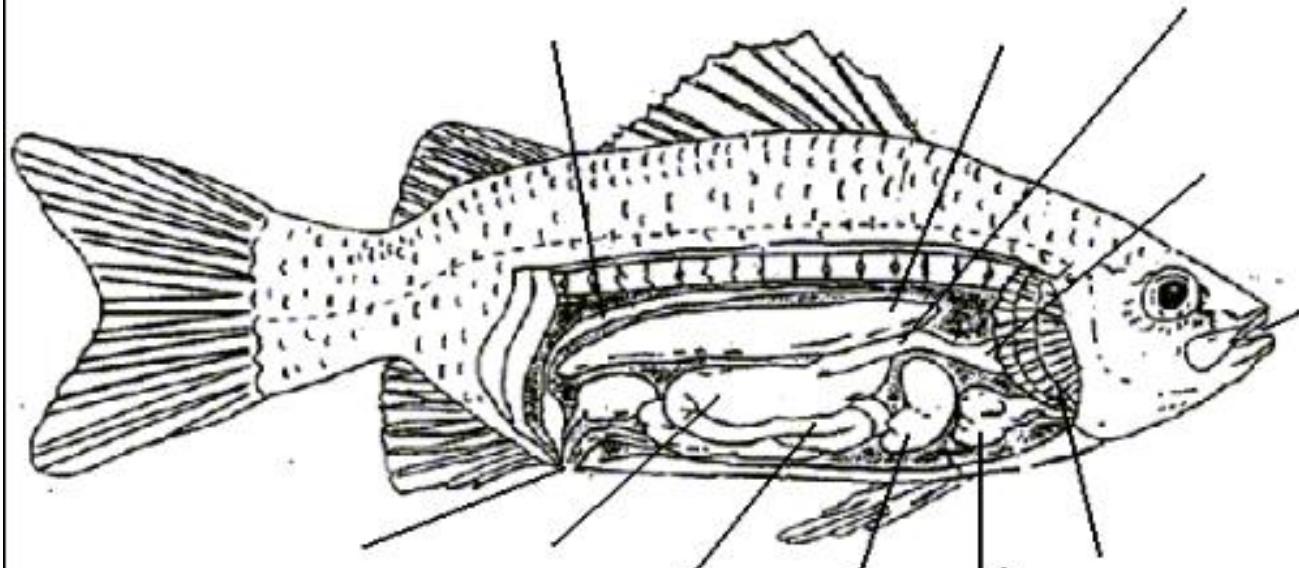
20. The swim(air) bladder is the last remaining organ to be identified. It is located between the kidneys and gonads.

What is the function of the swim bladder? _____

***Label the swim bladder on figure 3.**

Figure 3

Internal View of Perch



21. Locate the reproductive organs, or gonads. Use the website and binder to determine if you have a male or female.

Male or Female? _____

22. Open up the top of the cranial cavity. Be careful not to go too deep! Locate the brain.

Draw the top view of the brain in the box.

***Label the Cerebrum & Cerebellum**



Further Questioning.

Answer the following on a separate sheet of paper and attach to packet.

1. How does the coloration of the fish, light on bottom & dark on top, help it avoid enemies?
2. What are two things we could learn from the contents in the perch's stomach?
3. Complete a Venn diagram for the hearts of a human and a perch. Two items in each area please. (6 points)
4. What would happen if a fish had its swim bladder in its belly area?
5. Calculate the percentage of male and female perch in the class.

Do you think these values reflect the numbers in the wild?

Why or Why not?