Biology 2

Perch & Shark Dissection Lab Exam Review

Perch Dissection

- The following slides will contain the items which you will have to identify for the labeling portion of the perch dissection:
- click on the button below for a review of the images

Perch Dissection

- Operculum
- caudal fin
- pectoral fin
- pelvic fin
- lateral line
- gill filaments
- gill arches
- stomach
- Liver
- intestine
- swim bladder
- cloaca
- heart
- mandible
- nostrils

Perch Dissection

- **The following slides will contain questions (and answers) that may be asked about the perch.**

Perch Dissection

Q: What is the function of the swim bladder?

A: The swim bladder helps the fish maintain buoyancy at various depths by inflating or deflating this thin sac-like structure.

Perch Dissection

Q: How many chambers does the perch heart have? What are the names to these chambers?

A: 2 chambers…receiving chamber called the atria and the pumping chamber called the ventricle

Perch Dissection

Q: What are the muscle segments called that form a large lazy "W" shape along the side of the perch?

A: Myotomes

Perch Dissection

Q: Identify the Kingdom, Phylum, and Class names for the perch.

A: Kingdom = Animalia

Phylum = Chordata

Class = Osteichthyes

Perch Dissection

Q: What function does the operculum serve?

A: The operculum serves to protect the gills.

Perch Dissection

Q: What types of scales does the perch have?

A: Ctenoid scales

Perch Dissection

What is the scientific name of the perch?

Perca flavescens

Shark Dissection

- The following slides will contain the items which you will have to identify for the labeling portion of the shark dissection:
- click on the button below for a review of the images

Shark Dissection

- Liver
- caudal fin
- ovaries
- cloaca
- pores of Ampullae of Lorenzini
- oviducts
- Anterior dorsal fin
- gills
- gill slits
- posterior dorsal fin
- spleen
- duodenum
- eye

Shark Dissection

- Pectoral fin
- lateral line
- stomach
- spine
- pelvic fin
- spiracle
- ventral longitudinal bundles
- Intestine
- heart
- dorsal longitudinal bundles
- gall bladder
- lateral longitudinal bundles

Shark Dissection

- **The following slides will contain questions (and answers) that may be asked about the shark.**

Shark Dissection

Q: How many chambers does the shark's heart have? What are their names?

A: shark's heart has 4 chambers:

sinus venosus

atrium

ventricle

conus anteriosus

Shark Dissection

Q: Of what advantage is a cartilaginous skeleton over a bony skeleton?

A: The skeleton made of cartilage is much more flexible than the skeleton made of bone.

Shark Dissection

Q: What is meant by “counter shading”?

A: The ventral side of the shark is a lighter color than the dorsal side. This neutralizes the effects of natural lights making the shark harder to see.

Shark Dissection

Q: What type of scales make up the shark's skin?

A: Placoid scales

Shark Dissection

Q: What does the term ovoviviparous mean?

A: This term refers to the unusual method of gestation where the young hatch internally and will develop inside the mother until they are more developed. They are then born alive at a later time.

Shark Dissection

Q: Identify the two purposes for the oil found in the shark.

A: The oil provides for some buoyancy since the shark does not have a swim bladder to help them do this, and it is also a used as form of stored energy

Shark Dissection

Q: How is copulation in sharks accomplished?

A: The male inserts one of his claspers into the oviduct orifice of the female.

Shark Dissection

Q: What is the difference between epaxial and hypaxial muscles?

A: The bundles of myotomes located above the horizontal septum are called the epaxial muscles, while the myotomes located beneath the horizontal septum are called the hypaxial muscles.

Shark Dissection

Q: What is the purpose of the rugae folds found in the stomach?

A: The rugae allow for the expansion of the stomach to accommodate large meals.

Shark Dissection

Q: Identify the Kingdom, Phylum, and Class names for the shark.

A: Kingdom = Animalia

Phylum = Chordata

Class = Chondrichthyes

Shark Dissection

Q: Identify two structures that the perch has that are absent on the shark.

A:1. Operculum

2. Swim bladder

Shark Dissection

Q: What is the scientific name of the shark we dissected in class?

A: *Squalus acanthias*

Shark Dissection

Q: What is a portal system?

A: A portal system is a venous system that begins as capillaries in one organ and ends as capillaries in another organ.

Shark Dissection

Q: What is the function of the Hepatic Portal System?

A: The function of this venous system is to carry blood from the digestive organs to the liver. Here the products in the blood undergo metabolic processing.

Shark Dissection

Q: What is the function of the Renal Portal System?

A: The Renal Portal System carries blood from the tail to the kidneys where the blood will be filtered and the wastes will be removed.

Shark Dissection

Q. Describe the way to determine the sex of sharks based on external observation.

A. The male will have two claspers near the anal vent area, these are absent on the female sharks