

Investigation #5 - Clam Anatomy

Objective:

Students will observe the inside and outside of a clam.

Materials:

- fresh clams (in shell)
- ruler
- data sheet
- tray
- two bamboo skewers
- clam diagrams

Procedures:

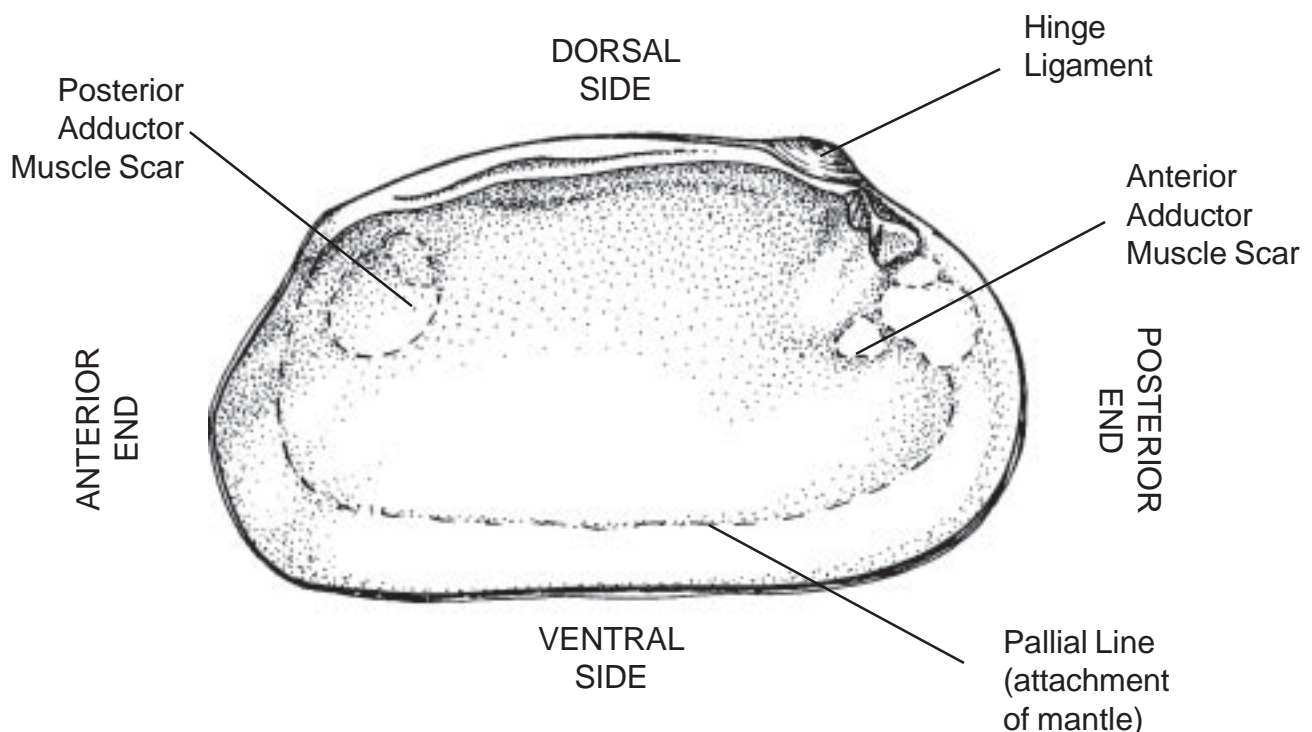
1. Teacher prepares clams ahead of time by placing in boiling water until the adductor muscles relax. (DO NOT overcook..) Snip the adductor muscle so the clam lies open.

Teacher's Note: Do the activity ahead of time to familiarize yourself with the clam's anatomy before the students participate.

2. Students work in teams of four to observe and take notes about their clams. They record their data on the sheet provided.

Discussion:

- A. What did you learn from working on a fresh clam?
- B. Was it easy or difficult to locate all the body parts? Why?
- C. Would you rather study a diagram to learn about a clam or investigate a real clam? Explain.



Drawings courtesy of BIODIDAC.

Outside of the clam:

- 1). The soft body is protected by how many shells (valves)? _____
- 2). Write a description of the shell's appearance: color, size, shape, etc.
- 3). Measurements of clam
Length _____ cm Width _____ cm
- 4). Record your measurements on the class chart:
The largest clam is _____ cm wide and _____ cm long.

The smallest clam is _____ cm wide and _____ cm long.

The average length of all clams measured by the class is _____ cm

Inside of the clam:

- 1). The thin, whitish flesh lining is called the _____.

The **mantle** encloses all the internal organs of the clam. It is also where new shell is made as the clam grows.

Locate the siphon according to your diagram. There are two openings, an excurrent and an incurrent siphon. As carefully as possible place a skewer down the incurrent siphon (away from the hinge). Take note of how and where the siphon enters the clam. Place a skewer down the excurrent siphon.

- A. Which one of the skewers entered the clam more easily?
- B. Where do the siphons end inside the clam?

Locate the following parts of your clam according to the diagram:

- adductor muscles
- gills
- mantle
- excurrent siphon
- incurrent siphon
- stomach
- mouth
- foot
- intestine

Lift the gills to find the stomach and intestines. Insert the skewer into the mouth and see that it empties into the stomach. Locate the foot that is used for digging. Check off the parts of the clam you found.

adductor muscles _____ hinge _____

mantle _____ incurrent and excurrent siphons _____

gills _____ stomach _____

mouth _____ foot _____

Write next to the body part if it is used for (P) protection, (E) eating, (B) breathing, or (M) moving

