

Fish Dissection

Time Frame: 40-80 minutes

Grade: 6th-8th

Class Size: 20-30 students

Setting: Indoor

Staff: 2

Use: In-class

NYS Education Standards:

MST-Section 4: Living Environment

Students will: understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

- *Key Idea 1:* Living things are both similar to and different from each other and nonliving things.
- *Key Idea 4:* The continuity of life is sustained through reproduction and development.
- *Key Idea 5:* Organisms maintain a dynamic equilibrium that sustains life.

Objectives:

- ✓ Students will be able to identify 3-5 external anatomy features of a fish
- ✓ Students will be able to identify the major internal organs of a fish
- ✓ Students will compare and contrast human and fish internal structures
- ✓ Students will relate this information to fishing

Motivation: Observing dissection, team game

Materials: 2 dead fish for dissection, 2 scissors/scalpels/filet knives/dissecting kits, 2 dissecting trays/cutting boards, box of plastic gloves; non-latex/2 or more rags, bottle of hand sanitizer, computer, projector, and necessary cords, Dissection PowerPoint presentation, fish models of representative species (optional, if time), newspapers, *Internal Anatomy Crossword Puzzle* (freshwater or saltwater), *Dissection worksheet*.

Pre-Lesson Procedures:

Set-up Dissection Area (15-25 minutes)

1. Set up two dissection stations: newspaper for desks, gloves, etc.
2. Make initial cut to expose organs
3. Set up PowerPoint presentation and projector

Lesson Procedures:

Introduction (1-2 minutes)

1. Introduce self and I FISH NY
2. Introduce fishing trip and topics of lesson:
 - a. Fish dissection
 - b. Fish are both similar to and different from humans

External Anatomy Overview (5-7 minutes)

1. Use PowerPoint presentation to introduce and review external anatomy features of fish:
 - a. The basics: eye, mouth, scales
 - b. The fins: dorsal, caudal, ventral, pectoral
 - c. Senses: nares and lateral line
2. Have students identify how/why external features relate to fishing:
 - a. Protection for you: sharp fins and teeth of fish
 - b. Protection for the fish: slime
 - c. Where to target fish in water column
 - d. What fishing techniques to use; e.g., rig, etc.

Internal Anatomy: Dissection (15-20 minutes)

1. Introduce internal anatomy:
 - a. Ask students what organs will be present.
 - b. Review human anatomy and organ systems.
2. Split the class into two equal groups.
3. Advise students to view PowerPoint during dissection period. (Tip: This step is especially helpful for those students resisting participation.) Tell students they will be playing a game based on this lesson plan at which time they'll be responsible for both the form and function of the internal structures.
4. During the dissection, have interested students put on gloves and identify organs.
5. Refer to the PowerPoint throughout dissection. Have students read organ definitions out loud.

Game (5-10 minutes)

1. Tell students that each dissection group will compete with each other in a game. Select a member from each team to serve as the team representative. Place a question on the PowerPoint and have teams discuss possible answers. Then have the team representatives each state a response aloud; the first team to correctly answer the question receives one point. The team with the most points at the end of the game wins.
2. Ask if there are any questions. Begin game.
3. Determine winner. (Tip: Consider offering the winning team a small treat or prize.)

Fish Identification (5-15 minutes):

1. Time permitting, use fish models or pictures to help students identify fish that may be found during the upcoming fishing trip.
2. Re-iterate anatomy features and relationship to fishing.

Closing (1-2 minutes)

1. Review the take home messages.
2. Thank students and teacher.
3. Field any questions about the fishing trip or lesson plan.

Post-Activity/ Assessment

1. After I FISH NY presentation, distribute *Internal Anatomy Crossword Puzzle* (freshwater or saltwater) and/or *Dissection worksheet* for students to complete. Review answers together.