

## *Anatomy and Go Fish!*

**Time Frame:** 40-60 minutes

**Age:** 8 and up

**Group Size:** 20-35

**Setting:** Indoors, outdoors

**Staff:** 2+

**Use:** In-class, out-of-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 2:* Organisms inherit genetic information in a variety of ways that result in continuity of structure and function between parents and offspring.
- *Key Idea 3:* Individual organisms and species change over time.
- *Key Idea 4:* The continuity of life is sustained through reproduction and development.

#### The Arts Standard 1: Creating, Performing and Participating in the Arts

Students will: actively engage in the processes that constitute creation and performance in the arts (dance, music, theatre, and visual arts) and participate in various roles in the arts.

- *Key Idea 1:* Students will make works of art that explore different kinds of subject matter, topics, themes, and metaphors. Students will understand and use sensory elements, organizational principles, and expressive images to communicate their own ideas in works of art. Students will use a variety of art materials, processes, mediums, and techniques, and use appropriate technologies for creating and exhibiting visual art works.

### **Objectives:**

- ✓ Students will be able to identify basic external anatomy of fish and the function of each part
- ✓ Students will be able to explain why it is important to be able to tell fish apart
- ✓ Students will be able to name several different families of fish indigenous to New York

**Motivation:** Game

**Materials:** Fish models/picture, *Lemon Fish worksheet*, Go Fish! cards

### **Lesson Procedures:**

*Introduction (1-2 minutes)*

1. Introduce yourself and the I FISH NY program.
2. Introduce day's activities:
  - a. Fish: identification, external body parts, classification
  - b. Create your own fish; lemon fish worksheet

- c. Go Fish! Card game

*Fish (15-20 minutes)*

1. Ask students why is it important to be able to tell fish apart:
  - a. To identify a fish
  - b. To follow rules and regulations
  - c. For personal safety, and safety for the fish
    - i. Teeth/spines and other protective structures
  - d. For consumption
    - i. Poisonous, toxin accumulation
2. Ask students how we tell fish apart.
  - a. Analogize by asking students how they tell their friends apart. Have them be specific regarding differences in hair color, eye color, height, etc.
  - b. Say: We have vocabulary to talk about human anatomy. And scientists and anglers need vocabulary to describe different parts of fish. These body parts are common to most fish. You can use differences in these body parts to help distinguish one fish from another.
3. Identify external anatomy features.
  - a. Using a fish model or picture go over fish body parts and their function.
  - b. Hand out *Lemon Fish worksheet*.
  - c. Draw a lemon fish on the board. Depending on your students' level of knowledge, label external anatomy features.
  - d. Have students create their own lemon fish using the external anatomy features that they just learned. Be sure students label features.
  - e. Have a few students share their worksheet
  - f. Collect worksheet
4. Ask students what a species is.
  - a. Fish have the most species of any vertebrate on earth; over 29,000 different species of fish.
  - b. Review the concept of families with students.
    - i. Guide students to understand that family is one way to group species with similar traits.
    - ii. Say: My name is Amanda Punzi; I am Amanda within the Punzi family. This is Malynda Nichol, within the Nichol family she is Malynda.
      1. Go over some examples with the students in the class about species names and families.
    - iii. Say: Within the Punzi family, there are specific traits, which make us a part of the family, for example, dark hair, dark or light eyes, short height, etc.
  - c. Certain fish families have specific traits.
    - i. Flounders have both eyes on one side of their head
    - ii. Sunfish have a spiny dorsal fin

*Go Fish! Card Game (15-20 minutes)*

1. Bring out the Go Fish! cards.
2. Ask students how many have ever played Go Fish!
3. Explain the rules.

4. Show a card and mention that the fish are in a family of 4 and, that when playing, students must collect all 4 fish before laying cards down as a set.

*Fish Identification (5-10 minutes)*

1. Time permitting, identify other local fish species using models.
2. Review safety information for each fish.
  - a. Discuss slime layer and proper handling techniques with each fish.

*Closing (1-2 minutes)*

1. Debrief; ask students why it is important to be able to tell fish apart.
2. Field any questions.