Fish Migration

Time Frame: 40 minutes
Grade: 3rd – 5th
Class Size: 12+ students
Setting: Indoors, Outdoors
Staff: 1 - 2
Use: In-class

NYS Learning 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 5*: Organisms maintain a dynamic equilibrium that sustains life.
- *Key Idea 6*: Plants and animals depend on each other and their physical environment.
- *Key Idea 7*: Human decisions and activities have had a profound impact on the physical and living environment.

Objectives:

- ✓ Students will be able to explain that migration is a regular seasonal movement.
- ✓ Students will be able to identify the obstacles created by natural phenomena and human behaviors.

Motivation: Playing a game

Materials: Risk cards (numbered 25-34), Migration cards (numbered 1-24), 34 3 x 5 index cards, three labels marked with an "x", fish pics/mounts, magic marker, 24 clip-on clothespins (optional)

Pre-Lesson Procedures:

1. Cut the migration cards and paste them to index cards
2. Number the back of each card with the number of the correct migration statement
3. Similarly set up the risk cards, but keep them separate and mark the back of each card with "RISK"
4. Mark each label with an "x" and place them at the end of the pathway.
    a. There are three mortality cards. The students who come to the finish line with these cards get a label stuck to their forehead and are asked not to divulge what happened to them.
5. Create a migration path with the migration cards by placing them face down at 4 foot intervals along a pathway of your choosing (100ft of clear pathway)
    a. Clip one clothespin to each card to prevent the cards from blowing away (optional)
6. Have a start and finish point on the pathway

Lesson Procedures:
Welcome/Intro (1-2 minutes)

a) Introduce yourself and the I FISH NY program.
b) Introduce the day's activities:
    a. Fish ID

b. Migration game (text of activity is **adapted with permission from**: "An Eventful Journey," © New Jersey Audubon Society. The original activity is available at: http://www.njaudubon.org/education/PDF/EventfulJourney.pdf www.njaudubon.org

Fish ID (5-10 minutes)

1. Show students 3-5 fish mounts/pics
2. Identify fish and discuss eating habits/habitat/migration patterns

Migration Game (25-30 minutes)

1. Engage the students in a discussion about plans for a journey.
    a. What are some things that would help you get to your destination safely?
        i. Fair weather, car in good condition, fuel, food, places to sleep
    b. What are some things that would hinder the journey?
        i. Bad weather, flat tire, accidents, nowhere to sleep or eat
2. Explain to the students that they are going to pretend to be migrating fish.
    a. Optional: Assign a fish for each student
3. Divide the class into 3 groups, to start at staggered intervals.
    a. Ideal number for this game is 12. When the class size is larger, students can travel in twos or threes and "school" as a single unit with their group to each space.
    b. Optional: Groups can be anadromous, oceanadromous, north-south, deep to shallow migrants, etc.
4. Within each group, give each student a # from 1 to 4; this represents which migration card they will start the game out
    a. For each wave of students, one will start at each of the 1st four cards.
        i. First student/unit to card #1, second student/unit to card #2
5. At each card, the student will pick up the card, read it, replace the card face down and do what it says.
    a. If a student is directed to a card that is already occupied, they should take a risk card, and follow its instructions.
    b. If a number along the migration path is missing or out of sequence, go to the next card in the path.
6. As cards become vacated, send more students into the pathway.
7. When most of the students have reached the finish assemble the students for a discuss.
    a. Sample topics for discussion are:
        i. natural v. anthropogenic hazards,
        ii. helpful v. harmful activities, good v. bad fishing practices, etc.
        iii. What local marine habitats are good for fish, which are bad?
        iv. Did any fish not finish, and if so, why?
        v. What things helped you complete your migration?

Closure (1-2 minutes)

1. Discuss fishing trip
    a. What to bring