**Spring Semester - 11 weeks (January-May)**

**Winter II (6 weeks January/February/March)**

**Winter II Learning Objectives:**

* Furthering inquiry into the water cycle and ecosystem connections

**Program Goals:**

* **Teambuilding**
* **Outdoor Knowledge and Skills Building**
* **Problem Solving Skills Building**
* **Community Service and Social Responsibility**

**DAY 1**

**Icebreaker**

**Teambuilding Activities, Getting to Know You, What is Outdoor Club?**

**Teambuilding, How was Break? Etc. (for students from last semester)**

**Journaling/Debriefing/Reflection**

**DAY 2**

**Lesson 1: Beak Adaptations**

Students rotate through stations and test the effectiveness of “beaks” using household tools like tweezers, pliers, and spoons. This lesson is especially effective when students can consider animal adaptations and make connections to evolutionary science.

*Materials: Wilderness Inquiry Beak Adaptation Kit*

**Journaling/Debriefing/Reflection**

**DAY 3**

**Icebreaker**

**COMMUNITY SERVICE INTRO (for new students or a new project)**

**COMMUNITY SERVICE CONT. (for students from last semester working on the same project)**

**Journaling/Debriefing/Reflection**

**DAY 4**

**Icebreaker**

**Lesson 2: Web of Life Activity**

Introduce the activity. Discuss the concept of a food chain. Is a food chain a true representation? No! Actually, a web is a better image, since everything is connected. For example, think of a forest. The sun gives energy to an oak tree. The oak tree grows acorns, which are eaten by squirrels. Squirrels are eaten by hawks, which in turn leave droppings that provide nutrients for a tree.

Leading the activity:

1. Divide the students into groups of about 15-20. Have each group sit or stand in a circle.

2. Assign each student a plant or animal species by giving them a card necklace. Have them say their species name out loud and make sure they are familiar with the species a little bit.

3. Start the game. Show the yarn and explain that the string will represent the connections between each species. Explain that you, or another adult, will be the sun. You will start, since all energy comes from the sun. Start the game by saying “I am the sun. I am passing the ball of string to the oak tree, since I give the oak tree energy to grow.” Hold on to the end of the string and pass the ball to the oak tree.

4. Continue the game by having the next student choose a different plant or animal species that is connected to it in some way. For example, the oak tree might pass the ball of string to a bird that nests in it. Make sure that the students hold on to a piece of string when they pass the ball along. It should be tight, but not too tight. Continue playing until everyone is connected to each other in some way.

5. Get the students to think about what would happen if you, the sun, stopped shining. It would be dark, plants would not grow, and animals would have nothing to eat. Have everyone sit still. Tug on the string a bit, and instruct students to tug gently on the string when they feel a tug. Have them watch as the entire web is affected to see how everything is connected.

6. Continue thinking about what might happen if something in the food web changes. Ask for a student volunteer to state his or her species and something that might happen to it. Have that student begin tugging gently on the string, and have other students call out their species name when they feel the tug.

7. Talk about some other things that might affect the food web. What would happen if there  was too much rain? Or a drought? Or a big wind storm?

8. If the students are old enough, bring up the idea of invasive species. Invasive species compete with native species for resources. Ask for a student volunteer and replace him or her with a common invasive species (buckthorn, gypsy moth, earthworm, garlic mustard, etc.). Have the replaced student drop his or her piece of the web. Tell everyone else to pull. What happens?

9. Wrap up the activity by having students discuss what they learned and how they can impact the food web in an ecosystem.

*Materials: String, cards with plants and animal names*

**Journaling/Debriefing/Reflection**

**DAY 5**

**Icebreaker**

**Lesson 3: Ice Cream in a Bag**

For this activity students can use conversions to help them measure the ingredients and proportions. Using snow is a great way to tie in discussion of ecosystem, water cycle, and human relationships with nature.

*Materials: Gallon-size bag, quart-size bag, duct tape, snow, salt, measuring cups (1/2 cup; 1 tbsb; 1/2 tsp), spoons, Ingredients (per 2-3 students): 1/2 c half and half, 1 tbsp sugar, 1/2 tsp vanilla*

Directions:

1. Measure 1/2 cup half and half and pour into the quart-size bag.

2. Measure 1 tbsp sugar and pour into the quart-size bag.

3. Measure 1/2 tsp vanilla and poor into the quart-size bag.

4. Seal the quart-size bag (make sure it's actually sealed) and then tape over the seal with duct tape.

5. Put the quart-size bag inside the gallon-size bag along with several handfuls of snow and approximately 4 tbsp salt.

6. Seal the gallon-size bag and then toss around gently for 5 minutes.

7. Once ingredients have solidified, remove quart-size bag, open (make sure not to get any of the salty snow inside the bag of ice cream), and enjoy!

**Journaling/Debriefing/Reflection**

**DAY 6**

**Icebreaker**

**COMMUNITY SERVICE DAY**

**Journaling/Debriefing/Reflection**

**DAY 7**

**Icebreaker**

**Lesson 4: Water Quality - Seeing Watersheds** (must be taught by Wilderness Inquiry)

This lesson has been adapted from Project WET. It helps students visualize how watersheds are formed and identified.

*Materials: Wilderness Inquiry Seeing Watersheds Kit*

**Journaling/Debriefing/Reflection**

**DAY 8**

**Icebreaker**

**Lesson 5: Water Quality - Common Water** (must be taught by Wilderness Inquiry)

This follow-up to “Seeing Watersheds” shows students another way water connects plants, animals, and humans.

*Materials: Wilderness Inquiry Common Water Kit and lesson guide from Project WET*

**Journaling/Debriefing/Reflection**

**DAY 9**

**Icebreaker**

**COMMUNITY SERVICE**

**Journaling/Debriefing/Reflection**

**DAY** **10**

**Icebreaker**

**Lesson 6: Water Quality - Urban Waters** (must be taught by Wilderness Inquiry)

Students explore the career pathways related to water and water quality.

*Materials: Lesson guide from Project WET*

**Journaling/Debriefing/Reflection**

**DAY 11**

**Icebreaker**

**Lesson 7: Outdoor Industry Careers**

Share your career story with students and introduce them to careers in the outdoor industry. This lesson works in tandem with or as a follow-up to the Urban Waters lessons.

*Materials: Powerpoint slides*

**Journaling/Debriefing/Reflection**

**DAY 12**

**Icebreaker**

**COMMUNITY SERVICE PHASE 1/3 WRAP-UP**

Preparing for next phase

**Journaling/Debriefing/Reflection**

**Spring Semester - 11 weeks (January-May)**

**Spring Unit (6 weeks April/May)**

**Spring Unit Learning Objectives:**

* Expand on the knowledge and skills built during Fall and Winter
* Empower students to complete their community service project

**Program Goals:**

* **Teambuilding**
* **Outdoor Knowledge and Skills Building**
* **Problem Solving Skills Building**
* **Community Service and Social Responsibility**

**DAY 13**

**Icebreaker**

**Marshmallow Catapults - TO BE DEVELOPED**

**Journaling/Debriefing/Reflection**

**DAY 14**

**MOVIE DAY *(Ferngully, Well-E, Ice Age, Planet Earth etc.)***

Popcorn as a reward, part of classroom management plan

**DAY 15**

**Icebreaker**

**COMMUNITY SERVICE CONT.**

**Journaling/Debriefing/Reflection**

**DAY 16**

**Icebreaker**

**Spring Scavenger Hunt and “Wonder Walk”**

Create a scavenger hunt for students to observe seasonal changes from winter to spring. For a bonus, hide a few surprise items in the area to test your students’ power of observation skills. This could be paired with a “Wonder Walk” where students write down a few questions they have about the outdoors (eg. Why is the sky blue?). After the walk, they can use iPads or other technology to find the answer.

*Materials: Sample scavenger hunt adapted for your own group*

**Journaling/Debriefing/Reflection**

**DAY 17**

**Icebreaker**

**Community Mapping II**

After the “Wonder Walk,” have students create a map of their neighborhood, including trees, fields, and streets. They should have a few hard copy maps to use for reference. Depending on the students’ experience with reading maps, this lesson could be expanded to include some orienteering and navigation methods.

*Materials: local maps*

**Journaling/Debriefing/Reflection**

**DAY 18**

**Icebreaker**

**COMMUNITY SERVICE CONT.**

**Journaling/Debriefing/Reflection**

**DAY 19**

**Icebreaker**

**COMMUNITY SERVICE CONT.**

**Journaling/Debriefing/Reflection**

**DAY 20**

**Icebreaker**

**Shelter Building**

Ask students to consider how early humans protected themselves from the elements before houses. What kind of shelter does nature provide? Depending on students’ outdoor experience, this could be paired with knot tying and some basic survival skills.

**Journaling/Debriefing/Reflection**

**DAY 21**

**Icebreaker**

**Camping Skills 102**

In preparation for the spring overnight trip, re-introduce students to camping skills like tent set up, fire building, and leave no trace.

*Materials: Tents, fire pit*

**Journaling/Debriefing/Reflection**

**DAY 22**

**Icebreaker**

**Community Service Wrap-Up and Celebration**

Celebrate the success of the year with certificates of accomplishment, a photo slideshow of their work, and a party.