October 4, 2013
5th-8th Grade Cluster – "How Many Bears Can Live in the Forest?"

Objective	Students will be able to describe how limiting factors affect animal populations.
Warm-Up	Discuss limiting factors that may affect animal habitats. Discuss black bears specifically, and how these limiting factors may affect their behavior.
Procedure	Give each student an envelope and have them write their name on it to represent their "den." Take students outside, where there are different colored pieces of paper scattered on the ground. (The pieces of paper have labels and numbers that represent different types and amounts of food, but students do not know what they mean). Tell students that they are now black bears that will be hunting for food. Students will go out and pick up a piece of "food" and bring it back to his or her den. This continues until all the food is gone. Show the diversity of the black bear population by assigning one student to be an injured bear with a broken leg who must hop on one leg during the activity, one student to be a bear who was blinded by a porcupine who must be blindfolded during the activity, and one student to be a mother bear who needs to gather twice as much food as the other bears during the activity. When all of the food is gone, students return to the classroom. Explain the colors, labels, and numbers on each piece of paper. Have students find the total weight of the food they collected and write the totals on the board. Tell students that a black bear needs 80 pounds of food to survive. Discuss which "bears" survived. Discuss how the mother bear would eat the food before her cub. Students calculate the percentage of each type of food they collected and compare their amounts to that of a real black bear and that of a human.
Closure	Students discuss what other factors could limit the black bear population, including natural or human-related.
Sources	Project Wild: K-12 Curriculum & Activity Guide

December 6, 2013
5th – 8th Grade Cluster – "Adaptation Artistry"

Objective	Students will be able to identify and describe the advantages of bird adaptations.
Warm-Up	Discuss different types of adaptations that birds have and their advantages, including beaks, feet, legs, wings, and coloration.
Procedure	Students will be designing their own bird by first deciding where the bird lives, what it will eat, how it moves, its gender, and how it raises its young. Students will use these choices to make a list of adaptations that the bird will need. Once the students have their list, they draw their bird with its adaptation in its habitat.
Closure	Hang the pictures in the classroom. Students look at each other's birds and how their adaptations match their habitat and how they compare to their own.
Sources	Project Wild: K-12 Curriculum & Activity Guide

January 10, 2014
5th-8th Grade Cluster – "No Water Off a Duck's Back"

Objective	Students will be able to identify ways oil spills can affect birds.
Warm-Up	Discuss oil spills, how they affect animals, and how animals are cleaned and treated after an oil spill.
Procedure	Break the students into three small groups. Each group fills a container with enough vegetable to cover three hard boiled eggs. After 5 minutes students take one of the eggs out of the oil peels it, examining it before, during, and after the peeling. After 15 minutes, remove the second egg and do the same thing. After 30 minutes, remove the last egg and do the same thing. While students are waiting for the time to remove each egg, students will observe the effects of oil on a feather. Each student receives a feather and a hand lens. Students observe and sketch the dry feather. Student then dip the feather in water, observe and sketch it, and compare it to the other sketch. Students then dip the feather into vegetable oil, observe and sketch it, and compare it to the other sketches. Finally, students clean the oil with detergent and water and dry it. Students observe and sketch the feather and compare it to the other sketches.
Closure	Class discussion about the effects that the oil had on the egg and how this could affect duck eggs that are involved in an oil spill. Class discussion about the effects that the water, oil, and detergent had on the father and how this could affect ducks and other water fowl that are involved in an oil spill.
Sources	Project Wild: K-12 Curriculum & Activity Guide