



Stewardship Lesson #2: THINKING LIKE A MOUNTAIN

Overview: This introduces youth to the essay “Thinking like a Mountain” that discusses the need to respect the natural balance of nature.

Learner Outcomes

Youth will:

1. Know how to focus on their auditory awareness.
2. Understand the need to respect the natural balance of nature.
3. Identify the genre and theme of “Thinking like a Mountain.”

Getting Ready

Materials: Youth need journals and writing utensils; staff need handouts.

Location: A site where they are likely to hear a variety of sounds such as a meadow, stream, or forested area.

Lesson at a Glance

Sound Map (15 minutes)

Youth will create a sound map by listening to a chorus of natural sounds. The group then discusses and reflects on the sounds that they heard.

“Thinking like a Mountain” Reading (25 minutes)

Youth explore the work of Aldo Leopold, a naturalist and author. Afterwards, discuss the reading and create a second sound map.

Concluding the Lesson (5 minutes)

This lesson ends with a comparison between their two sound maps.

- d. What is a sound you don’t hear that often? Why?
- e. What sounds could you not identify?

Transition: Explain that they will next be exploring the work of Aldo Leopold, a naturalist and author who spent much of his time listening to the sounds of the natural world and making observations, much like we just did.

“Thinking like a Mountain” Reading (25 minutes)

Staff will:

1. Introduce the reading and have youth taking turns reading aloud.
2. As you move through the essay, stop and answer the questions throughout the reading **or** read it twice and wait to answer the questions the second time.
3. Recap the essay referring to condensed version below if necessary:
 - a. Aldo and some friends were eating lunch high on a rock with a river below. They thought they saw a deer struggling in the water, but soon realized it was a wolf. There were about six pups along with her. Thinking that the only good wolf was a dead wolf, Aldo and his friends opened fire. The old wolf was down and a pup was injured as a result. As Aldo reached them, he reflects watching “a fierce green fire dying in her eyes”. In this moment, Aldo’s understanding of the ecosystem changed. He knew that the fragile balance of this mountain ecosystem had been upset. Previously, he had thought that fewer wolves meant more deer, which was beneficial to hungers. “But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view.” Every organism has its special purpose in the ecosystem, whether it is a wolf, deer, insect, or plant. Wolves have been wiped out of many states throughout the U.S. and are endangered. Great measures have been taken to reintroduce these species after people have learned how they help keep the ecosystem in balance. As Aldo learned, when you disrupt one part of the ecosystem, other parts are also impacted. Without wolves, the deer population gets out of control and destroys vegetation. Without the vegetation, deer and other animals starve and get sick. It also affects the mountain because the vegetation provides



Background: There is no background material necessary to teach this lesson. However, if staff would like to learn more about Aldo Leopold, it is strongly recommended that they visit the website for his foundation: <http://www.aldoleopold.org>.

Suggested Procedure

Sound Map (15 minutes)

Youth listen to the thrilling chorus of natural sounds while creating a sound map.

Staff will:

1. Explain that we will be focusing on our sense of sound to make observations about the world around us. Additionally, we will be making a sound map.
2. Demonstrate how to create a sound map on the dry erase board. Mark an “X” in the middle and explain that the “X” shows where you are at on the map. When you hear a sound, you will mark where that sound came from on the map.
3. Explain that the mark's location should indicate as accurately as possible the direction and distance of the sound. The marks should be interpretive, not literal. For example: draw a few swirly lines indicating wind or a musical note for a songbird. Remind them that the focus should be on what they are hearing, and not what they are drawing.
4. Instruct them to spread out to select a listening place, and explain that they will have 10 minutes to complete their sound map.
5. After time is up, ask them to share their maps with the group.
6. After everyone has shared, ask the following questions. **(F1)**
 - a. How many different sounds did you hear?
 - b. Which sounds did you like best? Why?
 - c. Which sounds did you like least? Why?

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protection for the soil; without it, water runoff will wash away the nutrient-rich topsoil.

The soil will run into water resources and disrupt the ecosystems found there. The negative impacts are unending (Thinking Like a Mountain: Journaling with Aldo Leopold, 2004).

4. Next, guide discussion by using some of the following questions **or** have youth journal about a question, to explore their thoughts and ideas about the essay:
 - a. Why does Aldo Leopold change his mind about the importance of top predators in an ecosystem?
 - b. Is it our job as humans to manage nature? How much or little should we do?
 - c. What if we were to stop managing wilderness all together?
 - d. Think about the National Park Services' mission to protect and preserve our natural resources for the benefit and enjoyment of the people. How might Aldo Leopold view this mission? What would the mountain think of the mission?
 - e. What was the most important lesson in the reading? How did you come to this conclusion?
5. Explain that they will be creating a second sound map in a different location. By redoing the activity, they can measure if their perspective of the natural world has altered their sense of sound.
6. Remind them that they will have 10 minutes to complete their map, and instruct them to spread out.

Conclude: After time is up, ask them to share their maps with the group. Wrap up the discussion by comparing what they first heard to what they heard the second time. After everyone has shared, ask the following questions:

- a. What sounds did you notice between the first and second sound maps that were the same?
- b. What sounds were different?
- c. Did your perspective change while listening? How?

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Assessment Check Ins:

(F1): Encourages them to creatively explore their observation skills, while completing a pre-assessment sound map.

(F2): Provides insight into the degree and depth of their understanding, allowing staff to adjust the lesson appropriately.

(S1): Assesses what youth have learned and transfers it into their experience at YELL-YCC.

Staff Notes:

- **Key Concept of the Reading:** Leopold encouraged people to expand their vision of the world around them and include the natural world as neighbors in their community. When people begin to look at plants, animals, soils, and water in this context, they begin to consider them in a different way.

References:

Aldo Leopold. (2004). The Aldo Leopold Foundation. Retrieved from <http://www.aldoleopold.org/AldoLeopold/AldoLeopold.pdf>

Cornell, J. (1998). Sharing Nature with Children, 20th Anniversary Edition. Nevada City, CA: DAWN Publications. *The instructional activity served as an example of the Sound Map activity in this lesson. This content was modified in the following way: Some instructional language was changed to match the REC.*

Fallone, K., Gailor, L., & Selleck E., (2006). The Stewardship Ethic: A Guide for Using Your Land. Ithaca, NY: Cornell University Cooperative Extension. New York State Department of Environmental Conservation. Retrieved from; <http://www2.dnr.cornell.edu/ext/info/pubs/FC%20factsheets/FCFSstewardshipethic.pdf>



Focus Attention: Sound Map. (2009). Retrieved from: <http://www.sharingnature.com/nature-activities/focus-attention.php>

Incorporates an example Sound Map activity, which serves as the introduction and conclusion of this lesson. It was modified in the following way: Instructional language was changed to match the REC.

Leopold, A. (1986). A Sand County Almanac. Toronto, Canada: The Random House Publishing Group.

Leopold, A. (1986). Wolves and Deforestation: Thinking Like a Mountain. Retrieved from <http://www.eco-action.org/dt/thinking.html>

The Aldo Leopold Foundation. Key Concepts and Discussion Questions for Select Essays in A Sand County Almanac. Retrieved from: <http://www.aldoleopold.org/AldoLeopold/ALFDiscussionGuideSelectEssays.pdf>
Incorporated the Key Concepts and Discussion Questions in the concluding activity. It was modified in the following way: Instructional language was used to match the REC.

Thinking Like a Mountain: Journaling with Aldo Leopold (n.d.). Retrieved from:
<http://gen.uga.edu/documents/eco/activities/Thinking%20Like%20a%20Mountain.pdf>

Handouts:

- Thinking Like a Mountain

Thinking Like a Mountain

By Aldo Leopold

The following material is from Leopold, A. (1986). A Sand County Almanac.

Read: “A deep chesty bawl echoes from rim rock to rim rock, rolls down the mountain, and fades into the far blackness of the night. It is an outburst of wild defiant sorrow, contempt for all the adversities of the world. Every living thing (and perhaps many a dead one as well) pays heed to that call. To the deer, it is a reminder of the way of all flesh; to the pine, a forecast of midnight scuffles and of blood upon the snow; to the coyote, a promise of gleanings to come; to the cowman, a threat of red ink at the bank; to the hunter, a challenge of fang against bullet. Yet behind these immediate hopes and fears, there lies a deeper meaning, known only to the mountain itself. Only the mountain has lived long enough to listen objectively to the howl of a wolf” (Leopold, 1986, p. 129).

“Those unable to decipher the hidden meaning know nevertheless that it is there, for it is felt in all of wolf country and distinguishes it from all other land. It tingles in the spine of all who hear wolves by night, or who scan their tracks by day. Even without sight or sound of wolf, it is implicit in a hundred small events: the midnight whinny of a pack horse, the rattle of rolling rocks, the bound of a fleeing deer, the way shadows lie under the spruces. Only the ineducable tyro can fail to sense the presence or absence of wolves, or the fact that mountains have a secret opinion about them” (p. 129).

Answer the following questions:

- What does Aldo Leopold mean when he describes the call of the wolf paying “heed to that call”?
- What does it mean for “only the mountain [to have] lived long enough to listen objectively to the howl of a wolf”?
- What do you think mountains secret opinion of them is?

Read: “My own conviction on this score dates from the day I saw a wolf die. We were eating lunch on a high rim rock, at the foot of which a turbulent river elbowed its way. We saw what we thought was a doe fording the torrent, her breast awash in white water. When she climbed the bank toward us and shook out her tail, we realized our error: it was a wolf. A half-dozen others, evidently grown pups, sprang from the willows and all joined in a welcoming melee of wagging tails and playful maulings. What was literally a pile of wolves writhed and tumbled in the center of an open flat at the foot of our rim rock (p. 129-130).

In those days we had never heard of passing up a chance to kill a wolf. In a second we were pumping lead into the pack, but with more excitement than accuracy: how to aim a steep downhill shot is always confusing. When our rifles were empty, the old wolf was down, and a pup was dragging a leg into impassable slide-rocks.

We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes - something known only to her and to the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean

hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view" (p. 130).

Answer the following question:

- What do you think is the "something new" that Aldo Leopold discovered in the eyes of the wolf that is also know to the mountain?

Read: "Since then I have lived to see state after state extirpate its wolves. I have watched the face of many a newly wolfless mountain, and seen the south-facing slopes wrinkle with a maze of new deer trails. I have seen every edible bush and seedling browsed, first to anemic desuetude, and then to death. I have seen every edible tree defoliated to the height of a saddlehorn. Such a mountain looks as if someone had given God new pruning shears, and forbidden Him all other exercise. In the end, the starved bones of the hoped-for deer herd, dead of its own too much, bleach with the bones of the dead sage, or molder under the high-lined junipers.

I now suspect that just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer. And perhaps with better cause, for while a buck pulled down by wolves can be replaced in two or three years, a range pulled down by too many deer may fail of replacement in as many decades. So also with cows. The cowman who cleans his range of wolves does not realize that he is taking over the wolf's job of trimming the herd to fit the range. He has not learned to think like a mountain. Hence we have dustbowls and rivers washing the future into the sea" (p. 130-132).

Answer the following questions:

- What happens to the mountain when there are no wolves?
- What does it mean to think like a mountain?

Read: "We all strive for safety, prosperity, comfort, long life, and dullness. The deer strives with his supple legs, the cowman with trap and poison, the statesman with pen, the most of us with machines, votes, and dollars, but it all comes to the same thing: peace in our time. A measure of success in this is all well enough, and perhaps is a requisite to objective thinking, but too much safety seems to yield only danger in the long run. Perhaps this is behind Thoreau's dictum: In wildness is the salvation of the world. Perhaps this is the hidden meaning in the howl of the wolf, long known among mountains, but seldom perceived among men" (p. 133).