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## ACKNOWLEDGEMENTS

## Contributors

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## Supporters

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## INTRODUCTION

The Teton Ten's mission is to increase children's connections to nature while building a sense of ownership to the National Forest. The Bridger-Teton National Forest, in partnership with over 20 organizations, will provide a guided opportunity for every local or visiting child in our community to participate in ten experiences that will establish a designated Children's Forest.

The Teton Ten Project carefully integrates the foundational principals of Kids in the Woods by connecting kids, families, and adults to healthy outdoor activities across all landscapes; supporting economically vital community by creating new education and career pathways; and fostering climate change understanding and solutions. The following goals have been identified to support these principals and reconnect and reengage children to the natural environment:

- Multiply opportunities for children to connect to the Bridger Teton National Forest
- Create a sense of ownership to the Bridger Teton National Forest
- Teach children about multiple public land uses and ethics
- Increase opportunities for children to feel strong from healthy lifestyle choices and regular exercise
- Assist children in developing new skills and abilities
- Unify the multiple outdoor opportunities available to children to encourage increased and diversified connections to public lands.

To qualify for the Teton Ten activities must include the foundational elements or "roots" into programming design. These include:

- Conservation Education: connect students' multiple experiences in public lands to the role of the Forest Service in conservation
- Physical Health and Recreation: encourage active participation and healthy lifestyle choices
- Multi-use and Local Economy: provide direct experiences to the multiple-use approach to land management rooted in our local economy
- Watershed Health, Sustainability, and Climate Change: connect students to a watershed approach to understanding community health from a human and ecological perspective
- Career and Service: expose students through experience and service to career opportunities in the outdoor field
- Self-Reliance and Safety Awareness: provide students with the skills to engage in outdoor activities on their own

The roots of the Teton Ten will provide the structure to fulfill the Project goals. Activity categories or "branches" will be divided into the following tentative ten areas: wildlands, recreation, service, arts, water, overnight adventure, cultural history, ecology, geology and climate change, and wildlife and fisheries.

The Teton Ten's target audience includes 2,400 local children and 1,000 visiting children. The goal each year will be to have 350 children participating in the programs offered and reach each child multiple
times throughout their childhood. Each "branch" of the Teton Ten will then have an associated activity (ies) determined by a well-defined community selection process. Partner agencies will provide identified activities on the Bridger-Teton National Forest land while incorporating the "root" and "branch" element of the Project to ensure goals and outcomes are achieved.

Each participating student will track their activities in an individualized portfolio. As a member of the Teton Ten, students demonstrate their participation in activities within the Children's Forest Program. Once a child completes an activity in each branch, they become a member of the Bridger-Teton Children's Forest. Memberships to the Bridger-Teton Children's Forest will indicate students who have been "rooted" in the core ideas of the Teton Ten and are committed to serving as ambassadors to the Bridger-Teton Children's Forest. Membership cards and Teton Ten hats will serve as progressive reminders of the completed branches and the activities still available to participate in.

In an effort to invest the community, in the Teton Ten initial communications and marketing effort will be implemented to identify the "top ten" activities within each branch of the Project. Community members will vote on the "top ten" and providers of the activities will be chosen through a public voting and participation process. A Steering Committee comprised of the Project's partners will determine the final activities and providers, and will make fiscal allocations to support children participating in specific programs with an associated fee or rent appropriate gear.

For the 2011 season, the Children's Forest will work with existing partners that have consistently made local kid opportunities flourish. Grants and donations have been granted to cover the cost of whatever is needed to make it possible for any youth, regardless of typical barriers. To seek out and participate in the incredible experiences available in Jackson Hole. The $30 \%$ said to be the most underserved and atrisk will only have to show a desire to become part of this program. Funding is available for any operation serving youth to achieve the goals identified. Organizations applying must be signed as member of the Children's Forest Teton Ten.
Beyond 2011? Summer 2011 is the beginning of the construction of a frame work that will serve every child in this valley. Participation is open to all.


This branch of the Teton Ten Project originates from the Wyoming Wilderness Association. Nancy Shea, the organization's former Jackson representative, proposed a vision to create a curriculum which could fall under the "Wildlands" branch of the Teton Ten. According to her vision and the vision of the Wyoming Wilderness Association, this curriculum would provide students across multiple grade levels with an opportunity to experience the National Forest's wilderness while learning various facets of 'Wilderness' in a fun and engaging educational atmosphere. The curriculum has been constructed to be appropriate to students' grade and ability levels from grades 3-5, 6-8, and 9-12.



## Learning Goals

|  | Overview | Wilderness | Skills |
| :--- | :--- | :--- | :--- |
| Grades 3-5 | Students will gain <br> knowledge about <br> wilderness areas near <br> them and how all five <br> senses can be used to <br> appreciate the value of <br> Wilderness. | Students will be able to <br> recognize what makes <br> an area wild and why <br> humans travel in <br> wilderness. | Students will be able <br> to define GPS (Global <br> Positioning System) <br> and use GPS units to <br> find and name <br> waypoints with <br> reasonable <br> proficiency. |
| Grades 6-8 | Students will gain <br> knowledge about the <br> history of wilderness <br> and how humans have <br> impacted wilderness <br> over time. They will gain <br> awareness of the values <br> and preservation of <br> wilderness. | Students will be able to <br> identify plant <br> communities, how to <br> travel safely in <br> wilderness and ways in <br> which wilderness can be <br> preserved. | Students will be able <br> to practice Leave No <br> Trace principles, <br> naturalist skills, <br> communication skills, <br> and writing skills. |
| Grades 9-12 | Students will gain and <br> be able to demonstrate <br> Leave-No-Trace skills <br> and a general <br> knowledge of the <br> benefits and challenges <br> of creating and <br> protecting 'Wilderness' <br> areas. | Students will be able to <br> consider the benefits <br> and challenges of giving <br> areas official <br> 'Wilderness' <br> designations for their <br> protection. | Students will be able <br> to orient a map, take <br> and follow a bearing, <br> and read map symbols <br> with reasonable <br> proficiency. |

## Ice breaker \& Team builder activities

These name games and team-building activities are just some beginning thoughts and personal favorites. By no means let this limit your creative flow, these are merely suggestions to create good bonding and group sharing.

## Name Games:

Group Juggle (groups of $\mathbf{1 0}$ or more)- In order to create a good rapport within the group it is primarily important to know everyone's name. This "name game" is best done with groups that are bigger than 6 people. Stand in a circle so that everyone can see each other. The instructor begins by throwing a small something to someone in the group saying "here $\qquad$ (the person's name they're throwing it to)" the person who catches it says "thanks $\qquad$ (the person's name who threw it to him)" and throws it to someone else in the group saying "here
$\qquad$ (insert name)". It is important to tell the group that they should remember who threw it to them and to whom they are throwing. This process continues around the group until everyone has received the small object. It ends with the instructor receiving it. Ask the group guiding questions, such as "What worked well in this activity?" "How could we do this faster?" Do the same activity again; throwing it to the same person that you threw it to last time. It gets tricky, because the instructor will continue to add new objects (big, small, awkward objects), throwing to the person to whom you originally threw. This will usually result in chaos within the group, so be prepared for that. Remember to continue throwing the objects in the original order and keep saying names. Debrief when all the objects are thrown back at you. Ask "How did that feel?" "What did we do well?" "How could we make this flow smoother?"

Animal Names/Spirit Animals (smaller group)- Stand or sit in a circle so that everyone can see each other. Introduce yourself and say and act out an animal that begins with the same letter of your first name. "Teresa Turtle", the person to your left goes next saying and acting out your name and animal and then adding his own name and animal, the next person continues on, starting with your name and animal, the next person's name and animal and adding his. This process continues around the circle until it comes back to you and you state everyone's name and animal! You can also do this with an adjective that describes them. Ex: "Bodacious Bill" Alliteration abounds!

## Team builders:

Circle Sit/Walk- This activity is really neat when everyone is focused; it is similar to a trust fall activity without the risk and makes everyone involved in supporting the whole. Stand in a circle so that everyone is facing the center and can see each other. Have everyone turn 90 degrees to their right so that they are now facing the persons back in front of them. Have everyone scoot together closely so that they are a very tight circle. Now have them bend their knees and pretend to be sitting on a chair that is behind them. This should make them think, and look behind them. They will be sitting on the person's lap behind them, while the person in front of them will be sitting on their lap. If once they have done this and are in a circle sit, have them try
and "walk" around the circle by shuffling, starting with extending their right foot then left foot in sync.

Animal size order- This is a neat game to do at the beginning of the day when people may not feel like sharing personally yet but THE ICE MUST BE BROKEN SOMEHOW! Whisper an animal name to each member of the group and have them line themselves in order of size by only using their animal actions and noises. They cannot talk, but only act and make noises like their animal. Once they think that they have ordered themselves correctly, start on one end and have them tell the group what their animal is. Did they line themselves up from largest to smallest?

Human Caterpillar (Steamroller)- This is just a fun and silly game and creates a lot of laughs. This is best done on flat ground that is free of stones/glass/sharp objects. Have everyone lay in a continuous line, side by side on their stomachs. One person at the end of the line starts by rolling themselves over the "human caterpillar" until he gets to the end of the line. The next person then starts and rolls over everyone to the end of the line. Continue "moving" until everyone has gone and the original "end of the line" person is again at the end of the line.

Don't Touch Me!- This is a fairly advanced game and good debrief of group dynamics, it has the ability to bring out the different ways of communicating within the group and makes the group members think outside the box. This game begins with everyone standing side by side in a close circle facing the center. Placed in the center of the circle should be an unfolded handkerchief that is spread open like a square. Have everyone pick a partner on the opposite side of the circle (not standing directly next to them). Have them take note of where their partner is standing. Now, the goal of the game is for everyone to switch places with their partner in the shortest amount of time. In order to switch places each person must touch the handkerchief in the middle of the circle at the same time as their partner BUT they cannot touch anyone in the group! Everyone must keep their hands in front of themselves (palms forward and elbows bent) saying "don't touch me!" If they cannot switch places, touch the handkerchief and not touch people during a round, the pair must go back to their original spots and start over. If you choose to do a second round, make a goal of time. Ex: "I challenge you all to do this in less than 10 seconds!"

## What is Wild?

## Grades 3-5

## Overview

This section of the curriculum is designed for an 8 hour field experience for $3-5^{\text {th }}$ grade students. The main objectives are to create a set of meaningful investigations of wilderness that will increase:
> Understanding of what wilderness means to the students and why it is important.

## Themes

1. What is Wild?
a. An exploration of the concepts of wilderness in personal and cultural terms.

ESSENTIAL QUESTION: What is wild?
2. Using Wilderness
a. An exploration of what comprises a wilderness area with a focus on navigation outside of an urban environment and habitats provided by wilderness areas.

ESSENTIAL QUESTION: How do humans function in and affect wilderness?

## Suggested Locations

> Cache Creek

## Wyoming Anthem

| LEARNING GOAL: | Learn the Wyoming Anthem (also called Wyoming State Song) and <br> discuss how this relates to wilderness. |
| :--- | :--- |
| KEY QUESTION: | How is Wilderness represented in the Anthem? |
| TEACHER NOTES: | It may be beneficial to pick and choose which verses of the song to teach. <br> Some are more wilderness centric than others |
| MATERIALS: | Print words to song in journal. Include printed pictures of flowers in <br> journal or bring photographs |

Engate: $^{\text {a }}$
Sing the Wyoming Anthem line by line. Repeat as many times as the attention span allows (relevant verses). Add hand motions or a dance to the song?

## Explore:

Explan:

What do we notice about wilderness in this song? Why do you think we have a state song that talks about nature so much?

Extremely brief summary of the Wyoming Anthem and Wilderness history in Wyoming.

Potential information

- Song Adopted on February 15, 1955
- Judge Charles E. Winter of Encampment composed a poem titled "Wyoming" during the summer of 1903.
- The cassette recording of the song held at the State Library has vocal and piano by John Coe, 1999.
- Wilderness Act in 1964
- Bridger Wilderness in the Bridger-Teton National Forest383,300 acres
- North Absaroka Wilderness in the Shoshone National Forest-359,700 acres
- South Absaroka Wilderness (changed to the Washakie Wilderness in 1972) in the Shoshone National Forest505,552 acres
- Teton Wilderness in the Bridger-Teton National Forest563,460 acres
- Wyoming Wilderness Act of 1984 http://www.wilderness.net/index.cfm?fuse=NWPS\&latitude=43\&longit ude=-108\&zoom=6 (Map of wilderness areas)
Elaborate: Discuss: do you think that this song is an accurate representation of our state? Imagine: What if there were [something] that threatens [the flowers in this song] and in twenty years there were none left. If these flowers disappeared, what would that mean for us when we sing it? How would that affect the people living in Wyoming? (We need to protect the things our state is known for)
Evaluate:
How can you spread the word about Wilderness in Wyoming? Repeat song.


## Wyoming State Song Lyrics

(http://www.youtube.com/watch?v=e9Aiu3p5H3s)

## Verse 1:

In the far and mighty West, Where the crimson sun seeks rest, There's a growing splendid State that lies above,
On the breast of this great land;
Where the massive Rockies stand, There's Wyoming young and strong, the State I love!

## Chorus:

Wyoming, Wyoming! Land of the sunlight clear!
Wyoming, Wyoming! Land that we hold so dear!
Wyoming, Wyoming! Precious art thou and thine!
Wyoming, Wyoming! Beloved State of mine!

## Verse 2:

In the flowers wild and sweet, Colors rare and perfumes meet;
There's the columbine so pure, the daisy too,
Wild the rose and red it springs, White the button and its rings,
Thou art loyal for their red and white and blue,

## Verse 3:

Where thy peaks with crowned head, Rising till the sky they wed, Sit like snow queens ruling wood and stream and plain;
'Neath thy granite bases deep,
'Neath thy bosom's broadened sweep,
Lie the riches that have gained and brought thee fame.

## Verse 4:

Other treasures thou dost hold, Men and women thou dost mould, True and earnest are the lives that thou dost raise, Strengthen thy children though dost teach, Nature's truth thou givest to each, Free and noble are thy workings and thy ways.

## Verse 5:

In the nation's banner free There's one star that has for me A radiance pure and splendor like the sun; Mine it is, Wyoming's star, Home it leads me near or far; O Wyoming! All my heart and love you've won!

## Urban vs. Wild

| LEARNING GOAL: | To understand the purpose of wilderness as a place |
| :--- | :--- |
| KEY QUESTION: | What makes Wilderness special? |
| TEACHER NOTES: | It is not necessary to have all of these activities in this lesson, as there is <br> some overlap. Gauge your student's energy levels and attention spans. <br> These lessons are also designed for students to understand what the <br> difference between wilderness and urban environments. |
| MATERIALS: Journals, pictures of urban environments, and pictures of wilderness <br> areas $\sim 20$ mins |  |
| TIME: |  |

## Activity 1: Picture perfect

ENGAGE: Show students a picture of an urban environment, and have them write down in their journal any thoughts that the picture evokes. Then replace it with a picture of wilderness and repeat.
EXPLORE: Have students share what the pictures brought to their minds.
EXPLAIN: Discuss how the two are different and how they are similar (if applicable).
ElABORATE: These two pictures mean different things to each of us.
Supply another viewpoint (for example: "How would someone who lives in and loves New York City view this?") Why might this other person view these environments differently? (Experiences shape our views)

## EVALUATE: Is one environment better than the other? Why or why not?

- Poll students using cards
- Why do we need cities? Why do we need wilderness?
- People need jobs, shelter, etc. from cities
- Wilderness provides beauty, peace, and animal habitat

Theme: What is Wild?


## Activity 2: Personal Wilderness Experience

| ENGAGE: | Ask students if they've ever been hiking or camping before? Prompt them <br> to silently reflect about the experience for a few moments and then <br> share it with a neighbor. (Think Pair Share) |
| :--- | :--- |
| EXPLORE: | Have students think about their experience. Where did they go? What <br> did they see? What did they do? What challenges did they face? Did <br> they learn anything from their experience? |
| $E_{\text {EXPLAIN: }}$ | Explain how wilderness gives us a unique opportunity to connect with <br> nature. |
| ELABORATE: | In their journals have the students write or sketch about their wilderness <br> experience. If they have never gone hiking or camping where would they <br> like to go that think would be wilderness. |
| Ask students to share their wilderness experience. Was this a good or |  |$\quad$| Asecial experience? Could they have had this experience without |
| :--- |

## Wilderness Immersion

| LEARNING GOAL: | To have students experience wilderness through sensory observation and <br> experience. |
| :--- | :--- |
| KEY QUESTION: | What does the natural world have to tell us? |
| TEACHER NOTES: | These lessons are designed for students to open their senses to <br> wilderness. Through taking the time to observe in personal reflection we <br> can learn the value of wilderness. |
| MATERIALS: | journals, watercolors, pencils, watercolor paper |
| TIME: |  |

## Activity 1: Painting the day

> ENGAGE: $\begin{aligned} & \text { Either printed in the journal, or somewhere else, have this quote: "The } \\ & \text { wonder of the world, the beauty and the power, the shapes of things, } \\ & \text { their colors, lights and shade. These I saw. Look ye while life lasts. F. Lee } \\ & \text { Jacques" }\end{aligned}$

- Have student(s) read quote aloud and restate in their own words
- Have students paint either a representation of this quote, or some of the natural things they saw today.


## EXPLORE: Have students sit by themselves to paint and reflect

Explain:

Elaborate:

Evaluate:

After 15 minutes (or so, depending on group energy levels) bring the group back together and have students share their artwork

This quote can be interpreted many different ways. Each of us has a very different picture, but we are all thinking about the same thing. Why are all our pictures different? (Different: experiences, colors, interpretations of quote) Why do different people go to the wilderness?

How can you spread the word about Wilderness? What can you do to help protect it? Would you recommend other students coming out here? How could you convince them?

 aunud shiardle. Thlheesie II saiw. LLoookk yee wrhillle lliffee llasits."

## F. Lee Jacques

 maitunure.

## Activity 2: Listening to the Wilderness

| ENGAGE: | Ask students why we need to hear? Does it help us communicate, <br> understand, or learn what is around us? Why might animals want to <br> hear? |
| :--- | :--- |
| EXPLORE: | Have students list sounds that they hear in everyday life. <br> - Do these sounds tell us anything? |
| EXPLAIN: Are they pleasant or unpleasant? |  |
| Explain to students that they will be making a sound map. This is a |  |
| personal map of what sounds you are hearing and where they are coming |  |
| from. It helps to explain that they are at the center of their map and |  |
| always facing the same direction. Explain that they will be drawing noises |  |
| they hear and placing them on the map in the direction that they are |  |
| coming from. They can use symbols or drawings to represent their |  |
| sounds. Be sure to make clear that this is a silent activity. Have students |  |
| find a spot away from each other where they can observe sounds that are |  |
| going on around them. Give them about $15-20$ minutes. You can call the |  |
| students back using a coyote call, whistle or other creative sound. |  |

## Where in the World is Bridger-Teton National Forest?

LEARNING GOAL: Students will learn how a GPS functions and use them to explore wilderness.

KEY QUESTION: How does a GPS help us explore wilderness?
TEACHER NOTES: Before the lesson the scavenger hunt will need to be set up with 4-6 points made into waypoints on the GPS. Groups of three students work better with students switching between jobs. Each group must start with a different first destination so there is not mass chaos or traffic jams.

MATERIALS: There will need to be at least one GPS unit per each group of three or four. Drawing a big picture of a GPS on paper for explaining purposes helps make things clearer for younger students. Provide a map to connect the GPS and other forms of navigation. Record sheet for scavenger hunt (Either a journal or some other paper)

TIME:

Engage:

## Explore:

Explain:

Elaborate:
"GPS game" This is very similar to the game of "Marco Polo." One student represents a GPS and is blindfolded. All of the other students are satellites and move around the GPS. Like Marco Polo the GPS continuously says GPS while satellites evade and say "beep." The GPS needs to tag three satellites in order to find out where it is and win (simulating triangulation).

Define GPS, and evaluate the game. What does it represent? Taking out the big picture of the GPS unit, explain what each button does and how it relates to the activity. Then, split students into groups and have them follow the scavenger hunt. They will need to record their findings on paper.

Discuss what the scavenger hunt items have in common. (The hidden items should be chosen as they relate to wilderness)
"What did you find on the scavenger hunt?"
"How are these items related?"
Discuss how else a GPS might be helpful in the wilderness. Bring out a map of the area, and talk about how using these two tools together are more effective than separately.

- Look at the "UTM" on the GPS; explain how these relate to the grid lines on a map. Have students find current location on GPS and map.


## Evaluate:

How can you use a GPS in your own life? (Possibly introduce Geo-caching and Nature Mapping)

- In your journal write down one sentence on how you can use GPS or map navigation in the future.


## A Walk on the Wild Side

\(\left.$$
\begin{array}{|ll|}\hline \text { LEARNING GOAL: } & \begin{array}{l}\text { For students to understand the role of Wilderness for both } \\
\text { humans and animals. For students to understand what habitat is. }\end{array}
$$ <br>

KEY QUESTION: \& Why do humans and animals need wilderness?\end{array}\right\}\)| TEACHER NOTES: | These lessons are designed for students to understand that not <br> just humans need wilderness but also animals do as well. <br> Wilderness provides a habitat for animals as well as a place for <br> both humans and animals to wonder freely. <br> Where the Wild Things Are by Maurice Sendak, Map of GYE or |
| :--- | :--- |
| MATERIALS: | Gros Ventre wilderness, small dry erase board, markers |
| TIME: |  |

## Activity 1: Gone wild

## Engag:

Explore:

Explan:

Elaborate:

Evaluate:

Read Where the Wild Things Are by Maurice Sendak
Discuss what the students thought of the story? Have they ever felt the urge to go wild? What does the word wild mean to them? Have them write down 5 words or sketch what the word wild means to them.

Coming up with five ideas or sketches will get students to think about the word wild. They will come up with adjectives, nouns, verbs and adverbs that will lead into a discussion on the definition and purpose of wilderness.

Discuss that the words and ideas they have written down represent the bigger picture of what wilderness is. Tell them what a definition of wilderness if you were to look it up in a dictionary ex ; An unsettled, uncultivated region left in its natural condition, A piece of land set aside to grow wild.

To evaluate have the students come up with their own definition of wilderness. If there is time you can also show students a map of the GYE, Bridger Teton national forest and/or Gros Ventre Wilderness. Ask students to point out wilderness and nonwilderness land. This will get students to see how much land is
used by humans and what land is left wild. What if no land was left as wilderness?

## Activity 2: Who lives here?

| ENGAGE: | Ask students if humans are the only ones who use wilderness? <br> What are some things that might live in a wilderness? Make a list <br> of what they come up with. |
| :--- | :--- |
| EXPLORE: | What does wilderness provide for these animals? Come up with <br> Habitat: Food, Water, Shelter, and Space |
| EXPLAIN: | Perhaps make an emphasis on how important wilderness is to <br> shelter and space. |
| ELABORATE: | Break students into groups of 2-4. Have students pretend they <br> are a specific land animal or a woodsman from long ago. They <br> must now make a shelter for themselves from natural items. <br> These items cannot be living, ex, sticks, earth, leaves(dead) and <br> rocks. Give them a set time in which they must make a shelter. |
| EVALUATE: | Have students compare and contrast the different shelters they <br> made. Maybe even take pictures of students in the shelters. |
| Reemphasize that wilderness protects habitats for plants and |  |
| animals. It allows a sheltered space where nature can be left to |  |
| flourish. |  |

Theme: Using Wilderness
Z〒

39 The 1964 law made this official 38 Herds of these migrate with the seasons 36 Mud in the stream Of value to cavity-nesting birds
Lightning might start one in the wilderness
Wolves, for instance
We revolve around this
One wilderness value is clean
Mud in the stream 29 Of value to cavity-nesting birds
30 Lightning might start one in the wilderness 23 Unconfined and unrestrained, according to the Wilderness Act 21 It always comes back to you if you shout loud enough
22 Female bighorns 20 Night flyer on silent wings
 рломssodว ssəuлəрІ!М

әuoz әuịdib әЧł IIDכ วM ఫDЧM S\& 28 Fish need clean gravel to deposit these
 24 Snow does this in the spring wilderness (3 words) 22 Where wild rivers begin
23 Join together 16 Places where trees grow
17 Water molecule

## Humans and Wilderness

## 6-8 ${ }^{\text {th }}$ Grade

## Overview

This curriculum is designed for an 8 hour field experience for $6-8^{\text {th }}$ grade students. The main objectives are to create a set of meaningful investigations of wilderness topics that increase:
$>$ Awareness
> Inquiry skills
> Appreciation of natural landscapes and those who work to protect them
Themes

1. What is wilderness?
a. An exploration of what is wild and what is wilderness with a focus on personal meaning.
ESSENTIAL QUESTION: What is wilderness?
2. History of Wilderness
a. An exploration of the wild/wilderness continuum with a focus on history, Native peoples, the Wilderness Act and what wilderness designation means as preservation and protection in their natural condition.
ESSENTIAL QUESTION:
3. The Value of Wilderness
a. An exploration of the economic, social, political, spiritual, historic, educational, recreational, scientific, and aesthetic value of wilderness
ESSENTIAL QUESTION: Why should we value wilderness? What does wilderness provide for us?
4. The Preservation of Wilderness
a. What can I do for wilderness? How can I contribute? Can I make a difference? How is what I have learned, my land ethic, going to affect my behavior?
ESSENTIAL QUESTION: What can I do to be a wilderness steward?

## Suggested Locations

Alkali Creek, Gros Ventre Wilderness
Goodwin Lake, Gros Ventre Wilderness

## The Puzzling Wilderness

| LEARNING GOAL: | Students will define and explain concepts or feelings they <br> associate with wilderness and what is wild. |
| :--- | :--- |
| KEY QUESTIONS: | What is wild? What is wilderness? |
| TEACHER NOTES: | Defining wilderness, adapted from the Wilderness and Land <br> Curriculum |
| MATERIALS: | Whiteboard, student journals, butcher paper cut into puzzle <br> piece shapes, markers and crayons |
| TIME: | 15 minutes |

ENGAGE: Read passage about wilderness to students:

> Have you ever traveled far beyond the end of the road? . . . Can you imagine a place where the only sounds are rushing winds and raging waters? . . . Do you long to reach for the farthest horizon? . . . Could you carry everything you needed for a week on your back, and yet want for nothing? . . Can you learn from the past and look with hope to the future? . . Are you willing to test yourself and perhaps become a different person? . . . Then step into wilderness, a special place. The roots of wilderness run deep in the ground and in our hearts. Come, begin your adventure and discover the wilderness within you.

EXPLORE: Each student will receive a piece of the puzzle. Each student may draw or write their personal definition of wilderness.
Explan:
As a group, assign students to share their words or drawings for the definition of wilderness. Go around the circle and after students have shared, have them add their piece to the puzzle. Discuss the different perceptions people have had about wilderness. Explore the feelings associated with words. Ask, how
does the word make you feel? What are some things you do that are wild? Are cities wild?

## Elaborate:

Evaluate: Use a national forest or state map to point out wilderness in Wyoming. Locate wilderness in other states and regions. Does each state in the United States have wilderness areas?

## Wilderness Time Capsule

| LEARNING GOAL: | Students will define and explain concepts of feelings they <br> associate with wilderness and what is wild. |
| :--- | :--- |
| KEY QUESTION: | What is wild? What is wilderness? |
| TEACHER NOTES: | Defining wilderness, adapt from the Wilderness and Land <br> Curriculum |
| MATERIALS: | Nalgene bottle, scrap paper, pencils, colored pencils, markers |
| TIME: | 15 minutes |


| ENGAGE: | What is wild to you? What is the most fun thing you like to do <br> outside and why? When do feel you can be yourself in Nature? <br> When are you closest to being like nature? When are you most <br> humbled by nature? |
| :--- | :--- |
| EXPLORE: $^{\text {Have students draw or write something that is meaningful to }}$them about nature. |  |
| EXPLAIN: $^{\text {Have students fold up their piece of paper and place it in our }}$"time capsule." Hide somewhere at the beginning of the trail. |  |
| EVALUATE: | On the way out, find the time capsule and give the student's their <br> piece of paper. Let them add anything else they want to about <br> how they feel about nature, wilderness, etc. |
| Discuss how our perceptions change after we experience <br> something first hand. |  |

## Go on a micro hike!

| LEARNING GOAL: | Students will learn to use all their senses in close observation of <br> communities. With these observations they will learn to detect <br> slight changes in the environment surrounding them. |
| :--- | :--- |
| KEY QUESTION: | How does the environment change within the Greater <br> Yellowstone Ecosystem? |
| MATERIALS: | 1 foot of string for each student, magnifying glasses, pencils, <br> journals |
| TIME: | 25 minutes |

Engag:

Explore:

Explan:

Elaborate: Now walk to another area that is slightly different, i.e. sunnier, different plant community, drier, etc. than the first site. Have students lie their string down and observe what they come across.
Evaluate:
Discuss what was found and how it differed from the previous site. As a class discuss the differences between the two areas and what possible adaptations plants and animals have made to prosper in the microsites

## How has land use changed over time?

| LEARNING GOAL: | To understand how land has been used over time and how <br> perspectives of wilderness change in different cultures <br> throughout history. |
| :--- | :--- |
| KEY QUESTION: | How has our perception of wilderness changed throughout <br> history? |
| TEACHER NOTES: | When non-native people arrived and stayed in what is now the <br>  <br> U.S. they found what must have seemed like a vast, untouched <br> wilderness. Most were probably unable to grasp the reality that <br> millions of people had, for thousands of years, called this <br> wilderness landscape home. Many cultures had found ways to <br> use the land to their advantage. Many Native people did and still <br> do live in a way that is respectful and has a low impact on the <br> land, but humans have and always will impact wilderness. Tony <br> Incashole, Director of the Salish-Pend d'Orielle Culture Committee <br> in Western Montana: Most native peoples, past and present, |
| viewed themselves as part of the landscape whether in a <br> wilderness context or not. |  |
| "In the past, Native People had no word or mental construct for |  |
| wilderness. The people were part of the landscape and drew few |  |
| distinctions between themselves and their place. That;s why so |  |
| many newcomers missed our ancestors. They simply didn't stand |  |$|$| out. They fit in." (Carhart) |
| :--- | :--- |

ENGAGE: Ask students, "Close your eyes and imagine you are standing in your backyard 200 years ago. Who would be living here? Humans? Plants? Animals? How would they be using the land?"
Explore:
Pass out the land use timeline cards. Review what a timeline is and how it is used. Timeline: A visual display of linear time and the correct placement of significant events that fall upon the segment being viewed. Create a human timeline by spacing students with cards down the trail.

Explan:

Elaborate:

Evaluate:

When the first Europeans arrived to what is now the United States they viewed the land as a vast wilderness. The Native American population in 1492 is estimated to have been as high as 112 million or as low as 8 million. Discuss that in many places there have been large populations and lots of human activity that would have altered what had been perceived as wilderness.

How else has land been used during all or part of human history in North America? Examples: harnessing the power of water, irrigation, road/trail building, fire management (prescribed burns, fire suppression).

- When Columbus first landed in North America (1492) or even earlier Viking explorers before that, was al of what is now the United States a wilderness?
- Discuss that the first Europeans found a dynamic place with many cultures (Native Americans) already calling their new place home, yet we would consider it wilderness or at least extensive wild land. Discuss Native people and wilderness perceptions.

Today's US population is estimated at 310.5 million (U.S. Census
Bureau; 2011). How will we leave our mark on the wilderness timeline? Have students break into pairs and brainstorm ways that we use land today. Examples: production of food, lumber, extraction/production of other natural resources. Cities, suburbs, small towns, rural development, 'your backyard' all occur on what was once wilderness.

## Land Use Timeline Cards

## 14,000-18,000 Years Ago

Earliest fossil evidence of humans in what is now the United States.

## 5,000-10,000 Years Ago

Some North American hunters/gatherers supplement diets by cultivating some plants.

## Present - 5,000 Years Ago

Communities in North America based increasingly on agricultural production.

## Present - 400 Years Ago

Modern logging and wood milling begins in the United States.

## 150-14,000+ Years Ago

Rock is excavated and used for tool-making, weapons, jewelry, etc.

## 1,000-3,000 Years Ago

Early agricultural irrigation systems in arid southwest by Chaco, Hohokam, and Anasazi cultures.

## 900-1,100 Years Ago

First domesticated animals (turkeys) by Native People in North America.

## 7,000 +/- Years Ago

Pueblo Indian people build apartment-like structures in desert southwest

Land uses: Builders use cut sandstone, sun-dried bricks, and adobe (soil/straw/water mix) as well as timbers for roofs and smaller wood for ladders

## History of Wilderness in the United States

| LEARNING GOAL: | To understand the evolution of the perspectives of wilderness <br> throughout United States history. |
| :--- | :--- |
| KEY QUESTION: | How has our perception of wilderness changed throughout <br> history? |
| MATERIALS: | Timeline cards |
| TIME: | 25 minutes |

Engage: What do students know already about the history of Wilderness in the United States? How do students perceive Wilderness areas? How do you think Wilderness areas have been transformed through time?
EXPLORE: Divide students into groups and pass out laminated cards. Explain that each group should come up with a skit or way to represent their card and share it with the group. Give students 15-20 minutes to come up with a skit that will explain their part of Wilderness in history. Have students share their skits with the group.
EXPLAIN: Throughout history, Wilderness has taken many forms and has been classified by different people. The perceptions and views of nature have changed throughout time and have been influenced by many advocates for Wilderness such as John Muir. Many people have also realized human impact on the land and the need for Wilderness preservation. Discuss these changes and how they influenced the creation of what we know Wilderness areas to be today.
Elaborate: Do students know how many Wilderness areas exist in the United States today? How have these events changed Wilderness and what people know about it? How has the perception of nature changed throughout the creation of Wilderness areas?
Evaluate: Do students think Wilderness areas are beneficial to have? How can we ensure that Wilderness areas are protected and supported? What can we as individuals do? What impact will humans continue to have on the land? Discuss the potential opportunities and limitations for future Wilderness areas in the United States.

## Wilderness History Cards

Pre- 1492: Indigenous people live for thousands of years in what is now the United States of America. Though their population was smaller than the country's population today, they lived on and impacted landscapes. Vast wildland areas existed across North America.

1500-1800: Explorers, colonists, and others advance into wildland areas and as populations increase more and more wildlands are developed for human use and control.

1800-1850: Many of those living in what is now the U.S. begin to look at nature not as something to be conquered or tamed as Romanticism in art and literature extols the wonders of the natural world.

1850-1900: Naturalist writers like Henry David Thoreau, John Muir, and others influence thinking about wilderness landscapes even as wilderness continues to shrink from pressures associated with increased demand for land and other natural resources. Yosemite established as the first state park (1864) and Yellowstone as the first national park (1872).

1900-1950: U.S. public overwhelmingly supports land preservation as National Parks continue to be established and the system of protection strengthened. Presidents are given the power to proclaim national monuments, and states, communities, and landowners set aside land to preserve in a natural state. People like Aldo Leopold, Mardy Murie, Bob Marshall, Howard Zahniser, and Arthur Carhart work towards preservation of wild and free landscapes.

1950-1964: Increasing awareness of the country's shrinking wilderness landscapes prompt private citizens, politicians, government agency personnel/scientists, and many others to push for a national wilderness preservation system.

1964: Congress passes and President Lyndon B. Johnson signs into law the Wilderness Act.

## The Lorax

LEARNING GOAL: Introduce the topic of ethical and ecological questions. Address ethical and ecological questions facing your community. Develop the idea of "respect" for another's opinion.
KEY QUESTION: How does the story of the Lorax parallel our own lives?
TEACHER NOTES: Questions adapted from the Wilderness and Land Curriculum
MATERIALS: The Lorax by Dr. Suess
TIME: $\quad 30$ minutes
$E_{\text {ngage: }}$

Explore:

EXPLAIN: Prompt students to generate definitions of the following terms:

Fact: A piece of information presented as having objective reality, something that has actual existence. Example: 4\% of the land mass of the U.S. is congressionally designated as wilderness.

Belief or opinion: an information-based assumption. It may be right or wrong. Example: The more wilderness we have, the more predators there will be.

Value: A worth attached to some event place, idea, etc. Example: It is important to preserve wilderness.

Attitude: Based on an implied belief system, an implied value system with a predicted behavior. Example: We need to protect all remaining roadless lands in Wyoming as Wilderness. This statement implied a belief that it is more important to leave roadless lands undeveloped than to open them up to multiple-use development.
We have enough land set aside as wilderness, and we should open all remaining roadless lands in Wyoming to multiple uses
such as mining, road building, logging, and motorized recreation. This statement implies a belief that natural resource development in roadless lands will provide economic benefits in the form of jobs, fewer restrictions in the types of recreation opportunities allowed.

Land ethic: Aldo Leopold. Depends upon an understanding of the science of ecology and the relationships among the parts of ecosystems. It also incorporates the belief that human beings are just one part of a larger earth community of plants, animals, water, soils, collectively called "the land." Living things are viewed from the perspective of populations rather than individual things and about maintaining it in good health. Leopold believed that responsible actions would result if a person loved and respected the land.

Biocentric philosophy: preserves natural systems at the expense of recreational and other human uses. The goal is to allow natural processes to operate as undisturbed by humans as possible.

Anthropocentric philosophy: views wilderness as primarily intended for human uses. The naturalness of wilderness is less important than human uses.

Ask Students: From a biocentric stand point, how would you answer wilderness value questions? From an anthropocentric standpoint, how would you answer the questions?

## Elaborate: Have students discuss in pairs.

Evaluate: As a group: Can you think of ethical and ecological questions facing your community? Why do we want wilderness? What are choices we make about continually developing wild spaces which are not designated "wilderness areas"? What are the costs? Concerns? What does it mean to respect another person's opinion or belief even if you do not agree with them?

## Wilderness Value Quiz

$\qquad$ 1. Do you feel hunting is an appropriate activity in wilderness?
$\qquad$ 2. Do you feel it is OK to stock native fish in lakes which historically have not had fish?
$\qquad$ 3. Do you feel it is appropriate to control predators in wilderness that are killing a substantial number of livestock?
$\qquad$ 4. Do you feel we should be suppressing any fires in wilderness?
$\qquad$ 5. Do you feel that cattle or sheep grazing is an appropriate use of wilderness?
$\qquad$ 6. Do you feel a hazardous tree along a well-used trail should be cut to protect public safety?
$\qquad$ 7. Do you feel it is appropriate for a visitor center to be giving users more information about hazards in wilderness so we can lessen the potential of search and rescue operations?
$\qquad$ 8. Do you feel it is OK to allow people to collect antlers in wilderness?
$\qquad$ 9. Would you take a cell phone into wilderness with the intention that it would only be used to facilitate an emergency situation?
10. Do you feel OK about burying decomposable garbage in wilderness?
$\qquad$ 11. Do you feel it is OK to film in wilderness a movie about wilderness values?
$\qquad$ 12. Is it appropriate for outfitters to have business operations dependent on wilderness? i.e. mountaineering, ski touring, rafting, backpacking
13. Do you feel it is OK to apply a mandatory party size and/or limited permits to promote solitude in wilderness?
14. Do you feel it is appropriate to have collecting stations in wilderness to monitor temperature, moisture content, wind and other factors that would allow better information for prescribed natural fires and managed ignited fires?
$\qquad$ 15. Is it acceptable to you to have managed ignited fires in wilderness?
16. Do you feel it is appropriate to allow a one or two week window for chain saw use to open trails after an intense blow-down event?

Total YES Answers: $\qquad$
Total NO Answers: $\qquad$

# Leave No Trace—Impact Monster 

| LEARNING GOAL: | Understand Leave No Trace, Wilderness ethics |
| :--- | :--- |
| KEY QUESTION: | How can we lessen our impact on the environment? |
| TEACHER NOTES: | Found in Wilderness and Land Ethic Curriculum |
| MATERIALS: | Toilet paper, tin cans, flower, impact monster costume |
| TIME: | 20 minutes |

$E_{\text {NGAGE: }}$

## Read Aldo Leopold's Land Ethic:

> All ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts. The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land. In short, a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such.

Explore:
We are going to visit our own wilderness and discover some impacts and ways you and I can prevent or minimize our impact in any outdoor area. I will play the role of the Impact Monster, and I want you to take note of what I am doing. When I'm finished, you are all going to take turns being the Jr. Ranger to help Impact Monster learn to Leave No Trace.

1. Wow! Look at the lake down there! But I'm so tired and I bet if I leave the trail and jus cut straight down there I'll save a lot of time and be able to fish longer. (Goes to lake)
2. Look at the gorgeous flower! I've never seen one like it before. I bet my mom would love it. (Picks it, it wilts and gets tossed away).
3. Carves initials in the tree to let others know he has been there. Says so.
4. Looks for a bathroom spot. Takes TP and goes behind one of the trees. Drapes it on tree and under rock (foot of audience member).
5. Hey, I'd like a little bath before dinner. That water looks nice and I can see fish in there! I'll fish later and have him for dinner. Gets the bottle of Joy and jumps in sudsig and singing. Kills fish and makes note of the dead fish and suds (Have audience member be fish).
6. Dinner time! Builds fire right next to water (use 3 members as rocks) and tears branches off trees and adds them to the fire, gets out gas can and blasts away at the fire. Warms at fire.
7. Pulls out cans from the pack proceeds to cook, eat, then dump extra food on the ground, trying to bury it and throws cans in the fire. Wipes hands on pants.
8. Sets up tent ( 2 members, holding up roof) next to water commenting how nice it is next to the water and fire. Says he is too tired to change his clothes, so he throws his pack and food in the tent and crawls in to sleep.
9. But before he can do this, he sees the Ranger coming and yells "Oh no, here comes a ranger!"

Have everyone sit down and explain what they would have done in each situation to Leave No Trace. Allow each student to take turn as Ranger.
Elaborate:

1. Don't cut switchbacks or leave the trail, makes it wider and muddier and contributes to erosion
2. No carving or disturbing of natural situation. Removes the wild when you leave trace of yourself. Same thing when picking flowers. It died and cannot reproduce itself, and now others can't enjoy it. Take photos!
3. Use a hole 200' away from tent and water. Dig 6-8" and cover it all disguising the area. Decomposes and is not a bear attractant.
4. Wash 200' from water. Demonstrate how far this is and how to wash self and dishes. Strain the food and pack out, bury water. Won't be bring bears into camp because of reduced oder.
5. A fire isn't necessary. Use a lightweight stove to cook. Fire ring away from water and tent separating food and sleeping area to keep bears away. Dismantle fire after building it.
6. Don't put cans and foil in the fire, won't burn. Bears will look through the fire pits for food and come back again and again to that fire pit when rewarded with food or garbage that is buried and dug up. Never bury garbage but hang a bearbag or use a bear canister at night.

Length of time to decompose trash:
paper plates-3 months
orange peel 2-24 months
cigarette butt-25 years
tin can 10-100 years
plastic-500 years

## foil-forever

7. Tent needs to be 200' away from food water and trail. Don't take food into tent or anything with a scent. Wear clean clothes to beds so bears won't smell and disturb you.

Evaluate:
Turn around, look around: Is it wild for the next person? Keep the WILD in wilderness forever and allow others to have the same experience, or for yourselves to come back again and keep it your favorite spot. Practice LNT everywhere!

# Wilderness Debate: <br> Cell phone use in Wilderness Areas 

| LEARNING GOAL: | Understand dilemmas we as a society face as civilization takes <br> away opportunities for wilderness. |
| :--- | :--- |
| KEY QUESTION: | Should technology be allowed in wilderness areas? |
| TEACHER NOTES: | Found in the Wilderness and Land Ethic Curriculum |
| MATERIALS: | Cell phone, journals, pencils |
| TIME: | 30 minutes |

## $E_{\text {ngage: }}$

"I don't suppose anyone knows how many species have already been exterminated. But we do know here and now brown bears are in dreadful jeopardy. They need space, and man's activities both business and recreational, are pressing in on them from all sides. One can almost imagine a future that is all business and no animals. Have you watched the reactions of small children to animals? Would you want your greatgrandchildren to grow up in a world all mechanized and heartless? Now is the time to be generous. And wildlife needs space, needs wilderness. So does man, I believe."
-Mardy Murie

- Do you agree or disagree with his assertion on losing contact with wilderness?
- Can you imagine a future that is "all business and no animals?"


## Explore:

Have students spread out and find their own place to sit and listen. Instruct them to relax, close their eyes, and listen to nature around them. Next, turn on the ringer on your phone and pretend to loudly answer a call. Have students come back and form a circle.

- What is your response to my cell phone call?
- How does it make you feel about your wilderness experience?
- Are you bothered or do you not care?

ExpLAIN: In a circle discussion or in pairs, explain why or why not you would be bothered by the situation of hearing a cellular phone in a wilderness
area? Reference parts of the Wilderness Act regarding no mechanized travel:
"In order to assure than an increasing population accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no hands designated for preservation and protection in their natural condition, it is hereby declared to the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness."

## Elaborate:

## Evaluate:

Consider the issue of technology such as cellular phone in wilderness areas. Students should discuss the questions below in two groups. Each group should discuss personal opinions and collaborative come up with the "groups" position.

- Should cellular phones be common place in the backcountry?
- What infringements, if any, do cellular phones make on another's experience of the wild?
- Why is the use of cell phones in public places such as restauarants considered rude, but their use in the backcountry does not carry the same socially prohibitive response?
- Since all mechanized modes of travel are not allowed in wilderness areas, where do you draw the line in distinguishing between mechanization in the wilderness?
- Is something lost when people bring technology into the backcountry? Then, is this truly a "wild" experience?
- In what situations is the use of cell phones in the backcountry acceptable? In the case of an emergency?
- Considering that under the Wilderness Act no mechanized transportation is allowed, some people find fault with the use of helicopters to rescue people in wilderness areas. Do you agree or disagree?
- Do you think parts if the Wilderness Act are compromised with the use of technology?

Each group should pick one spokesperson to present the group's position on each question. Only the spokesperson may speak. Were there any differences of opinion? Has everyone changed their mind about their position? How did the groups do? Did everyone feel heard?

## The Wilderness Steward Pledge

LEARNING GOAL: This activity serves as a culmination of the wilderness experience. Its purpose is to inspire students to be stewards of the environment and wilderness through signing a pledge.

KEY QUESTION: How can you be a wilderness steward?
MATERIALS: Wilderness Pledge, one for each student
TIME: 30 minutes

## The Wilderness Steward Pledge

I value wilderness because:
$\qquad$
$\qquad$
$\qquad$
$\qquad$
I want to protect wilderness because:


Through good camping and hiking practices, I pledge myself to preserve the beauty and splendor of America's wilderness, primitive and backcountry areas.

I promise to:

- Set a personal example in protecting the wilderness.
- Teach others the skills and attitudes needed to protect and preserve wilderness for future generations.
- "Leave no Trace" when I am camping and hiking in the wilderness


## The Politics of Wilderness

## 9-12 ${ }^{\text {th }}$ Grade

## Overview

This section of the curriculum is designed for an 8+ hour challenge-hike-centered field experience for $9^{\text {th }}-12^{\text {th }}$ grade students. The main objectives are to create a set of meaningful investigations of wilderness topics that increase:
> Map and compass orienteering skills
$>$ Knowledge and practice of the Leave No Trace ethic
$>$ Awareness of issues which influence Wilderness policy-making
$>$ Critical thinking skills

## Themes

1. Defining Wilderness
a. This lesson explores the meaning of 'Wilderness' and the purposes and values Wilderness can provide.

ESSENTIAL QUESTION: What does ‘Wilderness' mean?
2. Leave No Trace
b. Students will explore the seven principles of the Leave No Trace ethic and how to implement them.

ESSENTIAL QUESTION: What are the 7 principles of LNT and how can we use them to protect wilderness as individuals?

## 3. Becoming a Wilderness Manager

c. This activity provides the students an opportunity to work in groups and to think critically about some deep issues concerning creating and protecting Wilderness areas.

ESSENTIAL QUESTION: What are some challenges that confront Wilderness policy makers when deciding whether or not to protect an area?

## Suggested Hike Locations

- Goodwin Lake or Granite Creek, Gros Ventre Wilderness


## Using a Map and Compass: Orient Yourself!

LEARNING GOAL: $\quad$| Students will be able to orient a map using a compass and know |
| :--- |
| what contour lines are and how to read them. |

KEY QUESTION: How do I use a map and compass as tools of orienteering?
TEACHER NOTES: You will need: a USGS topographical map of the area, a compass, pine needles, a pen, paper for students and colored pencils.

TIME:
Initial lesson will take 30 minutes, but then these skills will continually be used and evaluated throughout the day.

Engage: Be brave, oh you instructor. It would be ideal if you came into the day with contour lines already "written" on your body. Knuckles on your hands, elbows and knees work the best because they can be flexed or relaxed to make them "mountainous" or "flat and topographical". With a pen or marker create topographical lines on your knuckles, elbows and knees so that they are visible and eye catching. Begin your lesson by asking your students if they have ever been on a topographical line. (Or if a topographical line has ever been on them)! Ask your students if they know what topographical lines are and what they mean on maps.
EXPLORE: Lay out a USGS topographical map of the area that you are in currently and have everyone gather around it. Ask them if they know what the different colors on the map mean. Depending on the particular map you may have different color codes but these are universally used:

- Green: forested area, in the World Wars the green areas were places in which a platoon ( 60 men) could hide in cover and not be seen by an airplane (thick coniferous vegetation).
- White: Rocky area, may have sparse vegetation, but not forested.
- Blue: Bodies of water: lakes, streams and ponds. Some maps may have blue dashed lines that indicate intermittent streams that only occur seasonally due to snow melt.
- Brown lines: Contour lines, depending on the map they vary on how many feet are between each line.

EXPLAIN: After you have explored the map for a few minutes, give the students a chance to explore the area around them and make a topographical map of the area using paper and colored pencils. Have each student walk in a different direction, so they have different viewpoints of the same area.

After about 10 minutes have them return with their rough maps. Again gather in a circle around the map and share with their neighbor what they have explored and drawn. Ask the group which area on the original topographical map looks most like this area? Remember to use pine needles to point out specific areas, because contour lines are sometimes very difficult to differentiate with fingers. If a student believes that he knows where you all are have them give you three reasons why he would think that. Make sure that he/she includes their own observations of the land and connect that back to the original topographical map. For example: this hill that we are on is forested and this area on the map has close contour lines and is green. If anyone else has different ideas be sure to share them. Each student should also share three observations that made them create their own topographical map in the way they did.

Elaborate: Ask the students "which direction is north?" Also ask, "which direction is north on the map?" Get out your compass and ask if any of the students have used a compass to orient themselves before. If any one of the students feels confident about orienting the map with the compass, let them do it. When they feel that they have oriented it correctly, have the students evaluate the maps position. Remind them that their input is integral to the group because this map is what will get them to their destination. Ask them if they know the difference between magnetic north and true north? How does this change in global positioning? What is the declination in this area (it should say on the map). After you have discussed this align the map correctly, if needed. Explain how to orient a map if students do not know how. Orient that compass so the north arrow is aligned with the vertical lines on the map and on the compass rose. Turn the compass 14 degrees to the East for the declination in the Tetons. Move the map until "red Fred is in the shed." Explain this to the students and what why true north is different from magnetic north.

Evaluate: Have a student explain to you what you all have done. Ask the students to keep these questions in their mind while they are hiking: what would this land look like on a topographical map? What can we use these skills for? Why is it important to be able to orient oneself with a map and compass? Evaluate the students' skills with the map and compass throughout the day. Keep asking the students where we are on the map during water breaks and always ask them to give you three reasons from the land why they would say that. Assign a "naviguesser" to navigate the group until the next water break, and switch this position throughout the day so that everyone has a chance to lead the group and orient the map themselves.

## Defining Wilderness

| LEARNING GOAL: | The students will know what wilderness is and the basics about the major <br> Wilderness Acts that have been put in place. |
| :--- | :--- |
| KEY QUESTION: | What is Wilderness? |
| MATERIALS: | Whiteboard and marker, poems: "The Invitation" by Oriah Mountain <br> Dreamer and "The Road Not Taken" by Robert Frost, handkerchief |
| TIME: | $25-30$ minutes |

## Engage: Write the word "Wild-erness" on a white board.

Explore: Ask the group to brainstorm and construct a definition of Wilderness. After they have constructed their definition, read aloud this definition of Wilderness. Ask students: "What do you think is the purpose of Wilderness?" "What specific values and benefits does Wilderness land offer?"

EXPLAIN: Explain to students the criteria are for designating a Wilderness and the major wilderness acts that have been enacted. Give background information on how Wilderness is different from other public lands.

Elaborate: Key questions:

- "Why is Wilderness land necessary?" (In addition to National Parks and other public lands.)
- "Are our Oceans Wilderness?" (They fit many criteria but are not protected.)
- Other questions that you might have in mind.
- Delve into questions that the students may have.


## Evaluate:

Depending upon the energy levels and enthusiasm of the group, to evaluate you could either read aloud "The Invitation" by Oriah followed by 10-15 minutes of solo/silent/reflective time in which to journal or just think in their own interpretive space. Or play the review/debrief game in which everyone stands in a circle surrounding an "it" person who guards a (handkerchief) the instructor then asks questions regarding Wilderness.

Ex: "Why do we have Wilderness?" If a student believes that he/she has the correct answer then he/she must try and grab the handkerchief from the "it" person and not be tagged by the "it". If a person grabs the handkerchief successfully without being tagged and answers the questions correctly then they are in the middle as the "it", and the review game continues.

## Wilderness Quiz

1. Where can you find federally designated Wilderness?

- Under the ocean
- In my local park
- On certain federal lands
- At Disneyworld

2. Which of the following should you NOT expect to find in Wilderness?

- O Trails
- Mountains
- Coyotes
- R Rollercoasters

3. When you visit Wilderness, what should you take home with you?

- Pictures only
- Endangered plants
- Trail signs
- Small trees and shrubs

4. When you visit Wilderness, what MUST you remember to bring with you?

- Chainsaw to access difficult-to-reach areas
- O iPod
- Cell phone
- Your common sense

5. Wilderness provides which of the following?

- Less traffic congestion than on most rural roads
- Excellent opportunities for jet skiing
- Clean air and water
- Timber for new houses
- 

6. What activities are not allowed in Wilderness?

- O Hiking
- Horseback riding
- Snowmobiling
- Canoeing

7. Which part of the United States has the most designated Wilderness?

- O The Northeast
- The Western states
- C Hawaii
- None of the above

8. Thoreau once said, 'In wildness is the preservation of $\qquad$ (fill in the blank)

- 
- ... mankind ...
- $\quad$... nature ...
- O ... the sky ...

9. Which of the following contains the most acreage of federal Wilderness land?

- California
- O Montana
- Alaska
- O The lower 48 states

10. The most frequently visited unit in the National Wilderness Preservation System is:

- Indian Peaks Wilderness, Colorado
- Bob Marshall Wilderness, Montana
- Yolla-Bolly Middle Eel Wilderness, California
- Boundary Waters Canoe Area Wilderness, Minnesota

Teachers: Please be green and print this quiz as a double sided paper ()
Answers: 1C, 2D, 3A, 4D,5C,6C,7B,8A,9C,10D

## Wilderness Background

## What is "Wilderness"?

Wilderness is the land that was - wild land beyond the frontier...land that shaped the growth of our nation and the character of its people.

Wilderness is the land that is - rare, wild places where one can retreat from civilization, reconnect with the Earth, and find healing, meaning, and significance.

## The Idea of Wilderness

Wilderness is an indispensable part of American history; however, people have held various perspectives of wilderness throughout time. Historical events and articles, pamphlets, stories and books authored about wilderness and the environment tell us a story of shifting perceptions. During European settlement of America, wilderness was something to be feared. One settler in the early 1600 s stated, "Wilderness is a dark and dismal place where all manner of wild beasts dash about uncooked." Indeed, early settlers struggled to clear and cultivate natural lands as a way of civilizing wild America [1]. In contrast to this utilitarian ideal, three centuries later, an American author stated, "[wilderness] is the ultimate source of healthterrestrial and human." Slowly, public views of wilderness have shifted more towards a protection orientation emphasizing sustainable development and balance and harmony with nature.

## Wilderness, by Law

The Wilderness Act was signed into law by President Lyndon B. Johnson on September 3, 1964.
The United States was the first country in the world to define and designate wilderness areas through law. Subsequently, countries around the world have protected areas modeled after the Wilderness Act. In 1964 our nation's leaders formally acknowledged the immediate and lasting benefits of wild places to the human spirit and fabric of our nation. That year, in a nearly unanimous vote, Congress enacted landmark legislation that permanently protected some of the most natural and undisturbed places in America. The Wilderness Act continues to be the guiding piece of legislation for all wilderness areas. The Act describes wilderness as follows:

[^0]"...an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvement or human habitation..." Section 2(c)
"...generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable..." Section 2(c)
"...has outstanding opportunities for solitude or a primitive and unconfined type of recreation..." Section 2(c)
"...shall be devoted to the public purposes of recreation, scenic, scientific, educational, conservation and historic use." Section 4(b)

## The Wilderness Act's Author

Howard Zahniser wrote the first draft of the wilderness bill in 1956 and shepherded it through 65 rewrites and 18 public hearings.

Freedom is an essential quality of wilderness and this quality was eloquently captured by Howard Zahniser, author of the Wilderness Act, in selection of the relatively obscure word "untrammeled" to define wilderness. Many people read the word "untrammeled" as "untrampled," as in not stepped on. Yet the word "untrammeled" means something much different. A "trammel" is a net used for catching fish, or a device used to keep horses from walking. To trammel something is to catch, shackle or restrain it. Untrammeled means something is free or unrestrained. So, wilderness areas are to be unconstrained by humans. Zahniser defined "untrammeled" in the Wilderness Act as "not being subject to human controls and manipulations that hamper the free play of natural forces." Unfortunately, this primary author and lead proponent of wilderness legislation died just four months before his bill was signed into law as the Wilderness Act.

## Other Laws Affecting Wilderness

Although the Wilderness Act is the single piece of guiding legislation for all wilderness areas, many other laws affect wilderness. Some laws have designated additional wilderness areas, subsequent to the initial 54 areas designated under the Wilderness Act. Others guide management, such as the Clean Air Act and the National Environmental Policy Act.

## Wilderness areas are found in 44 states and Puerto Rico.

The Wilderness Act created the National Wilderness Preservation System, the system that collectively unites all individual wilderness areas. This system encompasses a wide variety of ecosystems throughout the country including swamps in the Southeast, tundra in Alaska, snowcapped peaks in the Rocky Mountains, hardwoods forests in the Northeast, and deserts in the Southwest.

## Wilderness Truths and Misconceptions

Unfortunately, many misconceptions exist about wilderness. Some people think that wilderness is a "lock-up" of land that locks people out. Others think many popular recreational activities are prohibited in wilderness. Some people believe that wilderness is a forested backyard or a park down the street. Still others think that wilderness areas are found only in big western states or in Alaska. In fact, none of these statements is true.

## Benefits of Wilderness

Wilderness contributes to the ecologic, economic and social health and well being of our citizens, our country and our world. The benefits wilderness areas provide are as diverse as the areas themselves and are highly valued. In addition to providing "outstanding opportunities for solitude or a primitive and unconfined type of recreation," the Wilderness Act specified that wilderness "may also contain ecological, geological, or other features of scientific, education, scenic, or historical value." Overall, wilderness areas provide a host of both direct and indirect benefits.

## Threats to Wilderness

Biophysical and social recreation impacts are often associated with overuse. Compacted soil and root exposure can damage campsites and nearby vegetation, while crowding can reduce the quality of wilderness experiences.

The value of wilderness depends upon the degree to which it remains in contrast to the highly developed world in which most of us live. However, designating areas as wilderness does not ensure sanctuary from events that threaten wild character. Wilderness is vulnerable to threats from both inside and outside of its boundaries. The demand for economic growth and a growing population exert significant pressures on wilderness. Many of these pressures are the same threats that other public lands face: overuse, fire suppression, invasive species, pollution, and lack of public awareness.

## Wilderness Movement Leaders

Many prominent historical figures contributed to what has become the modern wilderness movement. However, today Americans still share a special connection to wilderness. Those who travel to wilderness or work in wilderness, professionally or as volunteers, tell heartening stories of inspiration and reward.

## Designating Wilderness

Only Congress can designate wilderness, however, just about anyone can recommend wilderness to their elected representatives in Congress. Often these recommendations come from federal land management agencies or citizens, and sometimes agencies, advocacy groups and ordinary citizens work together to develop recommendations. Once recommended to Congress, both the House and the Senate must agree on which areas should be designated and their exact boundaries. After the House and Senate agree, the proposal is forwarded to the president to sign into law or veto. Historically, only one veto has occurred--in 1988 by President Ronald Reagan. However, during his administration in 1984, more new wilderness areas were designated than in any other year.

## Wilderness Stewardship

America's wilderness areas are managed by the Bureau of Land Management, Fish and Wildlife Service, Forest Service and National Park Service.

Wilderness management encompasses government activities "within the constraints of the Wilderness Act, to identify goals and objectives for designated wilderness areas and the planning, implementation, and administration of policies and management actions to achieve them" through the application of "concepts, criteria, guidelines, standards, and procedures derived from the physical, biological, social, and management sciences"[2 p. 12]. Ironically, the term is a paradox, with "wilderness" implying the absence of control by man and "management" implying man's control of nature or visitors. Although the prevailing opinion used to be to that designation alone ensured protection, increasingly management is necessary to protect wilderness character, making wilderness management a career for many federal land management professionals.

## References

Nash, R. (1982). Wilderness and the American Mind (3rd ed.). New Haven, CT: Yale University Press.

Dawson, C. P. \& Hendee, J. C. (2009). Wilderness Management: Stewardship and Protection of Resources and Values (4th ed.). Golden, CO: Fulcrum Publishing.

## The Invitation

## ~ Oriah Mountain Dreamer ~

It doesn't interest me what you do for a living. I want to know what you ache for, and if you dare to dream of meeting your heart's longing.

It doesn't interest me how old you are. I want to know if you will risk looking like a fool for love, for your dreams, for the adventure of being alive.

It doesn't interest me what planets are squaring your moon. I want to know if you have touched the center of your sorrow, if you have been opened by life's betrayals, or have become shriveled and closed from fear of further pain! I want to know if you can sit with pain, mine and your own, without moving to hide it or fade it or fix it. I want to know if you can be with JOY, mine or your own: if you can dance with wildness and let the ecstasy fill you to the tips of your fingers and toes without cautioning us to be careful, to be realistic, or to remember the limitations of being human.

It doesn't interest me if the story you are telling me is true. I want to know if you can disappoint another to be true to yourself: if you can bear the accusation of betrayal and not betray your own soul. I want to know if you can be faithless and therefore trustworthy. I want to know if you can see beauty even when it is not pretty every day, and if you can source your life from its presence. I want to know if you can live with failure, yours or mine, and still stand on the edge of a lake and shout to the silver of the full moon, "Yes"!

It doesn't interest me to know where you live or how much money you have. I want to know if you can get up after the night of grief and despair, weary and bruised to the bone, and do what needs to be done for the children.

It doesn't interest me who you are, or how you came to be here. I want to know if you will stand in the center of the fire with me and not shrink back.

It doesn't interest me where or what or with whom you have studied. I want to know what sustains you from the inside when all else falls away. I want to know if you can be alone with yourself and if you truly like the company you keep in the empty moments.

## The Road Not Taken <br> Robert Frost

Two roads diverged in a yellow wood, And sorry I could not travel both And be one traveler, long I stood And looked down one as far as I could

To where it bent in the undergrowth;

Then took the other, as just as fair, And having perhaps the better claim, Because it was grassy and wanted wear; Though as for that the passing there Had worn them really about the same,

And both that morning equally lay In leaves no step had trodden black. Oh, I kept the first for another day! Yet knowing how way leads on to way, I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and II took the one less traveled by,

And that has made all the difference.

## Leave No Trace: The Inconsiderate Instructor

| LEARNING GOAL: | Students will be able to explain how various behaviors affect others' <br> experiences of the outdoors and will be able to make choices to make <br> their behavior in the outdoors more considerate of others. |
| :--- | :--- |
| KEY QUESTION: | "How do we affect others while we are enjoying the wilderness?" |
| TEACHER NOTES: | Materials needed: a quiet and serene place to have the group gather, a <br> cell phone, a small whiteboard and marker. |
| TIME: | $\sim 20$ minutes |

ENGAGE: Seat everyone in a quiet place. "Take a minute to use all our senses to appreciate nature. Let's start by closing our eyes." Once all eyes are closed noisily trip over your pack, apologize and then take a noisy phone call. After a moment ask the students: "How did that feel?"
Explore:
Have the students turn to a neighbor. "Discuss a situation when you have impacted someone else's experience or they have impacted your experience in the outdoors." (2-3 minutes) Be sure to explain that examples could be positive or negative
Explain:
Ask each group for a short summary. When appropriate ask guiding questions to get students to explain why the behavior affected their experience etc...
Elaborate:

Evaluate:
Prompt the whole group to brainstorm some motivations for going into the wilderness. Write responses on whiteboard (e.g. Physical challenge, nature appreciation, spirituality, and food harvesting etc.).

Have students journal how we can respect others in the outdoors and why it is important to be considerate to others. At the conclusion restate that the goal of the "respecting others" section of LNT is to allow other people to choose their own experience in the wilderness and that interaction with others has a lasting effect (positive or negative).

## Leave No Trace Skits

| LEARNING GOAL: | Students will be able to state and explain the seven LNT principles and <br> why we need to follow these principles. |
| :--- | :--- |
| KEY QUESTION: | Why do we follow the seven principles of LNT? |
| TEACHER NOTES: | Print out the skit cards before heading out, and split the group into 7 <br> groups once you are ready to begin the activity(if a large group) but there <br> should be at least 2 students in each group. |
| TIME: | $\sim 35$ minutes |

## $E_{\text {ngage: }}$

Explore:

Explain:

Elaborate:
Evaluate:

What other things are in the Wilderness besides us? What kinds of animals call this home? How can we interact with the wilderness in the best way possible?

Explain that you are going to divide them into 7 groups. They will be given a skit prompt that illustrates one of the seven principles of LNT, it is now the group's job to get together and read it so that everyone in the group can be involved in brainstorming.

The students will be performing their skit before the rest of the group and really delving into it and getting into the depths of their characters. They will be given about 5-15 minutes (depending on the enthusiasm of the group give them more time) to come up with and practice their skit to present to the group. Be sure to inform them that they will be expected to answer questions from the audience about their particular guideline after their skit performance.

After their skit performance, the actors of the skit should stay up in front of the others to answer some serious audience questions. Be prepared to direct a proper discussion of these principles.

Like many activities in the outdoors, the results of any action taken is immediate. If a person does not practice proper LNT in the outdoors their actions can be seen immediately, (throwing leftover food on the ground, leaving a campfire ring, not burying human scat). While the improper use of LNT is immediately recognizable, this does not mean that it is easy to fix. Prevention of using the wilderness improperly is the best medicine. It can take decades to repair areas that are used improperly, if they can be
repaired at all. These 7 principles are small ways in which we can personally act as good stewards to wilderness lands, "What are some bigger ways that we can help preserve wilderness?"

## Leave No Trace Skit Cards

## 1. Dispose of waste properly

You have just finished lunch on the trail and some people have leftover apple cores and banana peels. What do you do with the food waste?
2. Leave what you find

You are in Grand Teton National Park and you find a really cool rock. Your teacher says it is "gneiss" and it is about 2.7 billion years old! You really want to take a sample home to show your parents and add to your rock collection. What do you do?

## 3. Respect wildlife

You are hiking through the forest when you see a moose with a calf about 40 yards away. You have a pretty good view, but you want to get closer to get a better picture. What do you do?

## 4. Plan ahead and prepare

It is a beautiful day in the Tetons! You want to go on a long hike with your friends.
What do you pack?

## 5. Respect other visitors

You are hiking in a large group of 10 people. You see some backpackers coming down the hill the other direction. What do you do?
6. Minimize campfire impacts

You are in the middle of a backpacking trip and it is a beautiful, star-filled night. You want to make a campfire. Should you make the fire? If so, how would you set it up and put it out?

## 7. Travel and camp on durable surfaces

You are hiking on a trail that is really muddy. Your boots are getting really dirty and in some places your feet get stuck. Where should you walk?

## Assessment of Learning: Being a Wilderness Manager

| LEARNING GOAL: | This group assessment activity should challenge students to consider <br> multiple viewpoints and political pressures put upon wilderness <br> managers. The students should draw on all the concepts discussed earlier <br> in the day in order to make a fair and well thought out decision. Students <br> should recognize through this activity that although wilderness is <br> necessary and wonderful, we cannot designate every area as Wilderness <br> and that policy makers and wilderness managers face tough decisions. |
| :--- | :--- |
| KEY QUESTION: | What are some challenges that confront wilderness managers' decisions <br> to give areas Wilderness designations? |
| TEACHER NOTES: | Depending on group size it may be beneficial to set up this activity as a <br> multi-sided debate in which students are assigned to be members of one <br> of the petitioning groups or as the Wilderness Management Committee. |
|  | Once groups are designated, set up the activity reading the quote below <br> (addressing the management committee but so that all groups can hear) |
| TIME: | hour |

## Activity: You Manage Wilder National Forest

"You are the land management committee for the Wilder National Forest. In keeping with the concept of an ecosystem management, the boundaries of the forest have been established along the continental divide and include the entire Wilder Creek watershed. The boundaries extend eastward onto the plains at lower elevations and include a variety of life zones and communities from the plains to the alpine.

Currently, there are three proposed wilderness areas in your Forest. Each area is approximately 5,000 acres in size. Studies have been conducted at each area to determine the feature of scientific value. A public comment period brought 3 stacks of letters, of equal height to your desk. Each area has a strong citizen's group promoting the idea that increased protection will be gained by designating it as a wilderness. Today, representatives from each of the three citizens' groups will be arriving at your office to convince you why their area of Wilder National Forest should gain protection under an official 'Wilderness' designation.

You are asked to prioritize these three areas for their inclusion into the National Wilderness Preservation System under the jurisdiction of the National Forest Service. You should take into
account issues of economics, societal values, and environmental quality when making your decision."

## Materials:

- Copies of the below printed petition letters from the three citizens' groups. Have at least two copies of each letter so that each citizen's group can get a copy of their letter and the Wilderness Management Committee can get a copy of all three letters to review.


## Procedure:

- After dividing the students into four groups and setting up the activity by reading the above quote, distribute the letters (one to each of the Citizens' groups and all three to the Management Committee).
- Allow students $\sim 10$ minutes or an appropriate amount of time to meet with their groups, read their letters and discuss how to present the issue to the committee in a way that explains and argues why their area should be protected. The Management Committee should meet, read all letters and discuss, but NOT make a decision until all groups have presented.
- Have each Citizens' group present their argument. Allow the Management Committee to deliberate briefly between each presentation and once for $\sim 1-2$ minutes at the end.
- While the Management Committee is deliberating, ask the students from the Citizens' groups to think to themselves what their own priority list (not their groups') would be if they were on the Management Committee.
- Wilderness Management Committee presents their priority decision.


## Debrief/Discussion

- Ask the Management Committee:
- "What factors made your decision difficult?"
- "What are some reasons why we cannot listen to every group's request and designate all three areas as Wilderness?" (Economics, Tourism, Funding, etc)
- "How can you help out if you would like to see an area designated as Wilderness?"

Wilder National Forest
10 Wild Dr.
Wild, Wyoming 0000

Wilder National Forest Manager:
Antelope Flats is an area of the plains that contains one of the last sections of tall grass prairie in Wyoming. Some rare grasses are found here along with a threatened species of lily. Pronghorn use this area extensively throughout the year. We urge the Wilder National Forest to designate Antelope Flats as wilderness as we believe this unique ecological community and threatened species of lily will require federal protection to preserve its specific habitat needs.

Sincerely,

Friends of Plant Conservation


## Wilder National Forest

10 Wild Dr.
Wild, Wyoming 00001

## Wilder National Forest Manager:

The Ancient Quarry area is located in the montane life zone of Wilder National Forest and includes a site used historically and prehistorically by tribes coming to the area to collect chert for arrowheads. This location is of tremendous cultural value as it provides insights into the lives of people long ago. Though it is illegal to remove artifacts from this area, it is within an area frequented by mountain bikers whose trails cross through the quarry site. Please help us protect this special area.

Sincerely,

National Association of State Archaeology


Wilder National Forest
10 Wild Dr.
Wild, Wyoming 00001

Wilder National Forest Manager:
The Alpine Vistas area is located almost entirely in the alpine life zone of the Wilder National Forest and includes trails to the tops of three 14,000 foot peaks. Currently, there are jeep roads in this area that take groups of tourists over high passes with spectacular high mountain scenery. We are writing to urge you to establish this as a wilderness that will provide for the protection of sensitive alpine communities and provide an experience of quiet and solitude in the Rocky Mountains.

Sincerely,

Western Hiking Club


[^0]:    "...lands designated for preservation and protection in their natural condition..." Section 2(a)
    "...an area where the earth and its community of life are untrammeled by man..." Section 2(c)

