



Inspired Classroom  
collaborate | ignite | learn

IC CHALLENGE PRESENTS:



# FWP SAGE GROUSE CHALLENGE 2019

FUNDED BY THE ORTENBERG/CLAIBORNE FOUNDATION THROUGH:





## Welcome and Thank You for Participating in the IC Challenge!

The Inspired Classroom Challenge (IC Challenge) is an interactive platform that teaches the process of problem solving by presenting students with real world problems and connecting them to experts during virtual, live events. The platform and interactive distance learning events engage students of all ages in critical thinking, solution finding, and action planning. IC Challenges give students a voice!

Students and teachers work in teams to collaborate with classmates and experts-- researching, discussing, finding solutions, and interacting in real time. They think critically and creatively while brainstorming problems and solutions and analyze their work with criteria they establish together. The platform develops their digital literacy skills and provides a forum for students to communicate their decisions about chosen solutions.

By choosing to participate in an IC Challenge you are on the cutting edge of 21<sup>st</sup> Century teaching and learning. Your students will be engaged and developing 21<sup>st</sup> Century skills that support them in their future career and educational pathways. Congratulations!

Specific resources, information, links, and teaching suggestions relating to your IC Challenge are contained in this packet. In addition, there is both a Teacher and Student Toolbox on the IC Challenge platform, Use these resources to support your great teaching and your students' great learning during the IC Challenge.

### TEACHER TOOLBOX

#### VIDEOS

Student Etiquette for IDL  
Inspired Thinking for Students  
IDL Educatory Checklist  
Teaching Problem Solving Segment 1-9

#### HELPFUL DOCUMENTS

Using the IC Challenge in the Classroom  
Inspired Thinking Tips for Problem Solving  
Inspired Thinking Decision Making Matrix  
Basic Inspired Thinking Skills

#### USEFUL TOOLS

Decision Making Matrix  
Inspired Thinking Tips for Teaching Problem Solving  
Interactive Distance Learning Checklist for Teachers  
Inspired Thinking KWL Chart

Discussion Questions for Student Teams  
Inspired Impromptu Challenge  
Inspired Brainstorming

### STUDENT TOOLBOX

#### VIDEOS

Student Etiquette During an IDL Event  
Inspired Thinking for Students

#### USEFUL TOOLS

Student Etiquette Checklist  
Inspired Thinking KWL Chart  
Discussion Questions for Student Teams  
Inspired Thinking Decision Making Matrix



Montana Fish, Wildlife & Parks (FWP) is a state agency in charge of caring for fish, wildlife, and 55 state parks across Montana. Because these resources and the outdoor experiences they provide are so important to the residents and visitors of this state, FWP is essential to helping keep Montana, Montana.

Montana is wild; it's our home; it's a special place in large part to the abundance of fish and wildlife and the opportunities they afford people of all ages. Montana WILD is Montana Fish, Wildlife & Parks premier fish and wildlife conservation education center based in Helena, MT. The Montana WILD Education center wants people to connect themselves to the resources in Montana. We want people to recognize that they are instrumental in providing the stewardship necessary to manage for healthy an abundant fish and wildlife populations, and improving and protecting habitat.

Each year, Montana WILD staff and volunteers teach more than 5,000 students from 100 schools, and hundreds of adults and families through community programs, but they could be reaching more Montanans, which is why we are piloting the Sage Grouse Distance Learning Program. We are encouraging schools throughout the state to participate in this program and are excited about teaching more youth about this amazing species and the important role it plays in our state.

**Need to see the student side of the platform?**

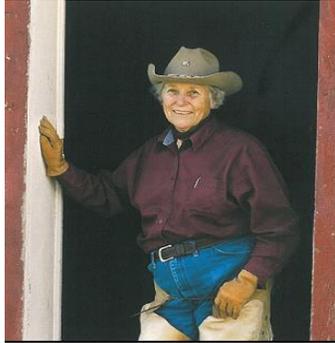
**Use this generic login for teaching purposes and to see what is on the student side.**

**Go to: [icchallenge.com](http://icchallenge.com) and login as a student with the username/password—[iccsf/iccsf](http://iccsf/iccsf)**



## IC Challenge Simulation (based on a true story)

### Big Grouse Gazette



Local legend, town founder to gift ranch in Big Grouse, MT with students' help

*Winifred Wilson, local area rancher and legend has just announced a unique opportunity for students across the state of Montana to help her conserve sage grouse habitat on her family ranch.*

*Mrs. Wilson, a 4<sup>th</sup> generation rancher in Big Grouse is looking to the future. She and her family have ranched for decades while maintaining robust sage grouse population on their property. She announced Wednesday that she is interested in entering her ranch into a conseration easement. The easement would protect the ranch from future threats to sage*

*grouse habitat and provide public access to the ranch for recreational purposes.*

*She is asking students in grades 5-12 across the state of Montana to study her land, the natural resources there, and the data gathered by wildlife biologists to come up with unique recommendations for a conservation easement. If this plan is approved by Ms. Wilson and the biologists, she will agree to place her ranch into a conservation easement.*

*"Because I taught science at Big Grouse High School for many years, I know what great ideas kids can come up with. I want to challenge them to think about conservation issues and give them a real life situation to be part of and my ranch seemed like the logical place to start." Mrs. Wilson explained. "Big*



*Grouse and the legacy of my land and my beloved sage grouse means everything to me.”*

*With the help of Montana FWP, Mrs. Wilson has established the Sage Grouse Challenge. During the Challenge, students will be given maps, data from wildlife biologists, and other resources and will be challenged to come up with recommendations for a conservation easement for the Wilson Ranch.*

*If a plan, submitted by Montana students, is approved by Ms. Wilson and the biologists, Mrs. Wilson will take the steps necessary to put the land into a conservation easement.*

*However, there are many parties interested in developing the land including local developer and family friend, Darren Smith. Mr. Smith has indicated his interest in developing the land and promises to help Winifred make good financial decisions for her families future.*

*“I know Darren has other ideas about the ranch,” Mrs. Wilson said. “But after all of these generations, I would hate to see my ranch changed so drastically. I hope the students will come up with a great idea to protect and conserve this habitat.”*

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## Your Challenge

You and your team are part of the student group that will develop recommendations for the conservation easement to conserve Winifred's ranch and the sage grouse habitat on it. You must use these resources to help you understand the issues and make recommendations to the wildlife biologists and Ms. Wilson. The resources include:

- The map of the Wilson Ranch marked with latitude and longitude.
- The data points and wildlife biologists notes taken every Monday for 52 weeks.
- Videos about using the information on the map to make inferences about sage grouse habitat.
- Videos, maps, and documents in the research section of the IC Challenge platform that will help you understand the needs of sage grouse, habitat, and what others are doing to preserve it.



- Example of conservation easement.
- Information from the virtual visits on April 4 and May 2. Be ready with questions for the biologists.
- The 'ask an expert' link in the research resources. You can email MT FWP questions as you are working on your challenge.

Once you have studied the map, data points, and completed the steps in the IC Challenge Platform, your team should develop recommendations for a conservation easement with the following components:

- Information about the habitat needs of sage grouse.
- Information about the land on the Wilson Ranch and the human and natural obstacles they face.
- Issues or controversies surrounding use of the Ranch land.
- A recommendation for how to conserve the Ranch in order to preserve sage grouse habitat and the legacy of the Wilson homestead.
- Recommendations for managing for recreational use by the public.

Your recommendations for a conservation easement should be uploaded into the IC Challenge platform for review by the biologists and Ms. Wilson. Formats for uploading include: powerpoint, word document, pdf. PLEASE NO GOOGLE DOCS OR SLIDES.

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## Questions to Consider

1. What are the current issues that impact conservation on the ranch?
2. What recreational activities should be allowed on the conservation easement?
3. What is an umbrella species and a species of concern?
4. What types of development threaten sage grouse population?
5. What are the seasonal needs of sage grouse?
6. What are others wildlife professionals doing to protect sage grouse and their habitat?



## Criteria

1. Is evidence from research cited?
2. Is there evidence of understanding of the needs/characteristics of sage grouse?
3. Does the conservation easement include:
  - a. Winifred Wilson's need and legacy of the land
  - b. Recommendations for recreation use by the public
  - c. Stipulations for what is not allowed on the land
  - d. Description of the land with a map
4. Is the final presentation polished and appropriate for a public audience?

## Dates for Interactive Distance Learning Events

**Challenge Opens: March 12, 2019**

**All Things Sage Grouse: A Virtual Visit with FWP: April 4 (same program repeated in five time slots)**

**8:45-9:45**

**10:00-11:00**

**11:15-12:15**

**12:45-1:45**

**2:00-3:00**

**LIVE from the Lek—May 2nd**





## SAGE GROUSE DATA POINTS

Students should use these data points along with the map of the Wilson homestead to Make scientific inferences about:

1. Seasonal sage grouse behavior
2. Sage grouse habitat
3. Challenging habitat and development that impact sage grouse populations.

To help students understand these concepts here are three videos. Students have access to these videos on the IC Challenge platform:

1. [How to Plot Data Points](#)
2. [How to Analyze Data](#)
3. [Making Scientific Inferences](#)

This [PowerPoint](#) will help YOU with background and questions (printable questions below) you can use with your students. You may want to assign different groups different sets of data points and then have the groups compare their findings.

Date:	Lat:	Long:	Biologist notes:
6/4/2018	Lat: 47.72	Long: -107.76	The grouse is spotted hiding under a large sagebrush plant
6/11/2018	Lat: 47.72	Long: -107.76	A heard of cattle are spotted grazing around the grouse
6/18/2018	Lat: 47.72	Long: -107.76	A fox is spotted near the grouse
6/25/2018	Lat: 47.72	Long: -107.76	The grouse now has 7 chicks with her
7/2/2018	Lat: 47.67	Long: -107.79	Badger is spotted following the grouse
7/9/2018	Lat: 47.68	Long: -107.80	The ranch experiences a hailstorm with golf ball size hail
7/16/2018	Lat: 47.63	Long: -107.79	The grouse chicks are spotted standing on the edge of a water tank
7/23/2018	Lat: 47.63	Long: -107.79	The grouse now has 5 chicks with her
7/30/2018	Lat: 47.65	Long: -107.86	The grouse is spotted on the other side of the busy road and has only 4 chicks
8/6/2018	Lat: 47.65	Long: -107.86	The grouse are found eating alfafa in a ranchers field
8/13/2018	Lat: 47.68	Long: -107.865	The rancher uses a swather to cut the alfalfa down and bale it
8/20/2018	Lat: 47.67	Long: -107.865	The grouse now has 3 chicks with her
8/27/2018	Lat: 47.67	Long: -107.87	The ranch experiences a drought and the riparian area dries up.
9/3/2018	Lat: 47.66	Long: -107.89	Fire burns a area about a mile wide from (lat:47.72 long:-107.835) to (lat:47.73 long:-107.72)



9/10/2018	Lat: 47.53	Long: -107.80	The chicks have grown up and now they join other grouse forming a flock
9/17/2018	Lat: 47.54	Long: -107.70	The mine digs up a area about a mile wide from (lat:47.57 long:-107.80) to (lat:47.53 long:-107.80)
9/24/2018	Lat: 47.56	Long: -107.70	Sage grouse hunting season is open
10/1/2018	Lat: 47.515	Long: -107.705	Visited with a hunter who harvested a grouse
10/8/2018	Lat: 47.52	Long: -107.755	A golden eagle is spotted near the sage-grouse
10/15/2018	Lat: 47.50	Long: -107.81	Hawk is spotted eating a sage grouse near the grouse we are tracking
10/22/2018	Lat: 47.555	Long: -107.765	The ranch recieves over a foot of snow
10/29/2018	Lat: 47.575	Long: -107.755	A heard of 200 elk is spotted near by the grouse
11/5/2018	Lat: 47.585	Long: -107.785	Big game hunters are spotted riding ATVs near the grouse
11/12/2018	Lat: 47.58	Long: -107.745	ATV riders scare the flock of grouse and one grouse flys into a fence a dies
11/19/2018	Lat: 47.56	Long: -107.76	A flock of sharptailed grouse is spotted near the sage-grouse we are tracking
11/26/2018	Lat: 47.595	Long: -107.80	The ranch recieves another 4 inches of snow
12/3/2018	Lat: 47.59	Long: -107.80	The ranch recieves another inch of snow
12/10/2018	Lat: 47.61	Long: -107.80	A herd of 42 mule deer are found hanging out near the grouse
12/17/2018	Lat: 47.59	Long: -107.775	A herd of 223 pronghorn are found hanging out near the grouse
12/24/2018	Lat: 46.85	Long: -107.70	The ranch gets 2 feet of new snow
12/31/2018	Lat: 46.81	Long:-107.73	The roads are impassable
1/7/2019	Lat: 46.91	Long:-107.75	The roads are impassable
1/14/2019	Lat: 47.38	Long: -107.71	The roads are impassable
1/21/2019	Lat: 47.56	Long: -107.765	Temperatures rise and the snow starts to melt
1/28/2019	Lat: 47.565	Long: -107.795	roads are very muddy
2/4/2019	Lat: 47.595	Long: -107.81	roads are very muddy
2/11/2019	Lat: 47.615	Long: -107.815	Coyotes are spotted near the grouse and the flock has grown to 50 birds
2/18/2019	Lat: 47.59	Long: -107.81	The grouse is found spotted buried in the snow with just its head poking out
2/25/2019	Lat: 47.615	Long: -107.78	Temperatures rise to 60 degrees
3/4/2019	Lat: 47.645	Long: -107.77	Male grouse are spotted dacing on the north end of the ranch
3/11/2019	Lat: 47.68	Long: -107.78	Two different groups of grouse are spotted dancing in the burned area



3/18/2019	Lat: 47.72	Long: -107.75	The grouse is easily spotted in the burned area, because there is no vegetation to hide in
3/25/2019	Lat: 47.715	Long: -107.79	Two different groups of grouse are spotted dancing in the burned area
4/1/2019	Lat: 47.745	Long: -107.76	Two different groups of grouse are spotted dancing in the burned area
4/8/2019	Lat: 47.715	Long: -107.785	Photographers are spotted very close to the grouse
4/15/2019	Lat: 47.745	Long: -107.76	Photographers are spotted disturbing the grouse
4/22/2019	Lat: 47.715	Long: -107.80	No grouse are seen where they were the last 4 weeks
4/29/2019	Lat: 47.715	Long: -107.79	Two different groups of grouse are spotted dancing in the burned area
5/6/2019	Lat: 47.72	Long: -107.76	The grouse is spotted trying to make a nest in the same area as last year
5/13/2019	Lat: 47.72	Long: -107.76	The grouse is in the same area as last week
5/20/2019	Lat: 47.72	Long: -107.77	The grouse is in the same area as last week
5/27/2019	Lat: 47.72	Long: -107.76	A pile of feathers and gps tracker is found in a nest with broken eggs



### **Data Point Questions to Consider**

*Students must answer the below questions.*

1. Briefly describe what part of the ranch the grouse was using.
  
2. By looking at the map and examining the aerial photo, describe the type of habitat the grouse was using and why you think the grouse selected it.
  
3. Identify the human and natural obstacles that grouse may have encountered on the ranch.
  
4. Give examples of how the human impacts on the grouse be reduced or eliminated.



### **Conservation Easements:**

A Conservation easement is a voluntary legal agreement that limits the use of land. Property ownership comes with many rights. Most rights involve using the land farming, logging, or subdividing are a few examples. The landowner also has a right to limit the use of the property. The landowner maintains ownership and is compensated for limiting the uses as negotiated in the agreement. The goal of a conservation easement is to preserve the ecological, recreational, cultural, agricultural, or historic resource of a property. Typically, this means prohibiting some new uses on tracts of land large enough to protect the specified resource. Conservation easements may limit subdivision, excavation, or acts detrimental to conserving the natural values of the property.

Conservation easements can be very detailed and include legal obligations and language. We are NOT asking your students to write a detailed, legally accurate conservation easement. Their final products should include the final criteria:

1. Is evidence from research cited?
2. Is there evidence of understanding of the needs/characteristics of sage grouse?
3. Does the conservation easement include:
  - a. Winifred Wilson's need and legacy of the land?
  - b. Recommendations for recreation use by the public?
  - c. Stipulation for what is NOT allowed on the land?
  - d. Description of the land with a map?
4. Is the final presentation polished and appropriate for a public audience?

Here are two resources that students have access to on the platform:

1. [Example of a conservation easement](#)
2. [Article about conservation easements](#)



**Which Niche ICChallenge Supplemental Lesson Plan: FWP Sage Grouse Challenge**

**Lesson Overview: Students will explore the concept of ecological niche, while simultaneously learning more about the potential careers in their community.**

 <b>Content Areas</b>	Social Studies, Science, Conservation Education, Language Arts
 <b>Grade Levels</b>	6-12th Grade
 <b>Approx. Time</b>	One to four 45-minute sessions
 <b>Materials</b>	Guest speakers, whiteboard, reference materials

Commented [WL1]: Can we use the word conservation vs. environmental? For some teachers, particularly in more rural/conservative communities, teaching "environmental education" can be difficult. I've found that in MT, conservation is a much safer word to use and my background is in environmental education.

Students will: 1. Define ecological niche 2. Give at least one example of an animal and its ecological niche	<b>Learner Outcomes</b> 
Conservation, Ecological niche, ecosystem, career, community	<b>Key Words/Vocabulary</b> 
Next Generation Science Standards <ul style="list-style-type: none"> <li>All Grade Levels—Interdependent Relationships in Ecosystems</li> <li>Science and Engineering Practices/Disciplinary Core Ideas/Crosscutting Concepts             <ul style="list-style-type: none"> <li>Developing and Using Models</li> <li>Planning and Carrying out Investigations</li> <li>Engaging in Argument from Evidence</li> <li>Adaptations</li> <li>Biodiversity</li> <li>Ecosystem Dynamics, Functioning, and Resilience</li> <li>Cause and Effect</li> </ul> </li> </ul>	<b>Standards</b> 
FWP Sage Grouse Challenge	<b>ICChallenge Connection</b> 

 <b>Captivate</b>	<ul style="list-style-type: none"> <li>Today we are going to learn about different professions in our community and then compare those professions and roles to the roles different wildlife have in their environments (animal "professions"). In particular, we are talking about the sagebrush-steppe ecosystem and the wild animals that live there.</li> <li>To begin, ask students to define what an ecosystem is. Decide on a working definition of an ecosystem.</li> </ul>
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	<ul style="list-style-type: none"><li>• Share this video of a sagebrush-steppe ecosystem with your students : <a href="https://www.youtube.com/watch?v=tx_2oTqRYS0&amp;feature=youtu.be">https://www.youtube.com/watch?v=tx_2oTqRYS0&amp;feature=youtu.be</a></li><li>• While watching the video, ask your students to make a list identifying as many of the animals shown in the movie as possible.</li><li>• After the movie, hand out the sagebrush steppe ecosystem poster found in the IC Student Resources. Ask the students to think about how these animals influence the sagebrush-steppe ecosystem and the possible roles they play in that ecosystem. Then, have the students, as a class, group the animals into categories/roles (producer, consumer, decomposer)</li></ul>
 <b>Explore</b>	<ul style="list-style-type: none"><li>• <i>Now that we have brainstormed a few animal roles, we are going to discuss some human roles and talk to a few professionals from our community.</i></li><li>• Invite a variety of professionals from the community to come in for a question and answer session with your students. Ask the speakers questions about their work. Have the students take notes and record the answers during or immediately after the presentation, asking additional questions as necessary. Points to include are as follows:<ul style="list-style-type: none"><li>○ What do they do for the community (service provided)?</li><li>○ How do they provide the service?</li><li>○ What resources do they use to provide the service?</li><li>○ Where do they live and work?</li><li>○ What are the times during which they work?</li><li>○ What other professions do they depend on for the functioning of their profession (janitor, delivery person, secretary, repair person)?</li><li>○ What special adaptations (skills, tools, behaviors) do they use or are they required to have?</li><li>○ What special habits do they exhibit?</li><li>○ What other professions do they compete with, if any?</li><li>○ What other professions do they cooperate with, if any?</li></ul></li></ul> <p><i>If guest speakers are not available, students can explore the website: <a href="https://www.sagegrouseinitiative.com/sagebrush-community/the-people">https://www.sagegrouseinitiative.com/sagebrush-community/the-people</a> and have students answer the questions above and complete the activity below.</i></p> <ul style="list-style-type: none"><li>• Ask the students to produce a written summary of the information they acquire concerning each of the jobs they investigate.</li><li>• Using these notes and concepts to guide them, have the students return to their animal lists from earlier in the class, and ask them to now consider the different roles those animals play in the sagebrush ecosystem. Answer the same questions you asked the professionals for each animal. You may choose to split your students into groups</li></ul>

Commented [WL2]: Great alternative!



	<p>at this point or you can work as a whole class. If working in groups, assign each group an animal to research and answer the questions for.</p> <ul style="list-style-type: none"> <li>Once every group has finished, come back together and have the groups report out their findings. In this way, the students can see how the "profession" concept applies as a metaphor, identifying the animal's profession as its "ecological niche."</li> </ul>
 <b>Reflect</b>	<ul style="list-style-type: none"> <li>Define "ecological niche"</li> <li>Select any animal or person and describe its ecological niche. Include what they do for the community, how they provide this service, what resources they use, where they live, when they do their work, what other organisms depend on them, what special adaptations they use or are required to have, what special habits they exhibit, what other organisms they compete with for the same niche, and anything else you think is especially interesting about this niche and how it is filled.</li> </ul>
 <b>Dive Deep</b>	<p><b>Activity #1</b> Have the students identify niches that are overlapping and that compete or cooperate for resources and services. Connections also may be made between niches to illustrate interdependency webs in the community. Students can create a verbal or visual presentation to share their findings.</p> <p><b>Activity #2</b> Observing Urban (or Rural) Wildlife. Students can observe animals or birds that are found near their school or house by first finding a 'sit spot.' A 'sit spot' is a place where students can sit for 10-15 minutes to observe the world around them. They can be used for many activities from creative writing, to observations, data collection, reflections, etc. Go outside the school and have your students find a sit spot. While sitting, students should be spread out, and quietly reflecting on their surroundings. For any animal that they see, students should record their observations, paying special attention to what ecological niche that animal is occupying. After observations are complete, head back inside to discuss the findings.</p>
 <b>Synthesize</b>	<p>Create a poster that shows all the facets of an animal's niche.</p>
 <b>Connect to ICChallenge</b>	<p>This lesson works directly with the FWP Sage Grouse IC Challenge. Use resources found on the student Research tab on the platform to help connect these activities with the IC Challenge.</p>



	<b>Ideas for Differentiation</b> 
<ul style="list-style-type: none"><li>• Ask the class to investigate a variety of human professions in different communities or cultures for an emphasis on career awareness. Illustrate overlapping professions, competition, cooperation, and interdependency.</li><li>• Have students develop commercials or ads for "recruiting" individuals or animals into given ecological niches, using special contributions or advantages as points to highlight.</li><li>• Students can select the animal they would most like to be from among those studied. They may base their selection on the contribution of the ecological niches to the community's health, as well as on other factors. Ask the students to describe the reasons for their choices. They could do this for human professions too.</li></ul>	<b>Lesson Extensions</b> 



**Wildlife Issues: Community Attitude Survey**  
**IC Challenge Supplemental Lesson Plan: FWP Sage Grouse IC Challenge**

**Lesson Overview: Students develop a questionnaire and conduct a community survey.**

 <b>Content Areas</b>	Language Arts, Social Studies, Science, Environmental Education
 <b>Grade Levels</b>	6-12th Grade
 <b>Approx. Time</b>	Approximately one week of class time, 45-minutes to one hour per day, plus time outside of class to interview people in the community
 <b>Materials</b>	Writing materials to make questionnaires

<p>Students will:</p> <ol style="list-style-type: none"> <li>Assess the values held by various groups and individuals regarding sage grouse conservation</li> <li>Distinguish between beliefs, values and attitudes.</li> </ol>	<p><b>Learner Outcomes</b> </p>
<p>Interview, survey, value, attitude, belief, fact</p>	<p><b>Key Words/Vocabulary</b> </p>
<p>Next Generation Science Standards</p> <ul style="list-style-type: none"> <li>All Grade Levels—Interdependent Relationships in Ecosystems</li> <li>Science and Engineering Practices/Disciplinary Core Ideas/Crosscutting Concepts <ul style="list-style-type: none"> <li>Asking Questions and Defining Problems</li> <li>Planning and Carrying out Investigations</li> <li>Engaging in Argument from Evidence</li> <li>Obtaining, evaluating and communicating information</li> <li>Adaptations</li> <li>Biodiversity</li> <li>Ecosystem Dynamics, Functioning, and Resilience</li> <li>Cause and Effect</li> </ul> </li> </ul>	<p><b>Standards</b> </p>
<p>FWP Sage Grouse IC Challenge</p>	<p><b>ICChallenge Connection</b> </p>



 <b>Captivate</b>	<ul style="list-style-type: none"><li>• Today we are going to learn about differences of opinion in our community in terms of wildlife conservation. You will be designing and implementing a questionnaire to discover what the values, beliefs and attitudes are in our local area about a species of wild bird, the Greater Sage Grouse. Before we begin, let's look at some definitions.</li><li>• Review the Vocabulary List from the Student Resources with your students.</li></ul>
 <b>Explore</b>	<ul style="list-style-type: none"><li>• Individuals in a community may hold differing attitudes, values and beliefs about wildlife and the environment. There are many different reasons for any beliefs, values and attitudes that people hold. Whatever the reasons or sources, the result may be strongly held differences of opinion related to the same issue in the same community.</li><li>• Sometimes the best solution to a local issue may seem simple. More frequently, there are no clear "right" or "wrong" answers.</li><li>• To begin, go to your local newspaper's website and search for recent news articles about conservation issues happening in your area. Have students research the different values, beliefs and attitudes surrounding that issue.</li><li>• Focus in on our IC Challenge issue, sage grouse. Ask your students to describe what is already known about sage grouse conservation.</li><li>• Provide time for students to examine two news articles and categorize what is a fact, belief, value and attitude. on the topic. Conduct a class discussion about their findings on the issue.</li><li>• Working in small groups, ask the students to prepare a questionnaire or questionnaire item that can be used to measure people's views about sage grouse. Questions should be constructed so that they can be analyzed according to people's beliefs, values and attitudes. Questions that can be responded to in brief ("yes" or "no") will contribute to the students' success in getting people to take the time to cooperate in the survey. "Yes" and "no" questions are also easily quantified when the students are putting together the results.</li></ul>



	<ul style="list-style-type: none"> <li>• Although “yes” or “no” questions are easy to quantify, students may also want to include questions that go more in-depth by asking open-ended questions.</li> <li>• Students can sort and compile the questionnaire and questionnaire items generated by each group and can compile a final version of the questionnaire. You should review the questionnaire before it is printed and used. Print out copies of the questionnaire to be distributed. Distribute enough copies so that each student has at least one copy for his or her own use during the survey.</li> <li>• Working in pairs, every two students will go out after class and interview five members of the community. Students will record tallies of the responses given to each questionnaire item.</li> </ul>
 <b>Reflect</b>	<ul style="list-style-type: none"> <li>• After the interviews are completed, students will tally, analyze and discuss the results.</li> <li>• What were the trends? What were some surprises? What follow-up questions would you like to ask? How do these responses impact your own attitudes, beliefs and values about sage grouse conservation?</li> </ul>
 <b>Dive Deep</b>	<p><b>Activity #1</b> Students will use the questionnaire data to create tables and figures to represent their findings. Ensure students chose the correct graphs and tables to convey accurate and relevant findings.</p>
 <b>Synthesize</b>	<ul style="list-style-type: none"> <li>• How do the community questionnaire responses compare to the values reported earlier in the news? Did your research agree with those reports, or provide you with a different outlook?</li> <li>• Why is it important that people understand how their own attitudes about wildlife develop their values and beliefs?</li> <li>• How can you determine whether the news you read is stating facts or someone's personal values, beliefs or attitudes instead?</li> </ul>
 <b>Connect to ICChallenge</b>	<p>This lesson works directly with the FWP Sage Grouse IC Challenge. Use resources found on the student Research tab on the platform to help connect these activities with the IC Challenge.</p>

	<b>Ideas for Differentiation</b> 
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- Students can develop their argumentation and public speaking skills by choose another wildlife issue, one that is local or national, and debating either side of the issue. Split your students up into teams, where they will research the issue, develop an argument, and present their argument in a traditional debate format. The rest of the class will then decide who made the stronger argument.

#### Lesson Extensions





**Wildlife Issues: Community Attitude Survey**  
**IC Challenge Supplemental Lesson Plan: FWP Sage Grouse IC Challenge**  
**Student Resources**

**Vocabulary List**

The following definitions are recommended for this lesson:

**Belief** – An information-based assumption. It may be right or wrong.

Example: Where there are more pheasants, there are more foxes.

Example: A given habitat will only support so many animals.

**Value** – A worth attached to some event, place, idea, etc.

Example: Foxes are beautiful and important creatures.

Example: It is important to protect animals.

**Attitude** – Based on an implied belief system or an implied value system, with a predicted behavior.

Example: Foxes should not be controlled. This statement implies a belief that human intervention in the populations of foxes will reduce some value that also is implied. The predicted behavior is opposition to control.

Example: Foxes should be controlled. This statement implies a belief that human intervention in the populations so foxes will enhance some value that is also implied. The predicted behavior is support of control.

**Interest Groups** – Those groups or individuals who have an interest in an issue (e.g., for personal, ecological or economic reasons). They may or may not have much information and may or may not have a strong opinion.



### **Inspired Classroom Expert Faculty**



#### **Nicole Sedgely**

The lesson plans for the FWP Sage Grouse Challenge were adapted from Project Wild activities by Inspired Classroom faculty member, Nicole Sedgely.

Originally from Colorado, Nicole recently completed her Masters Degree in Science Education from Montana State University and has worked as a seasonal ranger and virtual distance educator for Yellowstone National Park for several years. She also helped develop programming for PBS SciGirls, a project encouraging young women in STEM career areas.

Nicole and her husband reside in Missoula, Montana.