WOW: WETLANDS

POST-ACTION AUDIT, GRADES K-2

Did the class/team work with resource experts and/or volunteers? ☐ Yes ☐ No
Please list if applicable.

_____

Compare these average survey responses to the baseline audit responses. On a scale from 1-10, 10 being the most important and 1 being the lease important,

- How important is a healthy wetland to wildlife, the plants and animals? _____
- How important is it for plants and animals to have clean water? _____

Metrics Required for Dashboard

1. How many actions did students take in an effort to improve or support current wetland programs or initiatives? _____

TABLE 1. GEOGRAPHIC INFORMATION-CONTINUED

1. Confirm your GPS coordinates for your forest study site, by comparing them to your coordinates in your baseline audit? Use your smart phone's GPS or go to: http://www.whatsmygps.com/ to find your coordinates.	Latitude N _____ Longitude W _____

TABLE 2. WETLAND CHARACTERISTICS AND BENEFITS

1. What percentage of students can identify three characteristics that define a wetland? • The hydro period (how long a wetland stays wet) • Soil characteristics • Biodiversity of vegetation	A. _____ 0 characteristics B. _____ 1 characteristic C. _____ 2 characteristics D. _____ All 3 characteristics
2. A wetland is a system and is part of a larger watershed system. What percentage of students can identify one or more system benefits associated with a healthy wetland? • Wildlife habitat • Water filtration • Flood protection Note, there are several benefits under each main benefit. https://www.epa.gov/wetlands/why-are-wetlands-important	_____ %

TABLE 3. TEMPERATURE AND PRECIPITATION

1. For today's date, collect the weather data listed to the right. Use your local weather website, application or use the following: • http://www.weatherbase.com/weather/state.php3?c=US • www.weather.com	_____ Temperature in degrees Fahrenheit _____ Precipitation in inches

2. Change Over Time and Patterns

You have been collecting temperature and precipitation data throughout the school year or over an extended period of time. Insert the data below for temperature and precipitation. For months where students are not in school, collect the historical data from one of the two sites listed.

- http://www.weatherbase.com/weather/state.php3?c=US
- www.weather.com

January	_____°F	_____ inches
February	_____°F	_____ inches
March	_____°F	_____ inches
April	_____°F	_____ inches
May	_____°F	_____ inches
June	_____°F	_____ inches
July	_____°F	_____ inches
August	_____°F	_____ inches
September	_____°F	_____ inches
October	_____°F	_____ inches
November	_____°F	_____ inches
December	_____°F	_____ inches

Think about the following questions as you summarize the data in Table 3.

1. What patterns and relationships between any of the following variables have been observed?
    - Temperature and precipitation
    - Precipitation and soil quality
    - Temperature and water quality
    - Precipitation and wildlife numbers
2. Have there been any major weather events since the baseline audit or between audit years?
3. If applicable, describe one action the class/team took to help wildlife deal with weather impacts, such as extreme weather events such as floods and drought, new construction/building and pollution, such as litter?

TABLES 4, 5 and 6. Consider contacting a local college or university, or wetland non-profit. Their involvement is a great way to connect to the community, inspire students, demonstrate career possibilities and share resource expertise. If you cannot conduct a study at a wetland, please determine the best way to gather the data, i.e. a phone call, an email or ideally a SKYPE, Zoom or Google Hangout with someone who works as a biologist, ecologist, volunteer, etc. at your nearest water quality or soil quality monitoring station. Wetlands are controlled by your state's EPA. In addition, connect with the U.S. Fish and Wildlife Service's *National Wetlands Inventory* for contacts.

Whether or not you are physically able to go to your nearest wetland area, students can still collect water and soil data from nearby study sites or from samples you bring to the classroom.

Invite parents and community members to participate in the auditing process. Students can take on the role of educator by working with volunteers on citizen science. This experience is a great way to build community.

TABLE 4. SOIL QUALITY

1. Soil Temperature Test 1 _____ °F _____ °C Test 2 _____ °F _____ °C Test 3 _____ °F _____ °C	2. Soil pH Test 1_____ pH level Test 2 _____ pH level Test 3 _____ pH level ☐ Acidic ☐ Neutral ☐ Basic
3. As a class/team, come up with 5-10 words to describe how the soil looks, feels and smells. DO NOT taste the soil.	

TABLE 5. WATER QUALITY

1. Water Temperature	2. Water pH	3. Is it raining or has it rained in the last 24 hours? Stormwater runoff from surrounding areas can impact water quality and appearance, including temperature, pH and transparency.
Test 1 _____ °F _____ °C Test 2 _____ °F _____ °C Test 3 _____ °F _____ °C	Test 1_____ pH level Test 2 _____ pH level Test 3 _____ pH level ☐ Acidic ☐ Neutral ☐ Basic	☐ Yes ☐ No

4. Transparency Tube

Tube test 1 _____ cm or _____ greater than depth of transparency tube.

Tube test 2 _____ cm or _____ greater than depth of transparency tube.

Tube test 3 _____ cm or _____ greater than depth of transparency tube

Think about the following questions as you summarize the data in Tables 4 and 5.

1. Review why it is important to observe and test soil and water throughout a wetland?
2. What data sets are different from the baseline audit or from previous audit years?
3. If applicable, describe one action the class/team took to be better wetland stewards.

TABLE 6. WILDLIFE

1. Collectively, how many different plants and animals are observed on this day? If students know the name of a specific animal and/or the species, it's good practice to make notes in the section below. Also encourage students to draw what they observe. **Never remove animals from a study site.**	_____ animals on the ground _____ animals in the water _____ animals in the sky _____ plants on land _____ plants in the water
2. Wetlands provide habitat to animals. What percentage of students can provide the four benefits? • Shelter • Places to have and/or raise young • As a source of food • As a source of clean water	_____ %

Think about the following questions as you summarize the data in Table 6.

1. Have students/team members skills observing and/or identifying local wetland plants and animals improved? Explain.
2. If applicable, describe one action taken to improve or support current wetland programs/initiatives?
3. Optional: Attach photos of your wetland study site and make comparisons to the photos taken for the baseline audit or from previous audit years. What similarities and differences are observed? How do photographs support field investigation?

Review of All Data

1. Based on what is known and has been learned, does the class/team think there is evidence to support the claim that the wetland is healthy? Explain.
2. What patterns have the class/team noticed? How have these patterns helped students/teams draw conclusions?