

Nebraska Soil Science Curriculum

Web Soil Survey

Approximately 180 minutes

Objectives

By the end of the lesson, students will know or be able to:

- Explain the purpose of the Web Soil Survey
- Use the Web Soil Survey

Materials

- Soil Survey Books
- Web Soil Survey Webquest – 1 per student
- My Home Soil Map – 1 per student
- You're the Developer Rubric – 1 per student
- Computers with internet access
- Notecards – 1 per student
- Supplies for "You're the Developer"

Preparatory Work

- Make necessary copies
- Review Web Soil Survey
- Review and Determine where and when "You're the Developer" Project will be completed

Enroll the Participants – Approximately 5 minutes

Show students a soil survey book and ask them to predict what information might be found within the book. Ask students to give instructions on how to use the soil survey book. Lead a brief discussion on soil survey. Explain that these books are used to determine soil type and characteristics but can be time consuming to use. Share with the class that the USDA NRCS has created a site to make collecting this information easier. Explain that this lesson will allow students to explore the Web Soil Survey.

Provide the Experience – Explain the purpose and use the Web Soil Survey –
Approximately 45 minutes

Provide each student with a copy of the Web Soil Survey Webquest and access to a computer with internet. They will need to visit www.websoilsurvey.sc.egov.usda.gov and follow instructions on the Webquest. Consider allowing students to work with a partner as they navigate through this site.

*Note: Consider reviewing a power point created by the NRCS to familiarize yourself with the Web Soil Survey:
http://websoilsurvey.sc.egov.usda.gov/App/Help/WSS_HomePage_HowTo_3_0.pdf*

Label the Information – Approximately 45 minutes

Provide each student with a copy of “My Home Soil Map” and access to a computer with internet. They will need to visit www.websoilsurvey.sc.egov.usda.gov and follow instructions on the handout.

Demonstrate the Relevance – Time varies

You're the Developer. Assign students to small groups and give them the “You're the Developer Rubric.” Explain to the class that they have been hired by a developing company to develop a 10 acre area in your county. As the instructor, you can assign them a 10 acre plot or allow them to select their own plot. They must work as a team to research their land and determine a plan for development. They must create a map of their plan and a written statement justifying their development decisions. Upon completion of the project allow each team to present their development proposal to the class.

Review the Content – Approximately 10 minutes

Postcard: Provide each student with a note card. Instruct the class to send a postcard to a student that missed this lesson. Encourage students to draw a post card picture related to the Web Soil Survey lesson on the front of the card and write note summarizing the lesson to the missing student on the back. Consider asking a few students to share their post card with the class.

Celebrate Student Success – Approximately 3 minutes

Thank students for their engagement, creativity, and participation. Congratulate them on their ability to properly use the Web Soil Survey. Explain that this skill will be useful throughout their lives as they use land. Congratulate students on having a stronger understanding of soil management which will allow them to successfully participate in the land evaluation competition. Preview information in the next lesson.

Lesson 9 Web Soil Survey

Web Soil Survey Webquest

Name: _____

Follow the instructions below to become familiar with the Web Soil Survey. Open an internet window and go to www.websoilsurvey.sc.egov.usda.gov. Answer the questions with each step to help you understand the Web Soil Survey.

1. *Read through the introduction on the home page. Continue reading through 'Four Basic Steps.'*

What does WSS for?

What does AOI stand for?

What percent of the country is covered by the WSS?

What will the soil map show you?

What is the cost to download a finished map?

2. *Click green "Start WSS" button. A new window should open with the Web Soil Survey.*

3. *Find your home town using the quick navigation bar.*

What options do you have for finding a specific area in the navigation section?

4. *Define your home town as your AOI using the buttons at the top of the map.*

List four buttons at the top of the map and describe how they are used.

5. *Under AOI Information give your map a name.*

What is the size of your AOI?

When was the data collected for your AOI?

6. *Continue by clicking on the “Soil Map” bar at the top of your screen.*

Which soil types are the most common in your AOI?

7. *Click the “Soil Data Explorer” bar at the top of your screen.*

8. Use the “Suitability and Limitations” section to answer the following questions:

Identify the 10 categories of data included in this section.

Using the specific categories, “View Rating” button, and the “Legend” identify 5 suitability and 5 limitations of your AOI.

Soil in this AOI is suitable for...	Limitations for this soil include...

9. Using the “Soil Properties and Qualities” complete the chart for your AOI map. Identify two common soil types in your area and record definition and rating for each listed soil quality property.

	pH	Erosion (T Factor)	Organic Matter Rating	Water Holding Capacity
Definition of the property				
Soil Type				
Soil Type				

10. Finally, click on the “Shopping Cart” bar at the top of your screen.

11. Click “Check Out” and “get now” to generate your personalized report.

4. Complete the chart below using each of the soils found in your AOI. Include the rating for each of the soil qualities listed.

Soil Type	pH	Erosion (T Factor)	Organic Matter Rating	Water Holding Capacity	Parent Material Name	Flooding Class	Ponding Class

5. Complete the chart below using each of your soils to determine the suitability and limitations of your soils.

Soil Type	Dwellings with Basements	Lawns and Landscapes	Roads and Streets	Farmland Classification	Range Production (normal year)

6. Draw a map of this land labeling current structures and uses and include soil types (symbols).

7. How might this information be beneficial to you as a land manager?

You're the Developer

Student Name: _____

Activity Due Date: _____

As you group you have been hired to develop a 10 acre plot of land in your county. You will create a map of your development proposal and a written justification of your plan. Use the Web Soil Survey to determine the best uses of your land. Consider the needs of your county and the features of your land.

The rubric below will be used for scoring this activity.

CATEGORY	4	3	2	1
Title	Title tells the purpose/content of the map, is clearly distinguishable as the title (e.g. larger letters, underlined, etc), and is printed at the top of the map.	Title tells the purpose/content of the map and is printed at the top of the map.	Title tells the purpose/content of the map, but is not located at the top of the map.	Purpose/content of the map is not clear from the title.
Map Legend/Key	Legend is easy-to-find and contains a complete set of symbols, including a compass rose.	Legend contains a complete set of symbols, including a compass rose.	Legend contains an almost complete set of symbols, including a compass rose.	Legend is absent or lacks several symbols.
Neatness of Color and Lines	All straight lines are ruler-drawn, all errors have been neatly corrected and all features are colored completely.	All straight lines are ruler-drawn, most errors have been neatly corrected and most features are colored completely.	Most straight lines are ruler-drawn, most errors have been neatly corrected and most features are colored completely.	Many lines, corrections of errors, and/or features are not neatly done.
Scale	All features on map are drawn to scale and the scale used is clearly indicated on the map.	Most features on map are drawn to scale and the scale used is clearly indicated on the map.	Many features of the map are NOT drawn to scale even though a scale is clearly indicated on the map.	Many features of the map are NOT drawn to scale AND/OR there is no scale marker on the map.
Evidence and Examples	All of the evidence and examples are specific, relevant and explanations are given that show how each piece of evidence supports the author's position.	Most of the evidence and examples are specific, relevant and explanations are given that show how each piece of evidence supports the author's position.	At least one of the pieces of evidence and examples is relevant and has an explanation that shows how that piece of evidence supports the author's position.	Evidence and examples are NOT relevant AND/OR are not explained.
Accuracy	All supportive facts and statistics are reported accurately.	Almost all supportive facts and statistics are reported accurately.	Most supportive facts and statistics are reported accurately.	Most supportive facts and statistics were inaccurately reported.

