



2025 MN State Envirothon Soil Study Resources

Soil Science Society of America – <https://www.soils4teachers.org/soil-basics/>

Soil Science Society of America – <https://www.soils4teachers.org/files/s4t/soils-overview-for-teachers-2020.pdf>

U of M Extension – <https://extension.umn.edu/soil-management-and-health/five-factors-soil-formation>

Soil Science Society of America Soil Chemistry – <https://www.soils4teachers.org/chemistry>

Soil Science Society of America Soil and the Environment – <https://www.soils4teachers.org/soil-and-environment>

NRCS – <https://www.nrcs.usda.gov/sites/default/files/2022-11/from-the-surface-down.pdf>, Pages 1 – 10

Soil Science Society of America State Soils – <https://www.soils4teachers.org/state-soils/>

Soil and Soil Dynamics: <https://www.youtube.com/watch?v=mg7XSjcnZQM>

Minnesota High Functioning Soils – https://bwsr.state.mn.us/sites/default/files/2019-07/PrinciplesHighFunctioningSoils_FactSheet_Feb2018.pdf

U of M Extension – <https://extension.umn.edu/soil-management-and-health/soil-biology>

Water Movement in Soil: <https://www.youtube.com/watch?v=vmo0FRAVgkM>

Soil Health Principles: <https://www.youtube.com/watch?v=9uMPuF5oCPA>

Dust Bowl NRCS: <https://www.nrcs.usda.gov/about/history/brief-history-nrcs>

Soils in Minnesota and the USA: <https://www.youtube.com/watch?v=CEEiXcpCZjY>

How to Identify Soil Color Using the Munsell Soil Color Book:
<https://www.youtube.com/watch?v=JLWT7GI-9YE>

Soil Basics – Texture: <https://www.youtube.com/watch?v=8nU26sXVNS4>

How to Differentiate and identify soil horizons in the field:
https://www.youtube.com/watch?v=ZlyDyQT6_WE

How to use a Clinometer:

[Finding Slope Using a Clinometer \(youtube.com\)](#) (4 minutes)

How to find information on a Topographic Map:

[How to Find Information on a Topographic Map - YouTube](#) (8 minutes)

Web Soil Survey:

[Web Soil Survey - Home \(usda.gov\)](#) , start by looking at “Getting Started With Web Soil Survey” We will be creating an Area Of Interest, print a soil map, create maps or tables through Soil Data Explorer tab to view Suitabilities for Use and Soil Properties and Qualities. Become familiar with reading data from the tables.

Ecological Site Descriptions: We will provide information for students to answer questions about Ecological sites based on the soil type. These will be tables from Web Soil Survey.

Use the soil texture triangle to determine the Soil Texture:

What is the soil texture of a sample with the following sand, silt, and clay percentages?

Sand	Silt	Clay	Texture
90	5	5	
10	45	45	
25	10	65	
30	35	35	
55	55	40	
55	40	5	
15	55	30	
40	45	15	
80	15	5	
5	85	10	
65	20	15	
65	10	25	

