

*This is a study guide to help you to organize your notes based on the Objectives for this Module. This is not graded and is provided only as a study aid. To use it, fill in the table. Box 1 will ask you to redefine the terms or explain the concept. Box 2 will ask you to give an example or try to apply the concept to a new situation. Box 3 will ask you to provide information about where you can find this information. Provide enough information in this box for you to be able to use this box as a reference to finding the information again.*

**Define Soil.**

Give the book and the module definitions of soil. How are they different? How are they the same?	What are the components of soil and where do they come from?	Where is this information located?
<p>Book : Soil Scientist</p> <p style="text-align: center; font-size: 48px; color: lightgray;">1</p> <p>Book: Engineer</p> <p>Module: Soil Scientist</p>	<p style="text-align: center; font-size: 48px; color: lightgray;">2</p>	<p style="text-align: center; font-size: 48px; color: lightgray;">3</p>

**Draw the soil horizons.**

Draw the Soil Horizons below.	Explain what is found in each horizon and how they differ.	Where is this information located?
1	2	3

**Explain the processes that form soil (weathering)**

<p>What is Physical Weathering?</p>	<p>Describe the examples. What type of minerals are susceptible to each? What do you need for each to happen?</p>	<p>Where is this information located?</p>
<p style="text-align: center; font-size: 48px; color: lightgray;">1</p>	<p>Exfoliation</p> <p style="text-align: center; font-size: 48px; color: lightgray;">1</p> <p>Frost Wedging</p> <p>Glacier Movement</p>	<p style="text-align: center; font-size: 48px; color: lightgray;">3</p>
<p>What is Biological Weathering?</p>	<p>Describe Examples. What type of minerals are susceptible to each? What do you need for each to happen?</p>	<p>Where is this information located?</p>
<p>What is Chemical Weathering?</p>	<p>Describe Examples. What type of minerals are susceptible to each? What do you need for each to happen?</p>	<p>Where is this information located?</p>
	<p>Dissolution</p> <p>Oxidation</p> <p>Hydrolysis</p>	

**Apply the five factors to explain differences in soil formation and development.**

What are the Five Factors of soil formation? Explain how these relate to creating different soil textures.	Describe how Indiana's soils formed.	Where is this information located?
<p>(1)</p> <p style="text-align: center; font-size: 48px; color: lightgray;">1</p> <p>(2)</p> <p>(3)</p> <p>(4)</p> <p>(5)</p>	<p style="font-size: 48px; color: lightgray;">2</p>	<p style="font-size: 48px; color: lightgray;">3</p>
<p>What type of soil does Indiana have? Are Indiana soils considered weakly, moderately, or well-developed? How do you know?</p>		
Empty space for student response		

**Describe the engineering properties of soils AND describe general characteristics of soils in Indiana.**

Describe each.	Using what you know about how Indiana soil developed, explain Indiana's Soil's Engineering Properties. How do these relate to our soil development and our soil texture?	Where is this information located?
(1)		
(2)		
(3)		
(4)		
(5)		
(6)		
(7)		
(8)		

**Explain how landuse affects soil.**

Describe how different landuses alter soil.	How does this change the soil and, subsequently, soil properties? Are these changes positive or negative? What can we do to prevent negative effects?	Where is this information located?
<p>Agriculture</p> <p style="text-align: center; font-size: 48px; color: lightgray;">1</p> <p>Urbanization</p> <p>Recreational Use (Off-road Vehicles)</p>	<p style="font-size: 48px; color: lightgray;">2</p>	<p style="font-size: 48px; color: lightgray;">3</p>

**Explain situations where soil is destroyed or polluted AND apply the concepts of Earth as a System and Sustainability.**

How can soil be destroyed?		
Explain the case study or example. Explain how the soil was destroyed	How does this example relate to the concept of Environmental Unity and Sustainability?	Where is this information located?
<p style="font-size: 48px; color: lightgray;">1</p>	<p style="font-size: 48px; color: lightgray;">2</p>	<p style="font-size: 48px; color: lightgray;">3</p>

**Explain situations where soil is destroyed or polluted AND apply the concepts of Earth as a System and Sustainability (continued).**

Explain the case study or example. Explain how the soil was destroyed	How does this example relate to the concept of Environmental Unity and Sustainability?	Where is this information located?
Urbanization – Loss of agricultural lands  <div style="text-align: center; font-size: 48px; color: lightgray;">1</div>	<div style="text-align: center; font-size: 48px; color: lightgray;">2</div>	<div style="text-align: center; font-size: 48px; color: lightgray;">3</div>
Ryland Homes		
Fernald Processing Plant		
Indianapolis – Lead Soils		

