

## Unit Review

During the NRE fast-track online institute, consider facilitation, assessment, and management for each unit. Record your notes, ideas, and questions using this document. Cells may be adjusted if more space is needed.

### Unit 1 Conservation, Preservation, Exploitation

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 1.1 Natural Resources Ecology 101 Lesson 1.2 Building Biomes</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project 1.2.1 Biome Information Chart</p> <p>Project 1 : This project overall did a great job at educating the readers. However, they did lose a point in Biome info because their “usage” slide had very little information. Their pictures and picture descriptions were very clear and descriptive. Overall I would have given this project a 19/20.</p> <p>Project 2 : This project was missing many aspects of the rubric. Starting at “Biome Info” this project was missing Usage, Natural Resources, and Physical Features. Next, this project was missing a Bibliography, pictures, and picture descriptions. As a teacher I would have my students re-do this project, with a percentage off their grade. If they decided to take their first earned grade instead, it would be a 1/15. This grade does not account for the score the teamwork section.</p> <hr/> <p>Project 1.2.4 Ecosystem Study</p> <p>Project 1 : This project was missing many aspects of the project rubric. The brainstorming was very shallow, the pros and cons was decent but could be more extensive, the summary could be more expansive, and the climate information was missing two aspects. This student would receive a 6/16. I would allow the student to correct their mistakes for additional credit.</p> <p>Project 2: Not only does this project have many missing components, it also has inaccurate information. This project would receive a 4/16.</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>I like that each lesson discusses common terminology that will later be frequently used. Something I will add to it is some type of vocabulary practice activity. Since these vocabulary words are frequently used throughout this whole course, I would want to ensure mastery of the vocabulary before continuing.</p> <p>I particularly enjoy the “Ecosystem Study”. This extensive project throughout the semester will have a great result. Also, I like that the students have the opportunity chose their own ecosystem. This hopefully will give the students a sense of ownership and excitement.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>These objectives exemplify how the students will use the learned concepts in application. These objectives are very specific and include how they will be beneficial for future performance objectives.</p>

<p><b>How do the PowerPoint presentations in this unit enhance student understanding?</b></p>	<p>It mostly focuses on the main terminology that will be used throughout the lesson and in the activities. These PowerPoints are concise, making them useful as a brief review before continuing the unit.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>I see my students excelling in the individually lead project for the semester. I believe my students will enjoy having the capability to choose their own ecosystem to research for this project. I believe they will struggle with the “extensive” reading that is required for CASE. It will practice great reading skills and following the directions precisely.</p>
<p><b>What components of the Ecosystem Study are developed in this unit? What resources will you need to have available to students?</b></p>	<p>This unit was great at offering a birds’ eye view of the purpose of this whole course. It also allows the students to start asking questions, and realizing there is still a lot for them to learn about natural resources and ecology.</p>
<p><b>What questions do you have related to this unit?</b></p>	<p>How should I structure this unit since I plan on also using GoogleClassroom? Should they still use binders?</p>

## Unit 2 Mother Earth

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 2.1 Soils and Land Lesson 2.2 Reading the Land</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> </ul> <p>Discuss how the project and related rubric address lesson concept(s)</p>	<p>Project 2.1.1 Soil Comics</p> <p>Project 1: This project was missing some components of the rubric, but overall had a good start to this project. To start, it did not have all five facts about soil formation. It also was much shorter than the necessary 15 slides. After considering many of the missing components I would give this project a 45%.</p> <p>Project 2: This project was excellent in presentation, but not content. It was missing the material. For this reason, it would receive a 70%.</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>It allows the students to understand what the focus is going to be in this unit. In this case, it is going to be soils and soil structure. The notes at the start of unit 2 were great at introducing how the different sizes of different soil types affect the whole structure and its porosity.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>It is very specific on the applications of the content. We will be applying the students' information of soil type and structure by hands on activities such as the slope of the land and ribbon testing.</p>
<p><b>How do the PowerPoint presentations in this unit enhance student understanding?</b></p>	<p>The PowerPoints did a great job at focusing on the five main soil forming factors, that later is used in the project. Same with the topography , parent material, etc. It enhances their learning by having the students apply this information later to a project.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>I foresee my students excelling in the creative aspect of this project. However, I do see them struggling to include information to the project. Project 1 included a great deal of information, but little visual appeal. Project 2 had great visual appeal but little information. I would encourage my students to have the best of both worlds.</p>
<p><b>What components of the Ecosystem Study are developed in this unit? What resources will you need to have available to students?</b></p>	<p>Without soil, we wouldn't have an ecosystem. This unit does a great job at introducing the basis of what this unit will be based on.</p>
<p><b>What questions do you have related to this unit?</b></p>	<p>How can we take this information, and include more outdoor experience to this unit?</p>

## Unit 3 Water Works

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 3.1 Water Basics Lesson 3.2 Water Function</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project3.1.4 Lake Ecology News</p> <p>Project 1: This project would receive full marks from myself as a teacher. They met all of the expectations in physical characteristics, biological characteristic, human activities, current conditions, and newscast. I would potentially show the beginning clip of this as an example to my students to get the ball rolling on how they would want to do theirs and further improve the example.</p> <p>Project 2 : This project was lacking in many aspects. They briefly hit on physical characteristics, but barely skimmed the top. For biological characteristics, human activities, and current conditions I would give them a 2 in each section. As for newscast, this was the best aspect of the video. However, the video quality and sound was poor so I would give them a 3.</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>It prefaces the importance of this information. We as humans would not survive without potable water. Unfortunately, this resource has not been responsibly used and saved for future use. I as a teacher would give even further information in this unit specifically about different careers in managing water rights. It is addressed some further in CASE but, I would want to specifically address this even further in this unit.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>I like how this unit starts off as, what should be, a refresher on the hydraulic cycle. Particularly through the first activity by having the students must diagram it out, without any help to begin with. Rather than showing a diagram of the water cycle and hearing the overwhelming “we already know this stuff”. It really puts their past knowledge to the test, to gauge where you need to review before continuing this unit.</p> <p>I also like how this unit makes this information personal to us in our nation. Our students will be and appear much more intelligent when they are more knowledgeable of their nations geology and specifically our water resources.</p>
<p><b>How do the PowerPoint presentations in this unit enhance student understanding?</b></p>	<p>I enjoyed this unit. My favorite unit in AFNR is when we get to test water quality. This Powerpoint goes into even more depth that AFNR did, rightly so. For example, it dives into fecal coliform – what it is and why it matters for testing water quality.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>My students will really enjoy the opportunity to get creative and create a video. Although they don’t love using all forms of technology in the class, they tend to latch onto creating videos and later showing it to others. They may struggle fully reading the rubric and getting fully marks.</p>

**What questions do you have related to this unit?**

Are there any resources out there that may help me extend this unit? Also, I plan on doing field trips for this unit. When should I plan those, and how should I go about it?

## Unit 4 Lighter than Air

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 4.1 The Role of Air Lesson 4.2 The Smog has Lifted</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project 4.2.5 Ecosystem Study – Air and Water</p> <p>Project 1 : This project met all of the rubric expectations. I would score this project with full marks. Their explanations were all accurate and detailed, for a chart.</p> <p>{Project 2 : This project is lacking in readability , accurate content, and all aspects of the rubric. This student would be expected to redo this project. Entering in “crap from the river” is not a decent answer to give for an assignment. I may even make this student stay after to school to work on it with me because of the lack of effort and professionalism.</p> <p>Project 3: At first glance this chart looks very organized. It also contained all of the information necessary for this project, it would receive close to full marks. They would receive an 18/20 simple because each section</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>Again, this unit is another refresher of previous science courses. It also has been a great refresher for myself on the technical science aspects. After this week I will gauge my full understanding on this unit and perhaps find other resources to make myself more fluent in this subject.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>This unit only has three objectives, but they are big ones! I am particularly excited about objective 3, their research into determining air level over a span of time. I am particularly am excited about the students diving deeper into the gases found in the atmosphere. After talking with my science teacher I know that they have covered this to a certain extent, but this unit will take it to another level for these students.</p>
<p><b>How do the PowerPoint presentations in this unit enhance student understanding?</b></p>	<p>This PowerPoint was very brief for information. I would edit this PowerPoint to make it my own, and more extensive. Most of this information was repetitive to the information given on the worksheets and the project.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>I believe my students will struggle to apply their previous knowledge to this class. As a teacher I will do my best to address the information and remind them of their past experiences in science with it.</p>

<b>What components of the Ecosystem Study are developed in this unit? What resources will you need to have available to students?</b>	The importance of air quality. I am originally from central California in a valley. The smog there was so bad that we had "bad quality air days" that were judged by a color scale. If it was purple we weren't allowed to go outside or play sports. I have lots of experience with this and can make many connections to this content and its relevance.
<b>What questions do you have related to this unit?</b>	Are there any informational videos that I could use as an additional resource?

## Unit 5 Earth's Energy

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 5.1 The Energy of Life</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project 5.1.2 Ecosystem Study – Energy Pyramid</p> <p>Project 1: This one was visually appealing and had a good start. However, it was lacking in the quantity of content required. For example, there are supposed to be five animals given but there were only three. Because of the lack of content this would have received a 70%.</p> <p>Project 2 : This project received full points in an accurately formatted pyramid, however the rest of the project lost points. It was under in quantity as well as pictures. It would receive a 60%.</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>This unit again had many similarities to AFNR but, it took it a step further. It allowed me to bring up a fairly basic scientific concept, refresh their memories, and then dive deeper into the content.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>The students are taking their previous knowledge of the energy cycle, reevaluating their knowledge, and taking it a step further. They also have another opportunity to research their habitat of choice, which makes it more personal and enjoyable for the students.</p>
<p><b>How do the PowerPoint presentations in this unit enhance student understanding?</b></p>	<p>Again, I wish the Powerpoints were more thorough and more descriptive. For example, one slide on “Thermodynamics” is simply not enough. It is not even enough to get a basic understanding of what it really is. I will again edit this and add much more to it.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>I see my students making very similar mistakes as to what I observed. Getting them to include all of the pictures and all of the required animals and plants will be a challenge. I will emphasize it in my institution though.</p>
<p><b>What components of the Ecosystem Study are developed in this unit? What resources will you need to have available to students?</b></p>	<p>Their understanding of the flow of energy in nature. They will understand how humans also play into this energy flow as well and what this means for how we may be responsible for finding some balances. I will need students that are ready to learn, and not claim to already know everything about this unit like I expect.</p>

**What questions do you have related to this unit?**

I don't have any for this unit.

## Unit 6 Flora and Fauna

<b>Lessons and topics within the unit.</b>	Lesson 6.1 All Natural Flora Lesson 6.2 Flourishing Fauna
<b>Anchor Assessments</b> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project 6.2.5 Ecosystem Study – Focal Species</p> <p>Project 1 : This project met all of the expectations. It would receive full marks. In all categories on the rubric it received a 1.</p> <p>Project 2 : This project was close to receiving full marks but, it did miss on addressing where the fox receives its water. It did not require pictures but, I would not dock them points for this. In this type of write up it is appropriate to utilize pictures. However, I would doc points for not siting their resource.</p>
<b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b>	<p>I am very excited for this unit. It again takes a further step into what AFNR provides. Students will now be able to walk around their campus, their home, and their community and have a scientific look on their world. They will have a better understanding on what plants and animals are present – and their relationship. I am especially excited for the game activity.</p>
<b>How do the Performance Objectives address the Concepts?</b>	<p>Rather than reading flash cards of a plant type, they can go out in the world and put their knowledge to the test. They also will be able to make their own discoveries in the future because of this new found skillset they will achieve from these objectives.</p>
<b>How do the PowerPoint presentations in this unit enhance student understanding?</b>	<p>This Powerpoint has a brief description on “Plant Sampling” which is likely a new concept to them, even the horticulture students.</p>
<b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b>	<p>I believe my students will excel in this unit. They have the most interest in this material, as compared to the rest of the units. I am excited to see how they preform, and where they struggle.</p>
<b>What components of the Ecosystem Study are developed in this unit? What resources will you need to have available to students?</b>	<p>I will need to five deeper into the plant sampling techniques. Also, I would like to extend more efforts in arboricultural practices in this unit.</p>
<b>What questions do you have related to this unit?</b>	<p>How can we best add more information on the plant sampling unit?</p>

## Unit 7 Farming, Forestry, and Ferrous

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 7.1 Agricultural Stewardship Lesson 7.2 Timber! Lesson 7.3 Digging and Drilling</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project 7.1.3 Stewards of the Land</p> <p>Project 1 : This project was a great start, but was not perfect. The thing I noticed first was the spelling and grammar, for example , “weeds your der control”. The content was decent and along the rubric, I scored it a 75%.</p> <p>Project 2 : Again, this project was a good start. It covered all necessary material but, it could have gone into more depth on the descriptions. The information barely scraped the surface.</p> <p>Project 3 : This project had very descriptive writ ups on each section, especially the property description. However, this project was incomplete. With all of this considered, it would receive a 60%.</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>They talk about how this is applicable to us, and specifically to farmers. I may add additional information on new and improved ways of making sustainable agriculture. Such as different ways of holding lagoons , etc.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>I enjoy that we are making an objective to read the <i>Lorax</i> book. It is a short read that will include some literacy competencies, as well as make a fun way to tie in the Concepts.</p>
<p><b>How do the PowerPoint presentations in this unit enhance student understanding?</b></p>	<p>This Powerpoint again, was very brief. I would expand the information on all of the slides- but especially on Sustainable Use. I believe this to be the biggest reason of importance for this course. Now that we understand the earth, what can we do to keep our earth sustainable.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>I think they will excel in discovering their carbon footprint, and finding ways to reduce it. Our school currently does not recycle so I would like this class to start a school project for that. It will likely start at the beginning of the semester, and maybe go into further depth at this unit – perhaps a field trip.</p>
<p><b>What questions do you have related to this unit?</b></p>	<p>Would this be a good time to included the AFNR “Clean Smoke” lab if they haven’t done it before ?</p>

## Unit 8 We the People

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 8.1 Urban Sprawl Lesson 8.2 Walk in the Park</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project 8.2.2 Natural Destination Guide Project 1 : This project looks like they began on the research, and then didn't start the actual project. It would receive a 20%.</p> <p>Project 2 : This project was done to the full expectations. I would give this project a 100%. However, I would encourage the student to include more information on the "beaches".</p> <hr/> <p>Project 8.2.3 The Great Campout Project 1: This project had a great start, but no bibliography. I would give this a 95%. Simply to encourage the importance of siting their sources.</p> <p>Project 2: This project opted to do their project on Word, rather than PowerPoint – but that's okay! They met all the requirements for this project.</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>This preface does a great job at explaining why this information is important for this unit, and human life in general. For example, ". Impacts of humans include pollution, deforestation, endangerment of native species, introduction of invasive species, and interference with natural fire cycles". This is essential to the future growth and health of our natural resources.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>An example is, after learning about what a Carbon footprint is, they have the opportunity to calculate their average personal CarboonFootprint.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>I believe my students will particularly enjoy the "Great Campout Activity". All of my students have experience camping, fishing, and hunting. This unit will be exciting for them to learn more about their campgrounds. They may struggle to fully read the worksheet and include all of the requirements.</p>
<p><b>What components of the Ecosystem Study are developed in this unit? What resources will you need to have available to students?</b></p>	<p>This unit goes into further depth on how our actions are affecting our earth. The students have the ability to research this further as well as examine recreational activities in national parks. They then get to take this information and plan their own camping trip.</p>
<p><b>What questions do you have related to this unit?</b></p>	<p>Is there more information out there on how to calculate the amount an individual tree reduced the carbon dioxide in the air per year, and per lifespan? I did some of this in an Arboriculture class but I can not find great information for high school level.</p>

## Unit 9 Past, Present Future

<p><b>Lessons and topics within the unit.</b></p>	<p>Lesson 9.1 Policing our Wilderness Lesson 9.2 What's Next</p>
<p><b>Anchor Assessments</b></p> <ul style="list-style-type: none"> <li>• One paragraph per project</li> <li>• Discuss specific student work samples</li> <li>• Justification for assessment score(s) for each student sample</li> <li>• Discuss how the project and related rubric address lesson concept(s)</li> </ul>	<p>Project 9.1.1. Ecosystem Study – One of Kind</p> <p>Project 1 : This project was very thorough and had all of the information necessary. Surprisingly the scientific name is “bison bison” which was included. It would receive full marks.</p> <p>Project 2: This project had some of the information required, but was missing many of the requirements. It was not in flyer format, did not have a picture, and was missing the information on the current population. After all of this considered it would receive a 40%.</p>
<p><b>How does the information in the lesson prefaces prepare you for the unit? What additional information do you need?</b></p>	<p>It allows me to understand the broader scope of what will be accomplished. I enjoy learning about and teaching federal and state laws that relate to agriculture. This will be an exciting and informative unit for myself, and most of my students. I will need some information on how to keep this unit up to date, considering laws are forever adapting and changing.</p>
<p><b>How do the Performance Objectives address the Concepts?</b></p>	<p>We will be taking the new information we have with quantitative and qualitative effects of ourselves as humans on the environment. We will now take that information, research further information of endangered species, and research the efforts that have been made to reverse the effect of these endangered species. We will also be diving into the laws and regulations that are in place to prevent further destruction of our natural environment.</p>
<p><b>As you review the APP in this unit, where do you see your students excelling? How might they struggle?</b></p>	<p>I believe they will excel in the research on their endangered species. However, I believe they will struggle with feigning interest in the legal aspect of Natural Resources and Ecology.</p>
<p><b>What components of the Ecosystem Study are developed in this unit? What resources will you need to have available to students?</b></p>	<p>The legal side of the Ecosystem Study, and the efforts that are made to preserve and conserve our natural environments. I will need resources with additional information for further study and inquisitions.</p>
<p><b>What questions do you have related to this unit?</b></p>	<p>Who are some guest speakers that would be beneficial fro this unit?</p>