

AP Environmental Science (APES) Summer Assignment

Mrs. Meaux

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The summer assignment due on the first day of school. If you do not complete this assignment, you may be dropped from the class. If you work with someone else, be sure your answers are in your own words. APES is a college-level course, so I expect college level work ethic.

Environmental Science Scavenger Hunt (120 points)

Ecology is the study of the relations of organisms to one another and to their physical surroundings, including the interaction of people with their environment. The best way to study ecology is to explore natural ecosystems. So, let's get outdoors and explore nature! The goal of this activity is to take a closer look at things that surround you every day and apply some of the terminology and concepts that we will address throughout APES. Although the language we will use may seem foreign sometimes, the "things" that it connects to definitely is not.

Your mission:

- Locate and photograph items from the scavenger list. *Choose an original item to include in EVERY picture to verify that it is an original and not taken from the internet. Photographs not including the unique item will not receive full credit. The item may be a keychain, trinket, charm, action figure, etc.*
- Create a presentation (PowerPoint is great), notebook, pdf, etc., to show the pictures in an organized fashion.

You will receive 4 points for each entry in your final presentation:

- one point for a picture including your original item
- one point for an **exact** identification of the main organism(s) in the picture.
 - Saying something is a pine tree is **not** considered an identification. Determine what kind of pine tree it is (white pine, pitch pine, etc.). Identifications can be difficult, but do your best. There are free websites/apps that can assist with IDs if you don't own field guides. Scientific names are preferred over common names.
- one point for a title (which item on list is being represented)
- one point for an explanation of **how** it represents the item on the list
- Your goal is to earn 120 points on this assignment. If you locate 30 items and have a complete entry for each one, you will earn all the points. **Due to time**

constraints, I can only grade the first 30 items you present, so stick with 30 and do them well!

- You may only use an organism/item to fulfill one requirement from the list.
- Completed assignments can be submitted electronically on or before the first day of school.

Cautions & Guidelines:

- The first thing you will need to do is research the terms listed to be sure you understand what they mean in order to select appropriate items/organisms.
- Never touch plants or animals with exposed fingers. They may contain toxins in the form of oils, venom, or teeth that may cause unwanted reactions. Avoid touching the organisms but if you must, use gloves and/or forceps.
- Remember, we don't want to deplete the environment. Don't kill organisms. *Organisms should be photographed in their native habitat.*
- You will not be able to place your unique object right beside some of the items. Hold your object so it is in the field of view of the photograph, even if it is blurry.

APES Scavenger Hunt List

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| 1. Abiotic component of an ecosystem (natural not manmade) | 26. Camouflage |
| 2. Biotic component of an ecosystem | 27. Intraspecific competition |
| 3. Species | 28. Interspecific competition |
| 4. Population | 29. Habitat |
| 5. Community | 30. Limiting Resource |
| 6. Ecosystem | 31. Resource partitioning |
| 7. Producer/autotroph | 32. Keystone species |
| 8. Herbivore | 33. High species richness |
| 9. Omnivore | 34. Low species richness |
| 10. Carnivore | 35. Ecosystem service |
| 11. Detritivore | 36. Sustainable agricultural practice |
| 12. Decomposition | 37. Monoculture |
| 13. Adaptation | 38. Water diversion project |
| 14. Fungus | 39. Dam |
| 15. Primary succession | 40. Exposed soil horizons (at least two identifiable) |
| 16. Secondary succession | 41. Erosion |
| 17. Pioneer species | 42. National Park |
| 18. Coevolution | 43. Wildlife refuge or wilderness area |
| 19. Mutualism | 44. Aquaculture |
| 20. Commensalism | 45. Nuclear power plant |
| 21. Parasitism | 46. Solar panels |
| 22. Predation | 47. Windmill/wind turbine |
| 23. Plant defense against herbivores | 48. Hybrid car |
| 24. Warning coloration | 49. Compost |
| 25. Wetlands | 50. Invasive species |