1. Greenhouse gases are water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), Chlorofluorocarbons (CFCs), and Ozone (O3) in order from most to least
2. Ambient air pollutants are carbon monoxide(CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulate matter and ozone (O3)
3. All air pollutants except lead cause respiratory problems -ex- asthma
4. Ozone good up high (stratosphere) and bad nearby (troposphere).
5. Fertilizers and pesticides are NOT the same. Fertilizers have N,P,K for plant growth. Pesticides kill bugs.
6. Stratopsheric ozone thinning (hole) and global warming not related.
7. Chlorine main chemical involved in ozone depletion
8. Layers of atmosphere- Tiny Soldiers make tents
9. An ecological/ecosystem "cost" is NOT about money, its about a problem in an ecosystem. An economic cost will have the word economic in it.
10. An economic benefit can be jobs, tourism, An economic problem can be an increase in prices. Try to think "money and jobs" with economics.
11. For govt. incentives: subsidies, Tax credit/rebate, cap & trade
12. Review experimental design: dependent & independent variables, 3+ test units, hypothesis with "increasing/decreasing" in it.
13. Eutrophication: excess nutrients (N,P)from fertilizer, manure or urban sewage are washed by rain into rivers which flow to the ocean.
    1. These nutrients cause an algal/phytoplankton bloom which die and are decomposed by bacteria who use all the oxygen-->hypoxia and fish death
14. When talking about change in an ecosystem, use "increasing" or "decreasing". Ex: invasive species cause native species population to decrease
15. )Review the nitrogen cycle! The AP exam LOVES the nitrogen cycle.
    1. FixNAAD ANPAN
    2. Review the other cycles also.
16. An ecosystem service is defined as something nature provides humans for survival or economic benefit. NOT something nature gives itself.
17. Root cause of all environmental problems is population growth
18. Review Math
    1. Doubling time - Rule of 70= if growth rate 2%, 70/2 = 35 years
    2. GPP (gross primary productivity) - R (respiration) = NPP (net primary productivity
    3. Percent change= difference/original x 100
    4. Billion – 109
    5. Million- 106
19. Food chains always begin with a producer. Arrows point the direction of energy flow (toward the predator)
20. 10% rule- keep 10% of energy as you travel up trophic levels
21. Anthropogenic=human made. Degradation=decline in quality. Synthetic=not natural.
22. r vs k (bacteria vs elephant)
23. 2nd law of thermodynamics- heat lost, entropy increases
24. Review all laws

* CERCLA/Superfund- cleanup
* RCRA- "cra" cradle to grave with hazardous waste
* Kyoto Treaty- climate change and CO2
* Copenhagen- climate change
* Montreal Protocol- ozone depletion
* CITES- endangered species
* ESA- endangered
* CAA- clean air act
* CWA- clean water act
* NEPA- env impact statement
* Surface Mining and Reclamation Act

1. It’s time to stop studying. Watch TV or something relaxing. Get a good night's sleep. Eat a healthy breakfast. You will do great tomorrow!!! Be confident- see you in the morning!