

Topics that should be reviewed before Unit 3

Vocabulary

-Leaching

-Salinization -

- accumulation of salts in the soil caused by high evaporation rates and low precipitation rates

-water logging

- saturation of the soil with water for extended periods of time, water table rises to the point that water bathes plant roots essentially drowning/suffocating them from CO₂

-desertification

- becomes increasingly arid

-rangeland

- pastures where animals used for agricultural purposes

-pesticide resistance

- pests become stronger and resist pesticides, reproduce, and eventually the entire population is resistant and now pesticide doesn't work

-IPM

- integrated pest management, a combination of biological, physical, and chemical controls to effectively control pests with minimal environmental impacts

-Industrial agriculture

- uses large scale mechanization, fossil fuels, new technology, and pesticides to boost yields

-sustainable agriculture

- Intercropping, no till, and other, to balance nutrients, reduce dependency on chemical pesticides, reduce soil erosion.

- shelterbelts

- rows of trees or tall plants planted along the edges of fields to slow wind and wind erosion on agricultural fields

-contour plowing

- plow furrows perpendicular to slope of land and following the natural land contours to help slow runoff

-terracing

- cut slope into series of steps so that farmers can cultivate hills without losing huge

amounts of soil to water erosion down the hill

-intercropping

- planting multiple different crops in the same plot of land to help slow erosion

-crop rotation

- alternate plants on fields to balance nutrients in the soil and reduce runoff

-no-till agriculture

- grow crops without disturbing (tilling) the soil before planting seeds

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-Aquaculture

- raising aquatic organisms in a controlled environment

-Theory of island biogeography

- Cutting of the forest into smaller and smaller fragments, the distance and size of the fragments can lower/increase the carrying capacity of animals

-overgrazing

- too many livestock in one area eating too much of the plant cover, preventing replacement of biomass, degrading soil quality, and causing erosion

-edge effect

- conditions along a fragment's edge are different than conditions in the interior
- Most organisms want to be in the middle

-Mountain top removal

- Coal mining areas, trying to access the ore by removing the top and uses explosives

-strip mining

- Surface mine
- Used when the ore is closer to the surface
- Moving the overburden to another hole
- A negative thing is habitat alternation

-underground mining

- Least alterations to the surface habitats
- More human health risk
- Humans can get hurt or even trapped in the mines

- Placer mining

- "Panning for gold"
- Picking up the streams from the bottom of the stream
- Disturbs the organism at the bottom

- Pumpin of a "solution" commonly used for rock salt and uranium

-tree plantations -

-solution mining

Laws to KNOW

Surface Mining Control and Reclamation act of 1977

- Have to do reclamation
- This law was put in place to put a bond in place so there is money to clean up the land after they are done mining
- Take all the structures that was used for minging
- Return the subsoil
- And replant the vegetation

Objectives covered

- The impacts of agriculture on soils.

- Benefits and disadvantages of inorganic commercial fertilizers? organic fertilizers?
- Impacts of irrigation (soil salinization, water logging, erosion)
- Meat production impacts

- The major causes of soil erosion and land degradation

- Deforestation

- The principles of soil conservation and specific solution for soil erosion and land degradation

- list and describe Agricultural practices to reduce erosion
- list and describe Agricultural practices to conserve soil nutrients
- List and describe Urban practices to reduce runoff

- The goals, methods and consequences of the Green Revolution

- The alternative strategies for pest management

- IPM (biological control and chemical control) Understand what each uses to fight pests and problems associated with each
- cause of Pesticide resistance

- The science and debate over genetically modified food

- GMO crops, what are they? How are they made?
- Pros and Cons of GMO use

- The environmental issues involved in raising animals for food

- Waste pollution
- Excess of greenhouse gases (methane)
- Disease spread
- Pollutiosn through transportation

- The environmental imperative of sustainable agriculture

- Organic Farming
- Industrial vs. sustainable agriculture

- The main ecological and economic contributions of forests

- The history and current issues of deforestation worldwide

- What is the SLOSS dilemma? How does this relate to the edge effect?
 - Single Large or Several small
- What are the impacts of habitat fragmentation on the animals in the environment?

- What is the value of using corridors?
- **The approaches to forest management including various methods of harvesting timber**
 - Clear cutting vs selective logging vs shelter woods vs salvage logging
 - Methods of conservation and their effectiveness.
 - Old growth forests and the benefits of maintaining them around the world.
 - Forest complexity: What are the layers and what types of animals live in each niche?
 - Causes and trends regarding deforestation.
- **The various types of protected land designation (this is your land use chart)**
- **The main types of mineral resources and their contributions to products and societies**
- **The major types of mining, including a specific mineral resource example for each**
- **Specific examples of environmental and social impacts of mining**
 - How can the land be restored after mining?
 - Acid Mine Drainage

Review worksheets Answer Key

Green Revolution Review

1. K
2. L
3. D
4. E
5. N
6. H
7. M
8. G
9. P
10. R
11. A
12. S
13. C

- 14. I
- 15. J
- 16. B
- 17. Q
- 18. O
- 19. F

Alternative to industrial Farming Review

- 1. B
- 2. J
- 3. F
- 4. G
- 5. K
- 6. E
- 7. A
- 8. D
- 9. C
- 10. H
- 11. L
- 12. J