

Names: _____

Chapter 9/10 Review

If the question says to 'discuss' or 'describe'

1. Define the topic
2. Describe or elaborate on the topic
3. State an example of that topic

1. Identify and describe 2 diseases of malnourishment.

1 Kwashiorkor: deficient in amino acids = Bloating abdomen	2 marasmus: lack of calories + protein deficiency - wasting/shrinking
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2. Describe a subsidy. Provide an example of an agricultural subsidy we have seen in class.

Describe Pay farmers to grow crops	example Corn is heavily subsidized can purchase below cost
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3. Identify the three major global sources of food.

1 Corn	2 Rice	3 Wheat
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4. Describe 3 characteristics of a domesticated plant or animal.

1 Cultivated by Humans	2 Desirable Traits	3
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5. Identify and describe 5 characteristics of industrialized, high input agriculture.

1 High Yield of crops
2 Lots of Water (irrigation)
3 Lots of pesticides (monocultures)
4 Lots of Nutrients/Fertilizers (monocultures)
5 Lots of Fossil Fuels (Transportation/Machinery)

6. What is the GREEN REVOLUTION?

High yield varieties w/ high input agriculture.

7. Identify and Describe 2 agricultural practices that increase crop yields.

↑ Fertilizers	↑ Pesticides
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8. For each environmental impact of the green revolution, provide at least 3 specific examples that illustrate that impact and one way we can remediate or lessen that environmental impact.

Environmental Impact	Example 1	Example 2	Example 3	remediation
Loss of Biodiversity	Monocultures	Use only 15 crops & livestock	GMO's	<ul style="list-style-type: none"> Use ancestral strains Diversity crops Local genotypes
Soil Degredation	Overgrazing causes Desertification	Deforestation causes erosion	Poor cultivation techniques	<ul style="list-style-type: none"> Conservation Techniques No-till/contour
Water Degredation	Eutrophication - Excess fertilizer	Eutrophication - Excess manure	Pesticides in water Kill/deform organisms.	Water treatment plants
Air Pollution	Methane from livestock	CO ₂ from fossil fuels - machinery	Nitrous Oxide - livestock	<ul style="list-style-type: none"> - Less livestock - Trap gasses indoors (dairy farms)
Human Health Concerns	GMO's	↑ pesticides	E. coli Salmonella antibiotics	<ul style="list-style-type: none"> - IPM - less animals

9. Describe 2 types of pest control used as part of integrated pest management.

GMO's, pesticides, predator/prey relationships

10. Identify 3 uses of GMO's in agriculture.

1 BT corn	2 golden rice	3
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11. Identify and Describe 2 types of commercial fishing.

Purse-seine
Long line

12. What is the main reason for the decline in fish populations? overfishing

13. Describe aquaculture.

Fish farming. Growing fish in pens.

14. Identify 3 problems associated with aquaculture.

1 ↑ pollution of waste/toxins/nutrients	2 ↑ in disease	3 ↓ biodiversity
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15. What is salinization? ~~Irrigation of soil~~ salts in water

16. What causes soil salinization? Irrigation of soil - water evaporates leaving salts behind

17. How can we remediate soil salinization? Flush w/ rain or unsalinated water

18. Identify and describe 3 health concerns with animal farming.

1 ↑ diseases like Salmonella/E. coli	2 ↑ resistance to antibiotics	3 More meat leads to increased Heart Disease
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19. What is soil erosion and what causes it?

~~water or wind moving water.~~ / lack of plants

20. Identify 2 problems with pesticides.

1 Increased resistance by pests	2 Health concerns.
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21. What element is the most persistent in pesticides? Cl

22. Explain why it is more efficient to eat grain than to eat meat. Consider both Land and Energy.

Land Need 2x's land - grow crops to feed animals + land for animals	Energy - Eating lower on food chain (plants) provides more of sun's energy to people.
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23. Identify and Describe 3 soil conservation practices.

Crop Rotation	No-Till Farming	Contour Farming
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24. What is colony collapse disorder? What is causing it?

Bees are losing 1/2 of hive. Synergy of pesticides/stress/monoculture/parasite.

25. Identify 2 physical properties of soil and 2 chemical properties of soil. Explain how each property is critical to soil health.

P1	Texture	Health water holding
P2	Profile / pH	Health growth
C1	pH	Health growth
C2	Nutrients	Health growth

26. Identify 3 environmental benefits of eating locally grown produce.

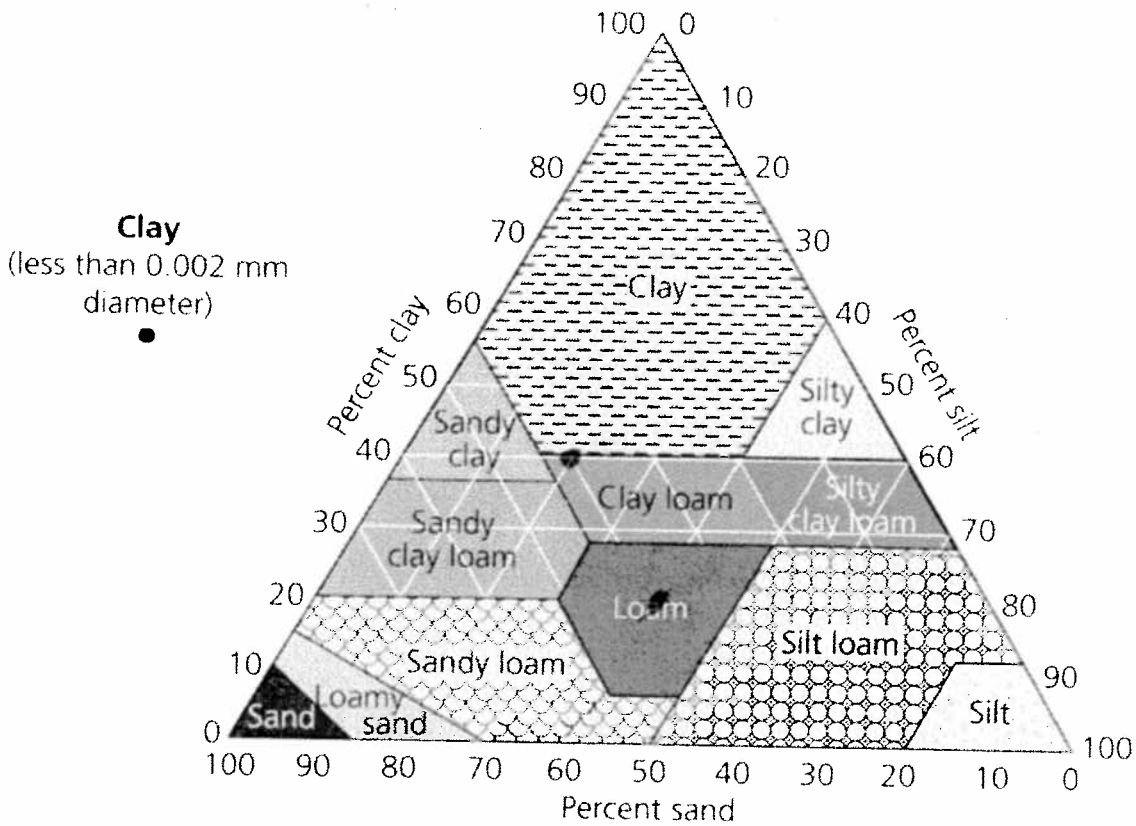
less pollution (air) from transportation	↑ biodiversity of local region	
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27. A student reads an advertisement from a fertilizer company. The advertisement claims their fertilizer increases the growth of tomato plants by 25 percent. Design an experiment to determine if this claim is correct. You will need to include a hypothesis, describe your experimental design, identify the control, identify the independent variable, identify the dependent variable.

Hypothesis:	If we apply fertilizer, the tomato plants will grow larger.
Design:	2 trials of 10 similar plants each 1 w/ fertilizer 1 w/out fertilizer Measure plant growth weekly for 4 weeks.
Control:	No fertilizer to plant
Independent variable:	Fertilizer
Dependent variable:	Plant growth

5) Tommy and Teagan are learning the process of good home gardening and decide to help their parents as best as they can. Every day they walk along rows of bean plants, carefully inspecting each plant for insects, and removing any that they find. However, the bean plants do not grow well, and few beans form. Their parents notice the poor beans, inspect the plants and soil, and tell the children that walking around the plants every day has hurt the plants by _____.

- A) compacting the soil, decreasing aeration and infiltration
- B) increasing soil aeration and killing soil microorganisms
- C) reducing the nutrient minerals in the soil
- D) converting the topsoil into clay
- E) contaminating the soil with toxins leaching from their shoes



Use the accompanying figure to answer the following questions.

- 1) This pyramid depicts soil _____.
- A) profiles
- B) nutrient content
- C) horizons
- D) textures
- E) parent materials

What type of soil is each of the following soil %'s:

40% clay, 10% silt, 50% sand Clay loam

20% clay, 40% silt, 40% sand Loam

3) Recombinant DNA _____.

- A) is pollination of one plant by another of the same species
- B) is cross-pollination of one plant by a different species
- C) is the merging of DNA from unrelated organisms
- D) is assembled in the lab from mononucleotides
- E) was part of the Green Revolution of the 1960s

5) Raising which of the following requires the most land and water per kg protein produced?

- A) beef cattle
- B) dairy cattle
- C) chickens
- D) pigs
- E) goats

7) Bt crops _____.

- A) have not yet been approved by the FDA
- B) include strawberries that are resistant to frost damage
- C) have been given a bacterial gene that gives chemical protection against insect pests
- D) have seeds that will only germinate under laboratory conditions
- E) are widely grown in Europe but have been banned in the United States

14) Which of the following best describes integrated pest management (IPM)?

- A) biocontrol measures, crop rotation, and habitat diversification
- B) major reliance on synthetic pesticides
- C) subsidies for pesticide use
- D) continuous monoculture cropping and harvesting
- E) transgenic crops

21) Seed banks are important for _____.

- A) agricultural investments in developing countries
- B) protecting monoculture productivity
- C) protecting genetic diversity
- D) loans to developing countries to promote organic agriculture
- E) providing farmers with the current year's GM crops