Name _____ Class _____ Date _____

Skills Worksheet

Critical Thinking

ANALOGIES

Mark the letter of the pair of terms that best completes the analogy shown. An analogy is a relationship between two pairs of words or phrases written as a : b :: c : d. The symbol : is read "is to," and the symbol :: is read "as."

_____ **1.** humans : food ::
- **a.** prey : predators
- **b.** cars : gasoline
- **c.** proteins : carbohydrates
- **d.** fish : water

_____ **2.** manure : chemical fertilizers ::
- **a.** sprinklers : ditches
- **b.** pesticides : weeds
- **c.** mule : tractor
- **d.** fertilizing : plowing

_____ **3.** wild animals : livestock ::
- **a.** meat : factory farming
- **b.** fishing : aquaculture
- **c.** farmland : forest
- **d.** compost : sustainable agriculture

_____ **4.** land degradation : desertification ::
- **a.** crops : soil fertility
- **b.** farming : grazing
- **c.** topsoil : plowing
- **d.** erosion : topsoil loss

_____ **5.** breeding : genetic engineering ::
- **a.** farming : arable land
- **b.** terracing : topsoil
- **c.** manure : chemical fertilizer
- **d.** ruminants : plant material

_____ **6.** meat : food from plants ::
- **a.** concentrated nutrients : low production costs
- **b.** large land area : high energy demand
- **c.** low nutritional value : low consumer cost
- **d.** high consumer cost : concentrated nutrients

_____ **7.** amino acids : proteins ::
- **a.** legumes : nitrogen
- **b.** sugars : carbohydrates
- **c.** fatty acids : fish
- **d.** vitamins : calories

_____ **8.** drought : famine ::
- **a.** war : unequal food distribution
- **b.** subsistence farming : yield
- **c.** monocropping : high yield
- **d.** efficiency : green revolution

_____ **9.** earthworms : soil aeration ::
- **a.** clay : chemical weathering
- **b.** rhizobium bacteria : nitrogen fixation
- **c.** menhaden : commercial fishing
- **d.** crops : integrated pest management

_____ **10.** irrigation : salinization ::
- **a.** pesticide resistance : evolution
- **b.** insects : growth regulation
- **c.** no-till farming : soil conservation
- **d.** overgrazing : desertification

INTERPRETING OBSERVATIONS

Read the following passage, and answer the questions that follow. As you read the passage, keep in mind that wild plants are often better protected from pests than are crop plants.

> Before the advent of large-scale agriculture, farmers had fewer problems with insects and crop disease. These problems stem from the modern system of single-crop farming in which large areas of land are devoted to growing one crop only. Monocropping—another term for single-crop farming—expedites the adaptation and reproduction of plant parasites and reduces their chances of responding against these organisms.

11. Why would planting large areas with a single-crop plant expedite the adaptation and reproduction of plant parasites?

12. How does single-crop farming reduce the chances of plants to respond naturally against the insects that affect them?

AGREE OR DISAGREE

Agree or disagree with the following statements, and support your answer.

13. If we develop salt-tolerant plants, we may be able to use ocean water for crop irrigation.

14. Political and economic problems can be more important than agriculture yields in determining whether people go hungry.

15. It would be better to engineer pest resistant crops than to rely on chemical pesticides.

16. The green revolution made it possible for subsistence farmers to grow more and produce a surplus to sell.

REFINING CONCEPTS

The statements below challenge you to refine your understanding of concepts covered in the chapter. Think carefully, and answer the questions that follow.

17. Explain how biological pest control can kill only the target pest while chemical insecticides kill many different kinds of insects.

18. Explain why the heavy use of chemical insecticides in agriculture makes it necessary to regularly develop new insecticides.

19. Explain how political problems can be more important than agricultural yields in determining whether people go hungry.

20. Describe two farming practices that can help reduce soil erosion by water.