**Agriculture Biology Unit 1 Test Review – Answer Sheet**

1. Does an ecosystem support more autotrophs or heterotrophs? Autotrophs (there are waaaaayyy more plants in the world than animals!)

2. Draw a food chain with at least 4 organisms in it. Label each of the organisms as a producer or consumer and include what level each is: 

3. Draw a food web that includes at least 10 organisms. Label each organism as a producer or tell what level of heterotroph it is.



4. How are animals able to survive while hibernating? Their heartrate slows, allowing them to use significantly less energy to survive so they can live on their food reserves.

5. How does energy change as it goes through living systems?

Light energy 🡪 chemical energy 🡪 heat energy

6. How much energy is LOST every time you go up a level on the energy pyramid? 90%

7. How much food do animals need to eat? Enough to balance out the amount of energy it takes to acquire the food and survive.

8. If there are 100,000 kcal (J) available at the producer level, how much of that energy would the tertiary consumer get? 100 kcal (primary consumer: 10,000 kcal; secondary consumer: 1,000 kcal; tertiary consumer: 100 kcal.)

9. In a food chain, which trophic level contain the greatest number of organisms? Producer

10. In a food chain, which trophic level has the greatest amount of energy? Producer

11. What are 2 reasons animals migrate? Food, weather

12. What are organisms that digest dead plant and animal tissues called? Decomposers

13. What do primary consumers eat? Producers (plants)

14. What is the main source of energy to all organisms? The sun

15. What level consumer is a snake that eats mice who eat grass? Secondary consumer

16. What level of consumer are grasshoppers that eat grass? Primary consumer

17. What might happen in an ecosystem if the number of organisms in the third tropic level exceeded the number of organisms in the second trophic level? The number of organisms in the third trophic level would eventually start to go down because there would not be enough food.

18. What type of organism is able to produce and use energy in the process of photosynthesis? Producers (autotrophs, or plants)

19. Why is energy lost as you move up the food pyramid? Because a lot of the energy consumed is wasted or used in daily functions and lost as heat. Only 10% of energy consumed goes to growth of the organism.

20. Which uses the most fossil fuel energy to produce food? Developed countries or third world countries? (fossil fuel is what we use to fuel our vehicles). Developed countries.

21. List the steps of the scientific method:

Question, Hypothesis, Experiment, Collect Data, Analyze Data, Conclude, Share Results

22. When creating a graph of scientific data, where does the independent variable go?

On the x-axis (the bottom of the graph)

23. When creating a graph of scientific data, where does the dependent variable go?

On the y-axis (the side of the graph)

24. What is the independent variable? The part of the experiment that you can control.

25. What is the dependent variable? The part of the experiment that changes based on the independent variable.

26. What is bias? Give an example.

Allowing your opinion or schema to influence the representation of facts.

27. What is carrying capacity? The number of organisms an ecosystem can support

28. What is the definition of limiting factors? Things that limit population. Food, water, shelter, predators, disease

29. Skip this question!

30. Skip this question!

31. What happens to populations when there is an unlimited amount of resources? It grows and doesn’t stop growing. Exponential growth.

32. What is a trophic cascade? When there is a change in one level of the food chain and it impacts the rest of the food chain.

33. What is the difference between an observation and an inference? An observation is a fact that everyone can see. An inference is an assumption made based on what you observe.