

Name: _____ Date: _____ Class period: _____

Study Guide for the 7th grade Science Final

1. After completing an experiment, a scientist should _____.
2. Susie wants to see which type of bird seed attracts the most birds. She uses sunflower seeds, corn, and cheap mixed seeds. She places 3 of the same bird feeders in the same location with the same amount of bird seed in each. Susie recorded her results.
 - a. Independent Variable: _____
 - b. Dependent Variable: _____
 - c. Constants: _____
 - d. What should be Susie's hypothesis? _____

 - e. What should Susie do before she finalizes and publishes her results? _____

3. While walking through the rainforest, a scientist finds 2 beetles. The beetles have similar body structures, reproduction, and growth development but have different colors and different sized antennae. These beetles are most likely in the same _____
4. Describe what tool should be used to measure the following things:
 - a. Mass of an apple: _____
 - b. Length of an inch worm: _____
 - c. Temperature of water: _____
 - d. Volume of soda: _____
5. Read the following graph. Which temperature was ideal for bacteria strain 45? _____
Which temperature was not ideal for bacteria strain 45? _____

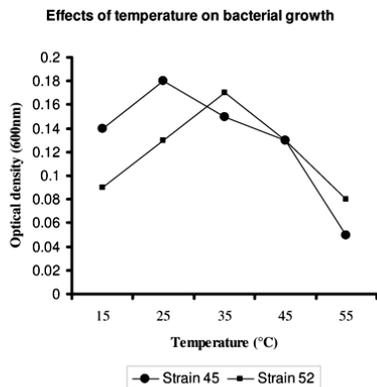
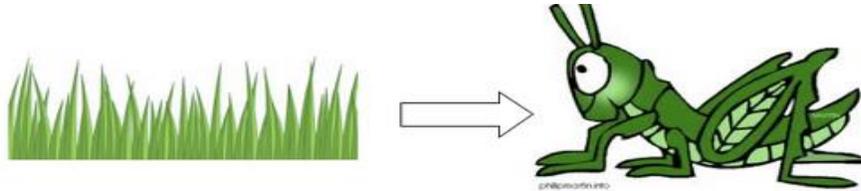


Figure 2. Effect of temperature on growth of strains 45 and 52.

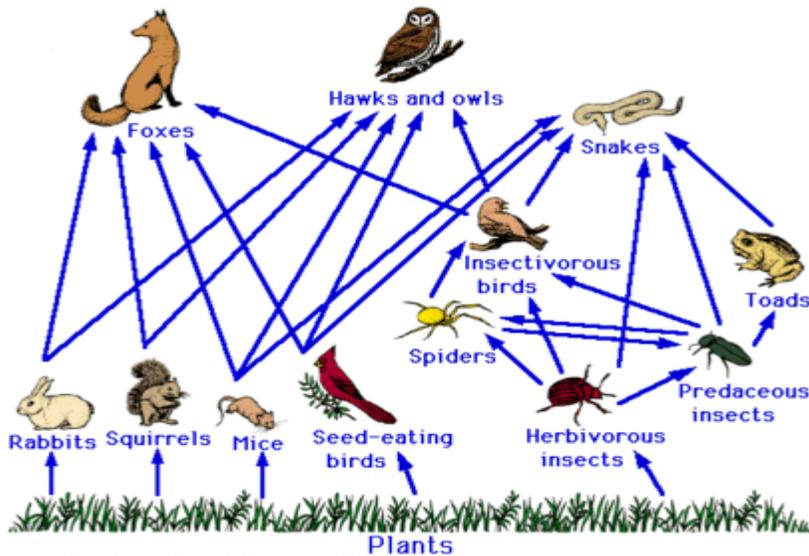
6. Circle the final stage of mitosis shown below



7. The mitochondria provides _____ for the cell.
8. Circle the following that need CO₂ to survive
 a. Frog b. daisy c. mushroom
9. Oxygen is a product of _____ and a reactant of _____.
10. Exhaust from a car puts _____ back into the atmosphere.
11. The following picture shows energy being transferred from a _____ to a _____.



12. Use the following food web to answer the questions



- a. Which species would increase in competition if the number of rabbits decreased? _____
- b. What may cause an increase in toads? _____

13. Circle the following that are decomposers

- a. Vulture b. fungi c. bacteria d. plants

14. Circle the following that shows a parasitic relationship

- a. Flea on a dog c. clown fish and a sea anemone
 b. Lice on a student d. bird building a nest in a tree

15. This animal loves warm weather. It eats fruits and lives high in tall trees with big leaves. This animal is also very brightly colored. Which biome does this animal probably live in?

16. Explain the days and nights in a desert: _____

17. List 1 adaptations that plants must have in the desert _____

18. List 1 adaptation that animals must have in the desert _____

19. What explains a population growing rapidly? _____

20. If too many nutrients are found in the water, what might happen to the animals living in that area? _____

21. What might have caused large mammals to go extinct in prehistoric times when humans started hunting? _____

22. The burning of _____ may cause greenhouse gases to form.

23. Circle all of the inherited traits listed below

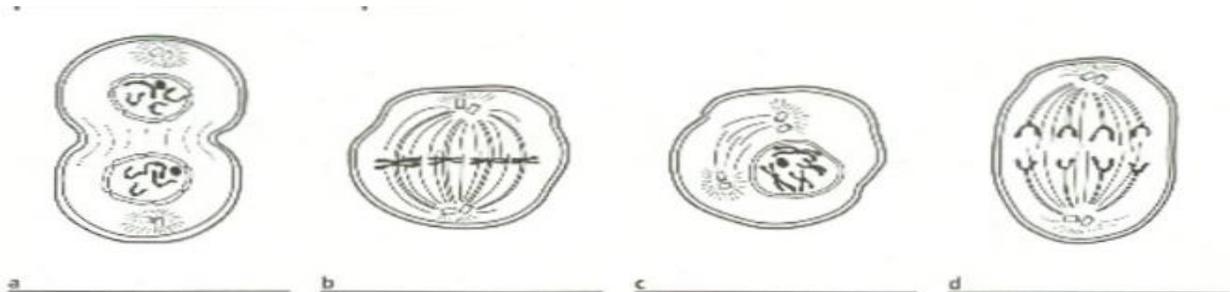
- a. Basketball skills
- b. Bird building a nest
- c. Eye color
- d. spider spinning a web
- e. scar
- f. height

24. A mother has 6 children. All of them have freckles. The father does not have freckles (ff) .

- a. What is most likely the mother's phenotype? (does she have freckles?) _____
- b. Are freckles dominant or recessive? _____
- c. What could be the mother's genotype? (the letters) _____

25. Scientist use the _____ to examine prehistoric animals and compare them to modern day animals. This helps support the theory of _____ developed by Charles Darwin.

26. The division of body cells is called _____. Label the following stages of this type of cell division.



27. Match the following jobs of organelles with the correct organelle

- a. Nucleus _____ 1. The gatekeeper; lets stuff in and out of the cell
- b. Mitochondria _____ 2. Where photosynthesis takes place

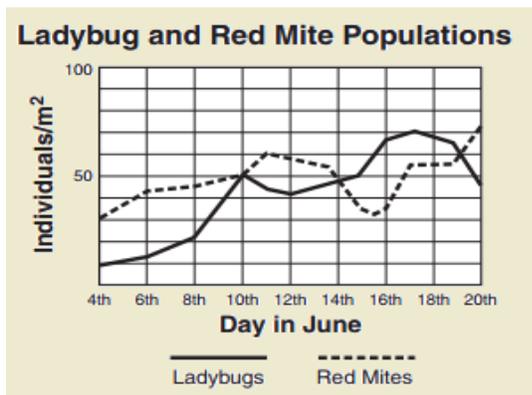
- c. Vacuole _____ 3. Provides energy for the cell
- d. Chloroplast _____ 4. Controls the cell activity
- e. Cell wall _____ 5. Storage for the cell; larger in plants
- f. Cell membrane _____ 6. Provides structure for the plant cell
- g. Cytoplasm _____ 7. Jellylike substance- holds organelles in place

28. Fill in the missing levels of organization:

_____ - tissues- _____ - organ system

29. A permanent change or damage in the genes or DNA is called a _____.
30. A mutation can lead to a greater diversity in animals which will increase an organism's chance of _____.
31. Trevor collects a sample from a pond. He looks at his sample under a microscope. He finds 1 organism. It is green, has a visible vacuole, is square, and has a chloroplast. What kind of organism is Trevor looking at? _____
32. Which taxonomic group has the most similarities? _____ Which taxonomic group has the least similarities? _____
33. Circle the following that show genetic engineering:
- a. Increase in size of animals being used for meat
 - b. Insect resistant plants
 - c. Increase in farm land
 - d. Longer lasting fruits
34. Gazelles are brown in color to camouflage and graze on grasses. They are also very fast to escape predators. Where does the gazelle most likely live? _____

35. Read the following graph and answer the following questions. Ladybugs are predators of red mites.



1. Which day had the highest mite population?

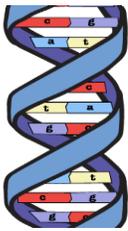
2. Which day had the lowest mite population?

3. Which day had the highest lady bug population?

4. Which day had the lowest lady bug population?

5. Why did the mite population increase on the 11th day? _____
6. Why did the mite population decrease around the 16th day? _____

36. The following picture shows what structure? _____



37. How are tadpoles different from adult frogs? _____

38. Ring tailed lemurs are found on the island of Madagascar and live in the rainforest there. What is most likely to happen to the population if a company comes in and cuts down the trees?

39. Which of the following is a DOMAIN?

- a. Animals
- b. Bacteria
- c. Monotremes
- d. Invertebrates

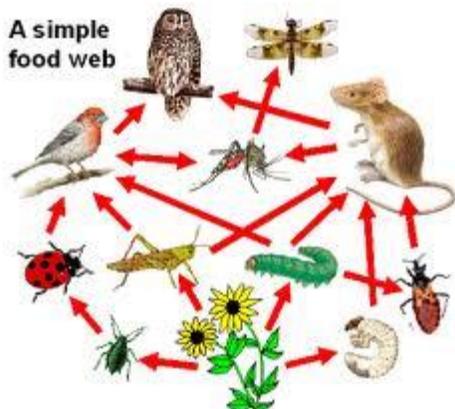
40. TRUE or FALSE: A albino monkey that lives in the rainforest is a trait that will help the organism to survive.

41. Circle the abiotic factors and underline the biotic factors:

- a. Wind
- b. Cat
- c. Butterfly
- d. Water
- e. Soil
- f. Pine tree

42. A herbivore gets energy by eating _____. A carnivore gets energy by eating _____

43. Use the food web to answer the following questions



1. What is the producer: _____
2. The mouse is acting as which level(s) of consumer?

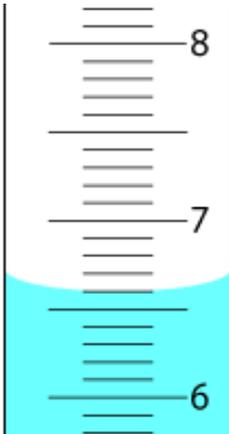
3. The grasshopper is acting as which level(s) of consumer? _____
4. The owl is acting as which level(s) of consumer?

44. Osmosis is the movement of _____ . _____ is the movement of other substances across a cell membrane.

45. Match the following terms with the correct definition:

- | | | |
|---------------|-------|--|
| a. Organism | _____ | a. All of the living organisms in an area |
| b. Population | _____ | b. 1 living thing |
| c. Community | _____ | c. All of the abiotic and biotic things in an area |
| d. Ecosystem | _____ | d. All of the members of 1 species living in an area |

46. What is the measurement in the following graduated cylinder? _____



47. Read the following dichotomous key and identify the insect below. _____



Key to Insect Orders

1. Does the insect have wings?
 - a. Yes.....Go to 2.
 - b. No.....Go to 6.
2. How many pairs of wings does the insect have?
 - a. one.....Order Diperta.
 - b. two.....Go to 3.
3. Does the insect have very short antennae?
 - a. yes.....Go to 4.
 - a. no.....Order Odonata.
4. Are there two or three long, slender, tail-like appendages at the tip of the abdomen?
 - b. yes.....Order Ephemeroptera.
 - b. no.....Go to 5
5. Does the insect have five segments on each leg?
 - a. yes.....Order Neuroptera.
 - b. no.....Order Isoptera.
6. Is the insect ant-like with a narrow waist?
 - a. yes.....Order Hymenoptera.
 - b. no.....Go to 7.
7. Are the antennae long, and composed of many segments?
 - a. yes.....Order Psocoptera.
 - b. no.....Order Mallophaga.