Seed Germination Quiz C. Kohn, Waterford WI

Name: Hour Date:

Use the picture below to answer the following questions:


A

B

C

D

E

F

G

1. This is the seed coat
	1. A b. B c. C d. D
2. This is the radicle
	1. A b. B c. C d. D
3. This is the source of nutrition for the newly developing plant
	1. A b. B c. C d. D
4. This is the hypocotl
	1. C b. D c. E d. F
5. This is the first part of the plant to emerge from the seed during germination
	1. C b. D c. E d. F
6. This is the plumule and will become the first leaves
	1. C b. D c. E d. F
7. This must be converted into sugar before germination can begin
	1. A b. B c. C d. D
8. This is the waterproof, outermost part of the seed that protects it from temperature fluctuations
	1. A b. B c. C d. D
9. What is the first step of germination?
	1. The seed must be chilled
	2. The seed must be cracked open
	3. The seed must absorb water
	4. The seed must be underground
10. Which of the following components of plant physiology is most responsible for the increase in size of the emerging embryonic plant during germination?
	1. Photosynthesis
	2. Genetic replication
	3. Amino acid synthesis
	4. Turgor pressure from water absorption
11. Which of the following most determines whether or not a seed will germinate?
	1. The endosperm is converted into sugar
	2. The seed doesn’t rot
	3. The seed stays dry
	4. The seed is not exposed to light
12. Why is oxygen necessary for germination to occur?
	1. Oxygen will form water when it is exposed to hydrogen in the soil
	2. Plant cells consume oxygen during cellular respiration
	3. Plants give off oxygen during photosynthesis
	4. Oxygen is needed to create protein, the functional part of a plant cell
13. What is the ideal temperature for seed germination in most cases?
	1. Freezing weather (30s-40s)
	2. Cool spring weather (50s-60s)
	3. Room temperature (70s)
	4. Hot sun (80s)
14. What is germination rate?
	1. The amount of time it takes a seed to germinate
	2. The number of seeds that germinate from an entire group
	3. The speed at which the plant photosynthesizes
	4. The rate at which seeds can be planted
15. If the endosperm is consumed before the seedling emerges, what will happen?
	1. The growth of the plant will be slower than other plants
	2. The plant will be infertile
	3. The seed will rot
	4. The seedling will not be able to grow anymore and will die
16. What is a coleoptile?
	1. A sheathlike structure that covers the plumule in the embryo
	2. A sheathlike structure that covers the radicle in the embryo
	3. The embryonic root
	4. The embryonic leaves
17. The seeds of temperate plants do not germinate in fall despite having ideal germination conditions. Why?
	1. The seeds are not yet mature and cannot germinate
	2. The seeds are coated in phenolic compounds that only break down in cold weather
	3. The seeds are coated in abscisic acid compounds that only break down in cold weather
	4. The seed coat must be completely worn off
18. In warm climates that do not have varying temperatures, what activates seed germination?
	1. Sunlight
	2. Wind
	3. Manure
	4. Rain
19. What is vernalization?
	1. The last phase of germination
	2. The process in which plant germination percentage increases because of exposure to cold weather
	3. The process in which plant germination percentage increases because of exposure to wet weather
	4. The process in which the endosperm is aged so that it does not rot and kill the seedling
20. Which of the following would NOT be helpful in improving germination rate and percentages?
	1. Keeping the seeds dry while in storage
	2. Chilling the seeds before planting them
	3. Keeping the soil wet during the first several weeks of growth
	4. Exposing small seeds to sunlight
21. Why are some seeds planted deeper than others?
	1. ABA is inactivated by sunlight in some seeds
	2. Small seeds do not have the supplies of energy and nutrition available to push through inches of soil
	3. Large seeds are unable to absorb enough water if planted too deep
	4. Small seeds must be kept out of the sunlight or they will dry up
22. Extra Credit: what does it mean if a plant has facultative vernalization?
	1. Vernalization is not necessary for development but does speed it up
	2. Vernalization is entirely necessary for germination; for example, blueberries cannot grow in Florida but grow great in Canada because they are facultative vernalizers
	3. The plant must be exposed to rain before the inhibitors of germination of disabled
	4. The plant must be exposed to rain before it will germinate