\_\_\_\_\_ 1. . Which would be a genetic transmission of a disease?

A. A wound becomes infected with bacteria.

B. A virus is transmitted when a father drinks after his sick son.

C. A child develops a heart condition that was present in his father.

D. A woman catches a cold after several of her coworkers have been sick.

\_\_\_\_\_ 2. The ability to roll one’s tongue is inherited as a dominant trait. Which best explains how two tongue-rolling parents produce a child who can NOT role his tongue?

A. A dominant mutation must occur in the child’s DNA.

B. One parent must carry a dominant and a recessive allele.

C. Both parents must carry a dominant and a recessive allele.

D. The child inherited at least one dominant allele from a parent.

\_\_\_\_\_ 3. In humans, free-hanging earlobes are dominant to attached earlobes. If two parents with attached earlobes have a child, what is the probability of their producing a child with free-hanging earlobes?

A. 0% B. 25% C. 50% D. 100%

\_\_\_\_\_ 4. Which is a function of the cell wall?

A. storage B. transcription C. structural support D. energy production

\_\_\_\_\_ 5. Which is a correct statement about prokaryotic and eukaryotic cells?

A. DNA is only found in eukaryotic cells.

B. RNA is only found in prokaryotic cells.

C. Circular RNA strands called plasmids are only found in eukaryotic cells.

D. Circular DNA strands called plasmids are only found in prokaryotic cells.

\_\_\_\_\_ 6. A student observes pictures of cells from a fern leaf, a bacterium, and a human cheek cell. What will distinguish the bacterium from the other two cells?

A. lack of cilia B. lack of a nucleus

C. lack of cytoplasm D. lack of chloroplasts

\_\_\_\_\_ 7. Euglena are photosynthetic. Which organelles would be most important to the survival of euglena?

A. eyespots and flagella B. pseudopodia and eyespots

C. flagella and contractile vacuoles D. contractile vacuoles and eyespots

\_\_\_\_\_ 8. Which would identify an unknown cell as a liver cell as opposed to a pancreas cell?

A. A liver cell has different DNA from a pancreas cell.

B. Different segments of DNA are active in the two cells.

C. The location of the cell in the organism determines its function.

D. Hormones which are present determine whether it is a liver cell or a pancreas cell.

\_\_\_\_\_ 9. Which action would be most helpful in maintaining homeostasis?

A. running a race B. eating an apple

C. walking up steps D. sweating on a hot day

\_\_\_\_\_ 10. To enter and leave the cell, sodium requires an energy-intensive pump. Which describes the process of sodium moving into and out of the cell?

A. osmosis B. diffusion C. active transport D. passive transport

\_\_\_\_\_ 11. Some cells convert glucose to carbon dioxide and water. What is the purpose of this process in cells?

A. to aid in reproduction B. to dispose of waste glucose

C. to make food by photosynthesis D. to change energy to a form that the cell can use

\_\_\_\_\_ 12. The diagrams below show the various stages of the cell cycle.



Which correctly lists the stages of the cell cycle in order?

A. 2, 1, 5, 3, 4 B. 4, 2, 5, 1, 3

C. 2, 4, 5, 1, 3 D. 4, 2, 1, 5, 3

\_\_\_\_\_ 13. Which factor least affects the rate of photosynthesis?

A. intensity of light B. availability of water

C. amount of oxygen present D. environmental temperature

\_\_\_\_\_ 14. A potential cancer treatment targets cells during mitosis. It works most effectively when the chromosomes are aligned at the center of the cell. During which phase of mitosis does this occur?

A. anaphase B. metaphase C. prophase D. telophase

\_\_\_\_\_ 15. What is a difference between cells produced through mitosis and those produced through meiosis?

A. Mitosis produces cells with larger genes than those produced through meiosis.

B. Mitosis produces cells that lack genes, and those produced through meiosis have genes.

C. Mitosis produces cells with genes that are more vulnerable to disease than those produced through meiosis.

D. Mitosis produces genetically identical cells, and those produced through meiosis have random combinations of parents’ genes.

\_\_\_\_\_ 16. Which process occurs during meiosis, but does NOT occur during mitosis?

A. crossing over B. gene mutation

C. nuclear division D. replication of DNA

\_\_\_\_\_ 17. How many chromosomes are in a human sperm cell?

A. 12 B. 23 C. 46 D. 92

\_\_\_\_\_ 18. What is demonstrated when a red flower is crossed with a white flower to produce pink flowers?

A. complete dominance B. incomplete dominance

C. complete recessiveness D. incomplete recessiveness

\_\_\_\_\_ 19. The pedigree below represents a sex–linked trait in four generations of a family.



Which best represents the phenotype of Individual II–6?

A. an affected male B. an affected female

C. a normal male, carrier D. a normal female, carrier

\_\_\_\_\_ 20. Red-green colorblindness is more common in men than in women. Which best explains this fact?

A. The allele for colorblindness is dominant in men and recessive in women.

B. Men only need one allele for colorblindness, while women need two alleles.

C. The allele for colorblindness is carried on the Y-chromosome so only men get it.

D. Women have other allele pairs which cover the colorblind allele, while men do not.

Words you should know matching quiz:

1. Metaphase \_\_\_\_\_
2. Microscope \_\_\_\_\_
3. Monosaccharide \_\_\_\_\_
4. Nondisjunction \_\_\_\_\_
5. non-flowering plants \_\_\_\_\_
6. non-native species \_\_\_\_\_
7. nonvascular plants \_\_\_\_\_
8. omnivore \_\_\_\_\_
9. ovaries \_\_\_\_\_
10. pathogen \_\_\_\_\_
11. permeable \_\_\_\_\_
12. phagocytes \_\_\_\_\_
13. photosynthesis \_\_\_\_\_
14. phototaxis \_\_\_\_\_
15. phylogenetic tree \_\_\_\_\_
16. plasma membrane \_\_\_\_\_
17. predisposed \_\_\_\_\_
18. prokaryote \_\_\_\_\_
19. pseudopod \_\_\_\_\_
20. sexual reproduction \_\_\_\_\_
21. failure of sister chromatids or chromosomes to separate during meiosis
22. meat and plant eater
23. the moving of an organism in response to light
24. type of cell with no nucleus
25. false foot adaptation of some unicellular organisms
26. single sugar, i.e. glucose or fructose
27. ovum producing organ
28. gymnosperms
29. anything that can produce a disease
30. an instrument used to see objects too small to be seen with the naked eye
31. shows the evolutionary relationships between organisms over time
32. allowing liquid or gases to pass through
33. plants that do not have xylem or phloem
34. separates the interior of a cell from the exterior of a cell
35. make something inclined or more possible to happen
36. invasive species
37. phase of mitosis when chromosomes line up in the center of the cell
38. reproduction with two parents
39. process by which glucose is produced from sunlight and water
40. cells in the body that ingest foreign invaders