Mendel and Genetics-- Vocabulary Probe

1 C Heredity	a. the study of heredity
2 A Genetics	b. plants Mendel used that always produced the same trait 100% of the time
3 B True (pure) Breeding	c. passing on characteristics to offspring
4 G Alleles	d. the form of a trait that is always expressed
5 D Dominant	e. two alleles of the same type
6 H Recessive	f. two alleles that are different
7 E Homozygous	g. different versions of a gene- one from each parent
8 F Heterozygous	h. the form of a trait not expressed when the dominant is present

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9 M Genotype	i. a diagram showing how a trait is inherited in a family
10 K Phenotype	j. individuals possess two alleles for each trait and will pass only one of the two randomly to their offspring
11 I Pedigree	k. the physical appearance of a trait
12 J Law of Segregation	l. alleles of different genes separate independent of one another when gametes are formed
13 L Law of Independent Assortment	m. the types of alleles an individual has for a trait

Modes of Inheritance:

14 B Complete dominance

15 G Incomplete dominance

16 A Codominance

17 E Multiple Alleles

18 D Autosomal Inheritance

19 C Sex-linked Inheritance

20 F Polygenic Inheritance

a. two alleles can be dominant-- for example in type AB blood

b. the dominant trait is always expressed when the phenotype is heterozygous

c. characteristics found on the X chromosome

d. trait found in both sexes equally

e. a trait controlled by three or more alleles like blood type

f. many genes control the traits as in eye color and hair color so that you have many variations

g. there are three possible phenotypes and the heterozygous is an intermediate form

Genetic Disorders

21 J Sickle Cell Anemia

22 K Cystic Fibrosis

23 H Hemophilia

24 I Huntington's Disease

H. a disorder that causes bleeding because blood does not clot properly

I. a disease that becomes apparent around ages 30-40 and causes deterioration of brain tissue and loss of muscle control and severe cognitive deficits

J. a recessive disorder that causes defective hemoglobin that changes the shape of blood cells causing pain and organ dysfunction

K. most common recessive disorder in Caucasians that results in lungs becoming clogged with mucus because these individuals don't make a protein necessary

DNA Structure/Replication/Meiosis Vocabulary Probe

1 C meiosis	a. is produced when sperm and egg join
2 D haploid	b. DNA is made of many of these subunits (monomers)
3 E diploid	c. a process that produces gametes (reproductive cells)
4 B nucleotides	d. a reproductive cell that has half the chromosomes of the parent cell
5 A zygote	e. a cell with two full sets of chromosomes
6 G fertilization	f. a source of variation that happens when pieces of homologous chromosomes are exchanged during ProphaseI
7 F crossing over	g. happens when sperm and egg join

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8 L replication	h. the sugar component of DNA
9 H deoxyribose	i. many different gene combinations in a population
10 M tetrad	j. an enzyme that bonds free nucleotides in replication
11 I genetic variation	k. an enzyme that splits (unzips) the DNA strand
12 N complementary	l. a process that creates a copy of DNA
13 K DNA helicase	m. four chromosomes (two pairs of homologous chromosomes)
14 J DNA polymerase	n. when two specific nitrogen bases bond together
15 O Random alignment	o. how tetrads arrange themselves side by side in Metaphase I

Protein Synthesis Vocabulary Probe

1 J point mutation	a. organelle that is the location of protein synthesis
2 I frameshift mutation	b. brings amino acids to the ribosome
3 A ribosome	c. enzyme that is needed in transcription
4 E nucleus	d. what ribosomes are made of
5 H transcription	e. the site where transcription takes place
6 G translation	f. carries DNA's coded message to the ribosome
7 C RNA polymerase	g. process that converts mRNA's message into a protein
8 D rRNA	h. process of converting (rewriting) DNA into RNA
9 B tRNA	i. insertion or deletion
10 F mRNA	j. substitution
11 Q peptide bond	k. three base code on tRNA
12 L codon	l. three base code on mRNA
13 K anticodon	m. the site where translation begins
14 M P site	n. the site where the tRNA leaves the ribosome
15 O A site	o. the site which receives the next tRNA in translation
16 N E site	p. a change in the DNA
17 R polypeptide	q. the bond between amino acids
18 P mutation	r. a string of amino acids

Name _____ Class _____ Date _____

Skills Worksheet

Vocabulary Review

Complete each statement by writing the correct term or phrase from the list below in the space provided.

abiotic factors	ecology	primary succession
biodiversity	ecosystem	secondary succession
biotic factors	habitat	succession
community	pioneer species	

1. The number of species living within an ecosystem is a measure of its BIODIVERSITY.

2. A somewhat regular progression of species replacement is called SUCCESSION.

3. A(n) ECOSYSTEM consists of a community and all the physical aspects of its habitat, such as the soil, water, and weather.

4. The living organisms in a habitat are called BIOTIC FACTORS.

5. The first organisms to live in a new habitat are small, fast-growing plants called PIONEER SPECIES.

6. Succession that occurs where plants have not grown before is called PRIMARY SUCCESSION.

7. The many different species that live together in a habitat are called a(n) COMMUNITY.

8. The study of the interactions of living organisms with one another and with their environment is called ECOLOGY.

9. Succession that occurs where previous growth has occurred is called SECONDARY SUCCESSION.

10. The physical aspects of a habitat are called ABIOTIC FACTORS.

11. The place where a particular population of a species lives is called its HABITAT.

Name _____ Class _____ Date _____

Vocabulary Review *continued*

In the space provided, write the letter of the description that best matches the term or phrase.

F 12. primary productivity
D 13. producers
I 14. consumers
K 15. trophic level
M 16. food chain
Q 17. herbivore
P 18. carnivore
O 19. omnivore
L 20. detritivore
N 21. decomposers
A 22. food web
G 23. energy pyramid
C 24. biomass
B 25. biogeochemical cycle
E 26. ground water
J 27. transpiration
H 28. nitrogen fixation

a. an interconnected group of food chains
b. a pathway formed when a substance enters a living organism, stays for a time in the organism, then returns to the nonliving environment
c. the dry weight of tissue and other organic matter found in a specific ecosystem
d. organisms in an ecosystem that first capture energy
e. water retained beneath the surface of Earth
f. the rate at which organic material is produced by photosynthetic organisms
g. a diagram in which each trophic level is represented by a block with a width proportional to the amount of energy stored in the organisms at that trophic level
h. the process of combining nitrogen with hydrogen to form ammonia
i. organisms that obtain energy by consuming plants or other organisms
j. the evaporation of water from the leaves of plants
k. a level in a diagram based on the organism's source of energy
l. an organism that obtains energy from organic wastes and dead bodies
m. the path of energy through the trophic levels of an ecosystem
n. bacteria and fungi that cause decay
o. an animal that is both a herbivore and a carnivore
p. an animal that eats other animals
q. an animal that eats plants or other primary producers

Evolution Vocabulary Probe

1 C natural selection	a. a group of the same organism that can interbreed
2 D genetic variation	b. structures that no longer have a functional purpose
3 A species	c. a process in which individuals that best fit the environment survive to reproduce at a higher rate
4 F adaptation	d. differences in individuals within the same species
5 H gradualism	e. similar structures in different species that indicate a common ancestor
6 G punctuated equilibrium	f. changes in a species over time to fit the environment
7 E homologous	g. hypothesis that evolution occurs in bursts of rapid change
8 B vestigial	h. hypothesis that evolution occurs at a slow constant rate
9 I divergence	i. accumulation of differences between two populations
10 L directional selection	J. random change in allelic frequency not selected for
11 R stabilizing selection	K. a small group of a species starts a new population
12 Q disruptive selection	L. change in allelic frequency towards one extreme
13 M speciation	M. a new species-- unable to interbreed with members of the original group
14 J genetic drift	N. emigration or immigration--genes move in or out
15 N gene flow	O. describes a phenomenon (mathematically)
16 K founder effect	P. a prediction of what will happen based on prior knowledge or experience
17 S theory	Q. change in allelic frequency toward both extremes
18 O law	R. change in allelic frequency toward the middle
19 P hypothesis	S. an explanation for a natural phenomenon

Biotechnology Vocabulary Probe

1 D palindrome	A. a circular piece of bacterial DNA that can replicate itself
2 A plasmid	B. DNA from two or more different species
3 B recombinant DNA	C. unpaired bases segments that remain after DNA is cut by a restriction enzyme
4 H restriction enzymes	D. a sequence of DNA bases that are the same backwards and forwards
5 C sticky ends	E. seaweed powder that is used to make gels for electrophoresis
6 G vector	F. a process used to separate DNA fragments by size to create a DNA fingerprint
7 E agarose	G. used to transfer DNA into a host cell; plasmids, viruses, and yeast
8 F gel electrophoresis	H. they cut at specific locations on DNA
9 K transgenic organism	I. an undifferentiated cell; a cell whose job is not determined and could turn into any kind of cell
10 L gene splicing	J. making an exact copy of an organism using its DNA
11 J cloning	K. an organism that contains DNA from two or more species
12 M gene therapy	L. cutting and reattaching different pieces of DNA with sticky ends
13 N PCR	M. inserting normal genes into human cells to treat diseases
14 I stem cell	N. a process to make many copies of a DNA sample to use in testing
15 P totipotent	O. found in umbilical cords and adults; can become a restricted range of cells
16 Q pluripotent	P. found in early embryos; can become any type of cell
17 O mulitpotent	Q. found in late embryos and fetuses; can become almost any kind of cell

Digestion/ Circulation Vocabulary Probe

1 F pancreas	a. prevents food from moving into the trachea
2 E peristalsis	b. connects the mouth to the stomach, moves food by peristalsis
3 A epiglottis	c. organ that absorbs nutrients
4 B esophagus	d. mechanically breaks down food by peristalsis and chemically breaks down proteins
5 D stomach	e. wave like contractions of smooth muscle
6 I gallbladder	f. secretes digestive enzymes
7 G liver	g. makes bile
8 C small intestine	h. organ that absorbs water
9 H large intestine	i. stores bile
10 M vein	j. helps blood clot
11 P capillary	k. fights infection
12 Q artery	l. water and dissolved nutrients
13 K white blood cell	m. carries blood to heart
14 L plasma	n. carries oxygen to cells
15 N red blood cell	o. protein in red blood cells that carry oxygen
16 J platelets	p. small blood vessels that branch off from arteries to deliver nutrients to every cell
17 O hemoglobin	q. carries blood away from heart

18 V vena cava	r. chamber that pumps oxygenated blood to body
19 Y pulmonary artery	s. chamber that pumps deoxygenated blood to lungs
20 W pulmonary vein	t. chamber that receives oxygenated blood from lungs
21 X aorta	u. chamber that receives deoxygenated blood from body
22 S right ventricle	v. vessel that carries deoxygenated blood from body to heart
23 U right atrium	w. vessel that carries oxygenated blood from the lungs to the heart
24 T left atrium	x. vessel that carries oxygenated blood to the body
25 R left ventricle	y. vessel that carries deoxygenated blood to lungs