**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Natural Selection Quiz**

**MC: 2 points each**

1. What scientific theory is Charles Darwin famous for?
	1. his expedition around the world
	2. the theory of natural selection
	3. that some organisms have vestigial structures
	4. that there are a lot of finches
2. What is natural selection?
	1. Organisms produce more offspring than can possibly survive
	2. When a new species arise from isolation
	3. A nonfunctional adaption that is no longer useful
	4. When members of a species are better suited for their environments, they reproduce at a higher rate
3. The 4 principles of natural selection are:
	1. Speciation, homologies, vestiges, adaptation
	2. Speciation, selection, homologies, adaptation
	3. Overproduction, variation, adaptation, selection
	4. Variation, vestiges, homologies, speciation
4. How does speciation occur?
	1. due to isolation
	2. due to overproduction
	3. due to variation
	4. due to competition
5. A phylogenetic tree shows:
	1. the embryos of an organism
	2. which genes are dominant or recessive
	3. the relatedness of species through descent of a common ancestor
	4. the development of an organism through its lifetime
6. A fertilized egg is also called a
	1. Zygote
	2. Blastocyst
	3. Embryo
	4. Fetus

**Short Answer: 10 points each**

1. What is the difference between a genotype and a phenotype? Create your own punnet square for an example.
2. List and explain 3 pieces of evidence that scientists use as evidence for the evolution of living things.

**Punnet Squares: 4 points each, questions: 2 points each**

A person with 2 blue eye genes has a child with a person with 2 brown eye genes. Blue is dominant, and brown is recessive. Fill out the punnet square and answer the questions.

Blue Eyed person



Brown eyed person

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1. What color eyes will the child have? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Is this coupe’s eye color Homozygous or Heterozygous? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Is their offspring homozygous or heterozygous? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Two hybrid mice breed. They each have one brown fur allele, and one grey fur allele. Brown is dominant. Fill out the punnet square and answer the questions.

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1. What color fur do the baby mice have? If they all don’t have the same color of fur, what is the ratio? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Are the mice parents homozygous or heterozygous? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Is the offspring homozygous or heterozygous? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_