

# Biology Quiz - Answer Key

1. What part of the mitochondria is folded into tubular structures called cristae?

- a) Outer membrane
- b) Inner membrane**
- c) Intermembrane space
- d) Matrix

2. According to the endosymbiont theory, what is the evolutionary origin of the inner mitochondrial membrane?

- a) Aerobic bacteria**
- b) Anaerobic bacteria
- c) Early eukaryotic cells
- d) External symbionts

3. What structures allow the selective transport of metabolites in and out of the mitochondria?

- a) Porins
- b) Cristae
- c) Transporters**
- d) Tubules

4. Which of the following concepts did Darwin's theory of natural selection provide an explanation for?

- a) The diversity of living organisms
- b) The adaptation of organisms to their environment
- c) The patterns found in the fossil record
- d) All of the above**

5. What did Darwin mean when he used the phrase 'survival of the fittest' in relation to natural selection?

- a) The strongest organisms survive
- b) Organisms best adapted to the environment are more likely to survive**
- c) Only organisms free from defects survive
- d) Organisms evolve to become perfectly designed

6. According to Darwin's theory, what is the main driver of differences seen between species over time?

- a) Use and disuse of organs
- b) Inheritance of acquired characteristics

c) Sudden mutations

**d) Gradual accumulation of small variations**

7. What did Darwin identify as a potential mechanism for evolution besides natural selection?

a) Genetic drift

**b) Sexual selection**

c) Neutral evolution

d) Punctuated equilibrium

8. What organism did Gregor Mendel use in his famous experiments on heredity?

a) Mice

b) Fruit flies

**c) Pea plants**

d) Maize

9. What term did Mendel use to describe heritable traits that are masked in the first generation of offspring?

a) Epistatic

b) Polygenic

**c) Recessive**

d) Codominant

10. What did Mendel hypothesize was being passed from parents to offspring to determine characteristics?

a) Chromosomes

b) Hormones

**c) Particulate substances**

d) Cytoplasm

11. What modern molecular structure did Mendel's hypothesized 'particles' later turn out to be?

a) Phospholipids

b) Proteins

**c) Genes**

d) Enzymes