Mutations

Name: ANSWER KEY Date: _____

Vocabulary Words: Match the definition to each word.

1. There are wo main mechanisms of Evolution as natural selection and mutations.
2. Every cell in our body contains coded DNA in the form of DNA, which acts like a library.
3. Mistakes or random changes that occur in genetic code are called Mutations.
4. Random changes to genetic material destroy Information rather than adding to it.
5. Scientists tested genetic changes on Fruit flies because they have a short lifecycle.

Word bank: DNA, Evolution, Fruit flies, Information, Mutations

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Multiple Choice: Choose the correct answer from the choices for each question.

1. What metaphor is used to describe the role of DNA in our cells?
   a) A hard drive storing temporary files
   b) A library of information containing plans
   c) A notebook that can easily be edited
   d) An electrical grid powering a city

2. Why did the speaker use the analogy of driving nails into a flash drive?
   a) To show how easy it is to upgrade
   b) To demonstrate that damage adds speed
   c) To illustrate how random damage destroys function rather than adding
   d) To explain how viruses replicate

3. What caused mutations in the fruit fly experiment?
   a) Extreme cold temperatures
   b) Chemical sprays
   c) Radiation added to the chambers
   d) High voltage electrical shocks

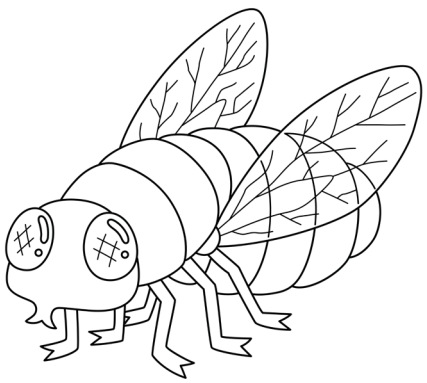
4. What was the primary result of the radiation experiments on the fruit flies?
   a) Evolved into new insects
   b) Gained double genetic code
   c) Most died, while others developed deformities
   d) Developed longer lifespans

Discussion & Reflection: Answer the following questions in complete sentences

1. Explain the argument regarding why mutations cannot explain how simple bacteria could evolve into a complex organism. Transforming a simple organism into a complex one requires adding new genetic information. Since mutations are random mistakes or changes, they destroy or corrupt existing information (like randomly scrambling letters in a book or damaging a flash drive) rather than creating new, meaningful information required for complex body structures.

2. Describe why fruit flies are good subjects for studying genetic mutations across multiple generations. Fruit flies are ideal for genetic testing because they have a very short ten-day lifespan, allowing scientists to observe a new generation every couple of weeks. The overall finding of the experiment was that inducing mutations via radiation produced mostly dead flies or physical deformities (such as twisted wings or different eye colors), without ever producing an increased level of useful genetic information

3. This shows me that God is (Circle the word):

Wise Powerful Caring Creative All of the above

Explain your choice: