Name: Date: Score: / 8

Mutations: Learn and Practice

When DNA changes, and what can happen next

Read each question. Circle the best answer.

💡 Mutations

- A mutation is a change in the DNA of a gene.
- Mutations can be harmful, helpful or have no effect.
- A gene change can change a protein, which can change a trait.
- gene change: different protein: new trait

1 A mutation happens in a skin cell on your arm. Can it be passed to your children?

A. Only if it is on the left arm

B. No, only egg or sperm changes pass on

C. Yes, always D. Only to grandchildren

2 A mutation changes a gene, which changes a protein. What might happen next?

A. The cell becomes a rock

B. A trait may change C. All DNA disappears

D. Nothing can ever change

3 🦠 Some bacteria get a mutation that lets them survive an antibiotic. For the bacteria, this mutation is what?

A. Helpful B. Neutral C. Harmful

D. Impossible

4 What do genes carry instructions for making?

A. Proteins B. Water C. Rocks D. Sunlight

5 Are all mutations harmful?

A. Only in plants B. Only in animals

C. No, many have no effect D. Yes, always

6 🧬 What is a mutation?

A. A new habit B. A broken bone

C. A type of food D. A change in DNA

7 ☀️ Which of these can cause mutations?

A. Sleeping well B. Too much ultraviolet light

C. Drinking water D. Reading books

8 🧴 Why is sunscreen a good idea on a sunny day?

A. It helps protect skin DNA from UV

B. It makes your hair grow

C. It adds vitamins to food

D. It makes you run faster

✏️ Explain it! Write two facts you learned about mutations.

ANSWER KEY

Mutations: Learn and Practice (answers)

When DNA changes, and what can happen next

Read each question. Circle the best answer.

1 A mutation happens in a skin cell on your arm. Can it be passed to your children?

A. Only if it is on the left arm

B. No, only egg or sperm changes pass on

C. Yes, always D. Only to grandchildren

Children inherit DNA from egg and sperm cells only, so a skin cell mutation is not passed on.

2 A mutation changes a gene, which changes a protein. What might happen next?

A. The cell becomes a rock

B. A trait may change C. All DNA disappears

D. Nothing can ever change

Proteins shape traits. A changed protein can lead to a changed trait, like a different color.

3 🦠 Some bacteria get a mutation that lets them survive an antibiotic. For the bacteria, this mutation is what?

A. Helpful B. Neutral C. Harmful

D. Impossible

It helps the bacteria survive, so for them it is a helpful mutation, even though it is bad news for us.

4 What do genes carry instructions for making?

A. Proteins B. Water C. Rocks D. Sunlight

Genes are recipes for proteins, which build and run your body.

5 Are all mutations harmful?

A. Only in plants B. Only in animals

C. No, many have no effect D. Yes, always

Most mutations have no noticeable effect. Some are harmful and a few are helpful.

6 🧬 What is a mutation?

A. A new habit B. A broken bone

C. A type of food **D. A change in DNA**

A mutation is a change in the DNA code, like a typo in a set of instructions.

7 ☀️ Which of these can cause mutations?

A. Sleeping well **B. Too much ultraviolet light**

C. Drinking water D. Reading books

Ultraviolet light from the Sun can damage DNA in skin cells, causing mutations.

8 🧴 Why is sunscreen a good idea on a sunny day?

A. It helps protect skin DNA from UV

B. It makes your hair grow

C. It adds vitamins to food

D. It makes you run faster

Sunscreen blocks much of the ultraviolet light that can damage the DNA in your skin cells.