Name: Date: Score: / 8

Breeding and Gene Tech: Learn and Practice

How people shape the traits of living things

Read each question. Circle the best answer.

💡 Artificial Selection

- In artificial selection, people choose which plants or animals breed.
- Over generations, the chosen traits become more common.
- Genetic engineering changes genes directly to give an organism a new trait.
- wild mustard: broccoli, cabbage, kale: artificial selection

1 🐄 Why might a farmer breed only the cows that make the most milk?

A. To get calves that make more milk

B. To make cows smaller C. To make cows faster

D. To change the grass

2 Bacteria have been given the human gene for insulin. Why is this useful?

A. They make medicine for diabetes

B. They grow into plants

C. They make bread rise D. They clean the air

3 🐕 Dog breeds from tiny to giant came from what process?

A. Photosynthesis B. Pollution

C. Artificial selection D. Erosion

4 How is artificial selection different from natural selection?

A. It happens without people

B. It only affects rocks

C. People choose the traits

D. It needs no breeding

5 What is genetic engineering?

A. Mixing paint colors B. Building robots

C. Changing an organism's genes directly

D. Training a pet to sit

6 🥦 Broccoli, cabbage and kale all came from one wild plant. What does this show?

A. All plants are the same

B. Wild plants cannot change

C. Breeding can create new varieties

D. Vegetables grow on their own

7 🌽 Wild corn plants had tiny cobs. Why are corn cobs so large today?

A. Insects made them grow

B. The Sun got hotter C. Corn got more rain

D. People bred the biggest plants

8 In artificial selection, who decides which organisms breed?

A. The organisms themselves B. The weather

C. Nature alone D. People

NGSS MS-LS4-5 · BC Science Grade 7: Evolution by natural selection provides an explanation for the diversity and survival of living things.

ANSWER KEY

Breeding and Gene Tech: Learn and Practice (answers)

How people shape the traits of living things

Read each question. Circle the best answer.

1 🐄 Why might a farmer breed only the cows that make the most milk?

A. To get calves that make more milk

B. To make cows smaller C. To make cows faster

D. To change the grass

Milk production is partly inherited, so breeding top producers gives calves likely to make more milk.

2 Bacteria have been given the human gene for insulin. Why is this useful?

A. They make medicine for diabetes

B. They grow into plants

C. They make bread rise D. They clean the air

The bacteria follow the human gene and produce insulin that people with diabetes can use.

3 🐕 Dog breeds from tiny to giant came from what process?

A. Photosynthesis B. Pollution

C. Artificial selection D. Erosion

People bred dogs for size, coat and skills over many generations, creating hundreds of breeds.

4 How is artificial selection different from natural selection?

A. It happens without people

B. It only affects rocks

C. People choose the traits

D. It needs no breeding

In natural selection, the environment favours traits. In artificial selection, people do the choosing.

5 What is genetic engineering?

A. Mixing paint colors B. Building robots

C. Changing an organism's genes directly

D. Training a pet to sit

Genetic engineering uses lab tools to add, remove or change genes in an organism.

6 🥦 Broccoli, cabbage and kale all came from one wild plant. What does this show?

A. All plants are the same

B. Wild plants cannot change

C. Breeding can create new varieties

D. Vegetables grow on their own

By choosing different traits, like leaves or flower buds, farmers turned one plant into many vegetables.

7 🌽 Wild corn plants had tiny cobs. Why are corn cobs so large today?

A. Insects made them grow

B. The Sun got hotter C. Corn got more rain

D. People bred the biggest plants

Farmers saved seeds from the plants with the biggest cobs for thousands of years.

8 In artificial selection, who decides which organisms breed?

A. The organisms themselves B. The weather

C. Nature alone **D. People**

In artificial selection, people pick the parents with the traits they want.