

IGCSE Biology

Name: _____ Score: _____

1. Which is an example of genetic variation?
 - ☐ blood group
 - ☐ a scar
 - ☐ a learned language
 - ☐ a suntan
2. An adaptive feature is one that helps an organism:
 - ☐ survive and reproduce in its environment
 - ☐ grow taller than others
 - ☐ change its DNA at will
 - ☐ live forever
3. Antibiotic resistance evolves because:
 - ☐ resistant bacteria survive and multiply while others die
 - ☐ bacteria decide to resist
 - ☐ antibiotics make bacteria stronger
 - ☐ bacteria stop reproducing
4. Selective breeding means choosing:
 - ☐ parents with desired features to breed together
 - ☐ random parents
 - ☐ the weakest individuals
 - ☐ never to breed
5. Which shows continuous variation?
 - ☐ height
 - ☐ blood group
 - ☐ tongue rolling
 - ☐ eye colour categories
6. Which are uses of selective breeding? (Select all that apply.)
 - ☐ cows that produce more milk
 - ☐ crops with higher yield

- ☐ disease-resistant plants
- ☐ wild animals untouched by humans

Tick every correct option.

7. Which create genetic variation? (Select all that apply.)

- ☐ meiosis
- ☐ fertilisation
- ☐ mutations
- ☐ eating well

Tick every correct option.

8. Variation arises randomly; organisms do not choose to adapt.

- ☐ True ☐ False

9. Variation is the raw material that natural selection acts on.

- ☐ True ☐ False

10. Adaptations can be structural, behavioural or functional.

- ☐ True ☐ False

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1. **blood group**

Blood group is determined by genes; the others are environmental.

2. **survive and reproduce in its environment**

Adaptations improve survival and reproduction.

3. **resistant bacteria survive and multiply while others die**

Selection favours the already-resistant bacteria.

4. **parents with desired features to breed together**

Humans pick the parents with the wanted trait.

5. **height**

Height varies over a continuous range.

6. **cows that produce more milk; crops with higher yield; disease-resistant plants**

The first three are selective breeding; the last is not.

7. **meiosis; fertilisation; mutations**

Meiosis, fertilisation and mutations create variation; diet is environmental.

8. **True**

Mutations are random; selection favours helpful ones.

9. **True**

Without variation there could be no natural selection.

10. **True**

All three types help survival.