Evolution and Diversity, 25-question test — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Natural selection acts on variation in a population when individuals with helpful traits are more likely to**

Question 1

Natural selection acts on variation in a population when individuals with helpful traits are more likely to

A) Survive and reproduce

B) Change their DNA at will

C) Live forever

D) Stop evolving

- **A** Survive and reproduce
- **B** Change their DNA at will
- **C** Live forever
- **D** Stop evolving

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2 In evolutionary terms fitness means an organism ability to

Question 2

In evolutionary terms fitness means an organism ability to

A) Run fast

B) Survive and reproduce

C) Stay large

D) Eat many foods

- **A** Run fast
- **B** Survive and reproduce
- **C** Stay large
- **D** Eat many foods

Understand It with Pulse | **Flag a mistake**

3 An adaptation is a trait that helps an organism

Question 3

An adaptation is a trait that helps an organism

A) Change its genes in one lifetime

B) Survive in its environment

C) Avoid all predators

D) Produce identical offspring

A Change its genes in one lifetime

B Survive in its environment

C Avoid all predators

D Produce identical offspring

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4 Fossils provide evidence for evolution because they show

Question 4

Fossils provide evidence for evolution because they show

A) That all species are unchanged

B) That DNA never changes

C) That extinction never happens

D) How organisms changed over time

A That all species are unchanged

B That DNA never changes

C That extinction never happens

D How organisms changed over time

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5

Homologous structures such as the forelimbs of a human a bat and a whale suggest

Question 5

Homologous structures such as the forelimbs of a human a bat and a whale suggest

A) A common ancestor

B) Identical environments

C) No shared history

D) Recent cloning

A A common ancestor

B Identical environments

C No shared history

D Recent cloning

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6

Analogous structures such as bird wings and insect wings are similar because of

Question 6

Analogous structures such as bird wings and insect wings are similar because of

A) Shared ancestry

B) Similar functions

C) Identical DNA

D) Same chromosome number

A Shared ancestry

B Similar functions

C Identical DNA

D Same chromosome number

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7 A vestigial structure is a structure that

Question 7

A vestigial structure is a structure that

A) Has a major new function

B) Appeared in one generation

C) Has lost most or all of its original function

D) Is found only in fossils

- **A** Has a major new function
- **B** Appeared in one generation
- **C** Has lost most or all of its original function
- **D** Is found only in fossils

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8 Similarities in early embryos of different vertebrates are evidence for

Question 8

Similarities in early embryos of different vertebrates are evidence for

A) Identical adults

B) No evolution

C) Common ancestry

D) Cloning

A Identical adults

B No evolution

C Common ancestry

D Cloning

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9 Two species with very similar DNA sequences most likely share a

Question 9

Two species with very similar DNA sequences most likely share a

A) Common diet

B) Common habitat only

C) Common predator

D) Recent common ancestor

A Common diet

B Common habitat only

C Common predator

D Recent common ancestor

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10

Speciation occurs when populations become unable to

Question 10

Speciation occurs when populations become unable to

A) Share a habitat

B) Interbreed and produce fertile offspring

C) Eat the same food

D) Move between areas

A Share a habitat

B Interbreed and produce fertile offspring

C Eat the same food

D Move between areas

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11 Geographic isolation can lead to speciation when a barrier prevents

Question 11

Geographic isolation can lead to speciation when a barrier prevents

A) Mutation

B) Photosynthesis

C) Gene flow between populations

D) Fossil formation

A Mutation

B Photosynthesis

C Gene flow between populations

D Fossil formation

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12

The founder effect occurs when a small group starts a new population and the new population has

Question 12

The founder effect occurs when a small group starts a new population and the new population has

A) More genetic diversity than the original

B) Reduced genetic diversity

C) No mutations

D) Identical alleles to all species

A More genetic diversity than the original

B Reduced genetic diversity

C No mutations

D Identical alleles to all species

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13 A population bottleneck is a sharp drop in population size that can

Question 13

A population bottleneck is a sharp drop in population size that can

A) Increase genetic diversity

B) Reduce genetic diversity

C) Stop natural selection

D) Create new species at once

- **A** Increase genetic diversity
- **B** Reduce genetic diversity
- **C** Stop natural selection
- **D** Create new species at once

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14

The ultimate source of new genetic variation in a population is

Question 14

The ultimate source of new genetic variation in a population is

A) Mutation

B) Migration

C) Selection

D) Drift

A Mutation

B Migration

C Selection

D Drift

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15

Gene flow between two populations tends to

Question 15

Gene flow between two populations tends to

A) Increase differences between them

B) Make them more genetically similar

C) Stop reproduction

D) Cause extinction

A Increase differences between them

B Make them more genetically similar

C Stop reproduction

D Cause extinction

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16

Antibiotic resistance in bacteria spreads mainly because resistant bacteria

Question 16

Antibiotic resistance in bacteria spreads mainly because resistant bacteria

A) Choose to mutate

B) Survive treatment and reproduce

C) Learn to resist

D) Stop dividing

A Choose to mutate

B Survive treatment and reproduce

C Learn to resist

D Stop dividing

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17

On a cladogram species that share a more recent branching point are more

Question 17

On a cladogram species that share a more recent branching point are more

A) Distantly related

B) Unrelated

C) Closely related

D) Identical

A Distantly related

B Unrelated

C Closely related

D Identical

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18

A shared derived character is a trait shared by species descended from a

Question 18

A shared derived character is a trait shared by species descended from a

A) Common predator

B) Common ancestor

C) Common habitat

D) Common diet

A Common predator

B Common ancestor

C Common habitat

D Common diet

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19

Lamarck idea that traits acquired during a lifetime are inherited is not supported because

Question 19

Lamarck idea that traits acquired during a lifetime are inherited is not supported because

A) Acquired traits do not change DNA in gametes

B) Organisms never change

C) Environments never change

D) Mutations never occur

A Acquired traits do not change DNA in gametes

B Organisms never change

C Environments never change

D Mutations never occur

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20

Darwin observed that finches on different Galapagos islands had different beak shapes suited to different

Question 20

Darwin observed that finches on different Galapagos islands had different beak shapes suited to different

A) Colors

B) Songs

C) Nests

D) Foods

A Colors

B Songs

C Nests

D Foods

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21

The process by which a single species gives rise to many species filling different niches is

Question 21

The process by which a single species gives rise to many species filling different niches is

A) Genetic drift

B) Gene flow

C) Adaptive radiation

D) Artificial selection

A Genetic drift

B Gene flow

C Adaptive radiation

D Artificial selection

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22

Artificial selection differs from natural selection because humans choose which organisms

Question 22

Artificial selection differs from natural selection because humans choose which organisms

A) Mutate

B) Reproduce

C) Migrate

D) Become extinct

A Mutate

B Reproduce

C Migrate

D Become extinct

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23 A fossil layer that is deeper in undisturbed rock is generally

Question 23

A fossil layer that is deeper in undisturbed rock is generally

A) Younger

B) Older

C) Identical in age

D) Unrelated to age

A Younger

B Older

C Identical in age

D Unrelated to age

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24 After two half lives what percent of a radioactive sample remains

Question 24

After two half lives what percent of a radioactive sample remains

ANSWER

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25

In a population the frequency of allele A is 0.6 and of allele a is 0.4 Under Hardy Weinberg conditions the expected frequency of heterozygotes is 2 times 0.6 times 0.4

Question 25

In a population the frequency of allele A is 0.6 and of allele a is 0.4 Under Hardy Weinberg conditions the expected frequency of heterozygotes is 2 times 0.6 times 0.4

ANSWER

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ANSWER KEY

1. A
2. B
3. B
4. D
5. A
6. B
7. C
8. C
9. D
10. B
11. C
12. B
13. B
14. A
15. B
16. B
17. C
18. B
19. A
20. D
21. C
22. B
23. B
24. 25
25. 0.48

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