

Study Guide Evolution Test

As an environment changes, and some organisms have a higher fitness than others, natural selection acts directly on

existing variations

Mutations in the DNA of genes that can be passed on to offspring

result in increased genetic variation

The evolution of hummingbirds' beaks and plants with deep tubes in their flowers is an example of

coevolution

Which of the five factors that can lead to evolution would operate on a change in body color that enabled animals to better hide from predators?

natural selection

In order for species to adapt and evolve, they must be able to

reproduce

One theory explaining evolution is based on the mechanisms of

natural selection

We identify organisms as belonging to the same species if they are capable of

producing fertile offspring

An organism that inherits two alleles for a trait exhibits the trait if

one of the alleles is dominant

Coevolution is a process in which species

evolve in response to changes in each other

A population of squirrels that contains a wide range of phenotypes has a

large amount of genetic variation

What did Charles Darwin learn from the fossils of a giant armadillo that he found in Argentina?

Modern animals may be related to fossilized organisms

A bird that can easily outcompete other birds for food and that can produce many eggs has a high

fitness

What is the term for a feature that allows an organism to survive better in its environment?

adaptation

What is the process in which humans breed organisms for certain traits?

artificial selection

Natural selection results in change over time by acting on traits that are

mutated

Individuals that are well adapted to their environment will survive and produce

more offspring

In the Galápagos Islands, Charles Darwin saw different species of finch on different islands. This led him to theorize that species

can adapt to their environment

Dog breeds, such as beagles, Border collies, and German shepherds, were produced by the process of

artificial selection

Many years of evolution is most likely to produce

differences between species and their ancestors

What did Charles Darwin observe in finch populations on the Galápagos Islands off the coast of South America?

different species on different islands

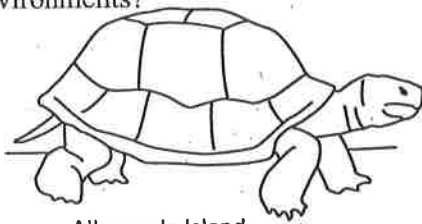
The difference in the physical traits of an individual from those of other individuals in a group is called a(n)

Variation

In natural selection, the selective agent is the

environment

The tortoise from Abingdon Island, shown in Figure 10.1, would likely be better adapted than the Albermarle Island tortoise to which of the following environments?



Albermarle Island

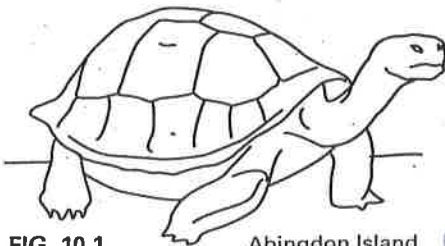


FIG. 10.1

Abingdon Island

Areas with lots of taller plants

The false idea that a high-jumper who trains to become a champion will have descendants who can jump exceptionally high is known as the

inheritance of acquired characteristics

Which of the following lists the four main principles of the theory of natural selection?

*adaptation
descent with modification
overproduction
variation*

A parent's trait is inherited by offspring in the form of DNA carried on

one or more genes

Within a species, each individual's DNA is contained on

a set number of chromosomes

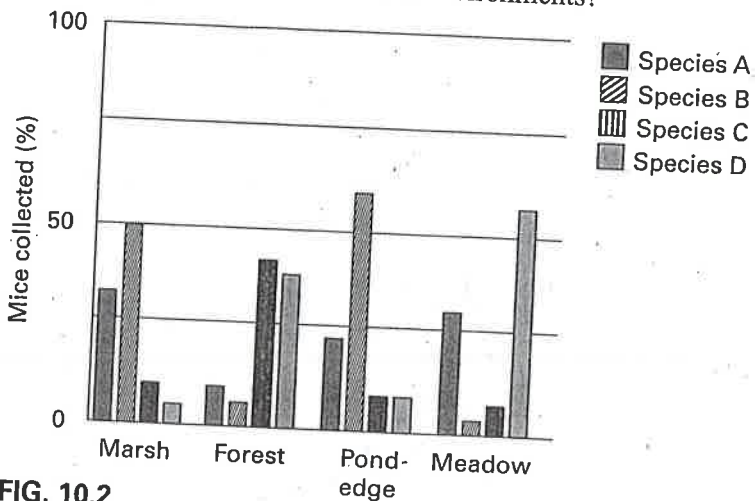
Which of the following is a term for a group of similar organisms that can reproduce and produce fertile offspring?

species

Fossils of marine organisms high in the Andes Mountains led Darwin to conclude that

great change can happen over time

Figure 10.2 shows mouse species collected at different habitats. Which species appears to be best adapted to wet environments?



Species B

FIG. 10.2

What caused the rock pocket mouse to have black fur? *a mutation*

Why was this change an advantage? *camouflage in the lava flows*

What was the selective pressure that caused there to be more black furred mice?
Predators

How long did this process take? *1,000 years*

Draw a bacteria?  *DNA*

What type of bacteria did Addie have? *MRSA and gram negative*

Why did it cause her to become so sick? *It was resistant to antibiotics*

What is MRSA? *Methacyllin Resistant Stapholococcus Aurea (antibiotic resistant staph)*

What is the difference between hospital associated MRSA and community acquired MRSA?
Where it is picked up

Which one kills more people?
Hospital

Why don't antibiotics work like they used to? *antibiotic resistance*

What is the difference between bacteria from long ago and bacteria now? *Now they are way more resistant*

What is antibiotic resistance? *The antibiotic doesn't kill the bacteria*

Why do we need to take all of the doses of antibiotic that a doctor gives us?
The medicines are not 100% effective, some bacteria lives

Sketch a graph of number of bacteria killed vs. doses of antibiotic given the antibiotic is 99% effective.



What happened to Addie after the infection?
she had to have a lung transplant

True/false If I use hand sanitizer to wash my hands, I will not get sick.

Explain how someone who has not been in a hospital could get hospital associated MRSA.
contact with someone who has been in the hospital

Why do 2 different tribes that live in the same country have such a different percentage of lactase persistent populations? *Some tribes raise cows and goats for milk*

What is coevolution?
Two things evolve at once culture/physical in lactase persistence

What does lactase persistence mean?

the person still have the lactase enzyme to break down milk sugar (lactose)

What is happening in Asia right now with lactase persistence? *The percentage is increasing
more people are moving to the
city and drinking milk*

Are you lactase nonpersistent? *no / yes*

What theory does the lactase persistence in humans seem to support?

natural selection

Why do people in pastoralist societies have a higher rate of lactase persistence?

they drink milk, can survive crop failure

Lactase persistence is genetically dominant, what does that mean?

*only need one allele to have
the trait show up*