

Worksheet For Characteristics Of Living Things Answer Key PDF

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Part 1: Building a Foundation

Which of the following is considered the basic unit of life?

undefined. A) Atom

undefined. B) Molecule

undefined. C) Cell ✓

undefined. D) Tissue

The basic unit of life is the cell.

Which of the following are characteristics of living things? (Select all that apply)

undefined. A) Metabolism ✓

undefined. B) Inability to adapt

undefined. C) Reproduction ✓

undefined. D) Cellular organization ✓

Characteristics of living things include metabolism, reproduction, and cellular organization.

Define homeostasis and provide an example of how it is maintained in the human body.

Homeostasis is the maintenance of a stable internal environment; an example is temperature regulation.

List the two main types of reproduction and provide a brief description of each.

1. What is sexual reproduction?

Involves two parents combining genetic material.

2. What is asexual reproduction?

Involves one parent producing identical offspring.

The two main types of reproduction are sexual and asexual; sexual involves two parents and genetic variation, while asexual involves one parent and identical offspring.

Which process involves the conversion of energy from the environment into forms usable by an organism?

undefined. A) Photosynthesis ✓

undefined. B) Respiration

undefined. C) Metabolism

undefined. D) Evolution

Photosynthesis is the process that converts energy from sunlight into chemical energy.

Part 2: comprehension and Application

How do living organisms respond to stimuli? (Select all that apply)

undefined. A) By ignoring the changes

undefined. B) Through reflex actions ✓

undefined. C) By adjusting internal processes ✓

undefined. D) By evolving instantly

Living organisms respond to stimuli through reflex actions and by adjusting internal processes.

Explain the role of enzymes in metabolic processes and why they are crucial for life.

Enzymes speed up metabolic reactions and are crucial for sustaining life by facilitating necessary biochemical processes.

Which of the following best describes the concept of adaptation?

undefined. A) Immediate change in an organism's structure

undefined. B) Gradual genetic changes in a population over time ✓

undefined. C) Sudden mutation in an individual

undefined. D) Reproduction of identical offspring

Adaptation is best described as gradual genetic changes in a population over time.

Which scenarios demonstrate homeostasis in action? (Select all that apply)

undefined. **A) Sweating to cool down the body ✓**

undefined. **B) Shivering to generate heat ✓**

undefined. C) Growing taller over time

undefined. **D) Developing a fever to fight infection ✓**

Scenarios that demonstrate homeostasis include sweating to cool down and shivering to generate heat.

Describe a real-world example of an organism adapting to its environment and explain the evolutionary significance.

An example is the pepper moth, which adapted to its environment during the Industrial Revolution; this illustrates natural selection.

If a plant bends towards a light source, which characteristic of living things is it demonstrating?

undefined. A) Growth

undefined. **B) Response to stimuli ✓**

undefined. C) Reproduction

undefined. D) Metabolism

The plant is demonstrating response to stimuli.

Part 3: Analysis, Evaluation, and Creation

Analyze the following scenarios and identify which involve metabolic processes. (Select all that apply)

undefined. **A) A lion digestively breaking down its prey ✓**

undefined. **B) A tree absorbing sunlight ✓**

undefined. C) A rock eroding over time

undefined. **D) A human breathing ✓**

Scenarios involving metabolic processes include a lion digestively breaking down its prey and a human breathing.

Compare and contrast sexual and asexual reproduction in terms of genetic diversity and evolutionary advantages.

Sexual reproduction promotes genetic diversity, while asexual reproduction results in identical offspring; both have evolutionary advantages.

Which of the following best explains the relationship between heredity and evolution?

undefined. A) Hereditary prevents evolution

undefined. B) Hereditary provides the genetic variation necessary for evolution ✓

undefined. C) Evolution eliminates heredity

undefined. D) Hereditary and evolution are unrelated

Heredity provides the genetic variation necessary for evolution.

Evaluate the impact of environmental changes on the homeostasis of an organism and propose strategies that organisms might use to cope with these changes.

Environmental changes can disrupt homeostasis; organisms may adapt through behavioral changes or physiological adjustments.

Design an experiment to test the response of plants to different types of stimuli. Include the hypothesis, variables, and expected outcomes.

1. What is the hypothesis?

Plants will grow towards light.

2. What are the variables?

Light intensity, direction, and type of stimulus.

3. What are the expected outcomes?

Plants will bend towards the light source.

An experiment could involve exposing plants to light, gravity, and touch; the hypothesis might be that plants will grow towards light.

Which of the following is the most effective strategy for an organism to survive in a rapidly changing environment?

undefined. A) Immediate physical transformation

undefined. B) Behavioral adaptation ✓

undefined. C) Genetic mutation

undefined. D) Migration to a stable environment

Behavioral adaptation is often the most effective strategy for survival in changing environments.