

GAC Science

Name: _____ Score: _____

1. Which records are needed for a fair, bounded growth investigation? Choose all that apply.

- ☐ A defined growth measure and observation period
- ☐ Comparable organisms and stated conditions
- ☐ A conclusion inferred only from a cell's shape
- ☐ An approved procedure and actual observations

Tick every correct option.

2. Why should classification not be based only on one similarity of appearance?

- ☐ Appearance is always useless
- ☐ Only an organism's size matters
- ☐ Relationships need relevant inherited and other evidence, not one visible trait alone
- ☐ All scientific names are identical

3. In an illustrative model only, producers have 10000 energy units and exactly 10% reaches each next level. How many units reach the third consumer level?

4. A forest is harvested faster than regrowth replaces it. Which interpretation is supported?

- ☐ The harvest is automatically sustainable because trees can regrow
- ☐ Forests cannot regrow
- ☐ The harvest is approved by the word renewable
- ☐ Use exceeds replenishment despite the resource's renewable potential

5. What determines which element an atom is?

- ☐ The number of protons
- ☐ The number of electrons
- ☐ The total mass
- ☐ The number of neutrons

6. Which account distinguishes the natural greenhouse mechanism from a question about its change?

- ☐ It only affects cities
- ☐ That it exists at all

- ☐ A change in its size, since without it the planet would be far colder
 - ☐ It destroys the ozone layer
7. In the supplied string-wave model, what travels along the string while a marked point oscillates?
- ☐ The disturbance and energy propagate while the point oscillates about equilibrium
 - ☐ The marked point permanently travels with each crest
 - ☐ Nothing propagates
 - ☐ Only the complete string moves sideways
8. Homeostasis means internal conditions remain exactly unchanged without regulation.
- ☐ True ☐ False
9. Organisms in different genera can belong to the same family.
- ☐ True ☐ False
10. Decomposers destroy matter and recreate energy for producers.
- ☐ True ☐ False

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1. A defined growth measure and observation period; Comparable organisms and stated conditions; An approved procedure and actual observations

A growth investigation needs a measure, comparable conditions and actual observations. A structural image does not establish a growth result.

2. Relationships need relevant inherited and other evidence, not one visible trait alone

Appearance can contribute evidence, but one feature does not establish complete relatedness. Identification keys and evolutionary trees serve different tasks.

3. 10

Under that explicit assumption, $10000 \rightarrow 1000 \rightarrow 100 \rightarrow 10$. This is a toy calculation, not a universal ecosystem efficiency or maximum-chain rule.

4. Use exceeds replenishment despite the resource's renewable potential

Compare use and replenishment over a stated period. Renewable potential does not guarantee sustainable use or approval.

5. The number of protons

The atomic number is the element. Change the neutrons and you have an isotope of the same element.

6. A change in its size, since without it the planet would be far colder

Greenhouse gases absorb and emit thermal infrared. The existence of the mechanism and changes in its effects are distinct questions; it is not the same as ozone depletion.

7. The disturbance and energy propagate while the point oscillates about equilibrium

Distinguish medium-point motion from disturbance propagation in the stated model. Do not turn this into a claim that real water surfaces can never also have currents or drift.

8. False

Homeostasis involves regulation within suitable limits. A changing response can help maintain conditions without making every value perfectly constant.

9. True

True. In the supplied example, *Panthera* and *Felis* are different genera within the family *Felidae*.

10. False

They break down dead material and help return nutrients to available forms. Matter cycling differs from indefinite recycling of energy.