

Name: _____ Date: _____

Answer Key: Your 7th Grade Taxonomy Challenge

Analyze evolutionary relationships and apply taxonomic hierarchy rules to categorize unique organisms in this rigorous 10-question formative assessment.

1. Two organisms are classified within the same Order. Based on the taxonomic hierarchy, what other level must they also share?

Answer: C) Class

Taxonomy is hierarchical; if two organisms share a specific level like Order, they must also share every broader level above it, including Class, Phylum, Kingdom, and Domain.

2. Organisms in Kingdom Archaea are genetically more similar to Kingdom Bacteria than they are to Kingdom Animalia.

Answer: B) False

Despite being unicellular, Archaea share more complex molecular processes with Eukaryotes (like Animals) than they do with Bacteria.

3. A scientist discovers a multicellular organism with a cell wall made of chitin that decomposes a fallen log. This organism belongs to Kingdom: _____.

Answer: C) Fungi

Fungi are defined by having chitinous cell walls and being saprotrophic (absorptive decomposers), whereas plants have cellulose walls.

4. Which of these scientific names is written correctly according to the rules of binomial nomenclature?

Answer: C) *Canis lupus*

Binomial nomenclature requires the Genus to be capitalized and the species identifier to be lowercase, usually italicized or underlined.

5. All organisms classified within the Domain Eukarya possess a membrane-bound nucleus.

Answer: A) True

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The defining characteristic of Eukaryotes (Domain Eukarya) is the presence of a nucleus and other membrane-bound organelles.

6. When using a dichotomous key to identify a leaf, each step provides exactly _____ choices to narrow down the organism's identity.

Answer: B) Two

The word 'dichotomous' comes from the Greek 'dikho' (in two) and 'temnein' (to cut), meaning the key always offers two contrasting options.

7. Why did scientists move the giant panda from the raccoon family (Procyonidae) to the bear family (Ursidae)?

Answer: B) DNA analysis and genetic sequencing

Modern classification relies heavily on molecular evidence (DNA) rather than just physical appearance, which can be misleading due to convergent evolution.

8. Organisms in Kingdom Protista are often referred to as the 'junk drawer' because they don't fit perfectly into plants, animals, or fungi.

Answer: A) True

Protista is a diverse kingdom comprising eukaryotes that lack the specialized tissues found in plants, animals, or fungi, making it highly varied.

9. Which level of classification contains the highest number of different species?

Answer: A) Phylum

In the taxonomic hierarchy, the further up (broader) the level, the more inclusive it is. Among the choices, Phylum is the broadest level.

10. A multicellular organism that is autotrophic and has cell walls made of cellulose belongs to Kingdom _____.

Answer: C) Plantae

Kingdom Plantae is characterized by multicellularity, eukaryotic cells, cellulose walls, and the ability to produce food via photosynthesis (autotrophy).