

Name: _____ Date: _____

Taxonomy Trek 8th Grade Species Survival Quiz

How do biological clues link a tardigrade to a tiger? Synthesize cladistic data and biochemical evidence to map evolutionary lineages.

1. Which of the following biochemical characteristics would most likely distinguish a member of the Kingdom Fungi from a member of the Kingdom Plantae in a laboratory analysis?

- A. The presence of a membrane-bound nucleus
- B. The detection of chitin rather than cellulose in the cell wall
- C. The ability to perform cellular respiration
- D. The presence of large central vacuoles

2. In the system of binomial nomenclature, the first word of an organism's scientific name (such as *Ursus* in *Ursus maritimus*) represents the ____.

- A. Species
- B. Family
- C. Order
- D. Genus

3. Organisms classified within the Domain Archaea are considered more closely related to Eukarya than to Bacteria based on their ribosomal RNA sequences.

- A. True
- B. False

4. When constructing a cladogram, which evidence provides the most accurate assessment of the evolutionary distance between two morphologically similar species?

- A. Comparison of homologous skeletal structures
- B. Analysis of shared ecological niches
- C. DNA sequencing and mitochondrial protein analysis
- D. Observation of similar reproductive behaviors

5. The Kingdom Protista is currently viewed by many taxonomists as a 'trash can' taxon because its members often share more similarities with plants, animals, or fungi than with each other.

- A. True
- B. False

6. The specialized cells of sponges (Kingdom Animalia) perform different functions, yet sponges lack true ____, which distinguishes them from more complex animals like Cnidarians.

- A. DNA
- B. Tissues
- C. Nuclei

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D. Mitochondria

7. A newly discovered organism is multicellular, autotrophic, and has cells containing membrane-bound organelles. To which Kingdom does it most likely belong?

- A. Archaea
- B. Fungi
- C. Plantae
- D. Animalia

8. In the taxonomic hierarchy, which level contains the largest number of different species, representing the broadest group listed below?

- A. Class
- B. Order
- C. Phylum
- D. Family

9. Lichen is classified as a single organism within the Kingdom Plantae because it is green and performs photosynthesis.

- A. True
- B. False

10. If two organisms belong to the same 'Order,' which other taxonomic levels must they also share?

- A. Family and Genus
- B. Kingdom and Class
- C. Genus and Species
- D. Phylum and Family