

Conceptual Biology

Chapter 10: Diversity of Life 1

Classification

Circle the correct answer:

1. Linnaean classification involves grouping species together based on how (similar) [different] they are.

2. Fill in the levels of Linnaean classification from the largest group to the smallest group.

Domain

Kingdom

Phylum

Class

Order

Family

Genus

Species

Circle the correct answers:

3. The scientific name of a species consists of its (genus) [family] [species] name

and its [genus] [family] (species) name.

Earth is home to as many as 10 million different species!
Humans are just one of these.



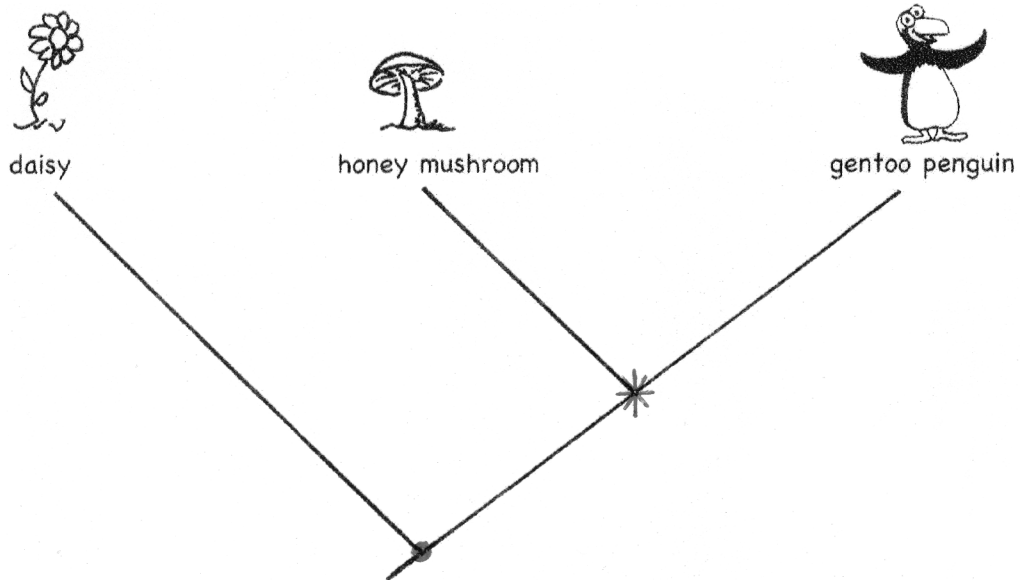
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Evolutionary Trees

Circle the correct answers:

1. Biologists now try to classify organisms based on how [similar] [closely related] they are to each other.
2. The evolutionary tree below shows how three species—the daisy, the honey mushroom, and the gentoo penguin—are related.



- a. This evolutionary tree tells us that the [daisy] [honey mushroom] [gentoo penguin] and [daisy] [honey mushroom] [gentoo penguin] are more closely related to each other than either is to the [daisy] [honey mushroom] [gentoo penguin].
- b. Place a dot at the point when the lineage that eventually gave rise to daisies split from the lineage that eventually gave rise to gentoo penguins.
- c. Now place an asterisk at the point when the lineage that eventually gave rise to honey mushrooms split from the lineage that eventually gave rise to gentoo penguins.

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Bacteria and Archaea

Fill in the blanks:

1. The three domains of life are

Bacteria _____, Archaea _____, and Eukarya _____.

Of the 3 domains, Bacteria _____ and Archaea _____ consist of prokaryotes and Eukarya _____ consists of eukaryotes.

Circle the correct answers:

2. a. Are there any bacteria that can make their own food through photosynthesis, the way plants do? [Yes] [No]

b. Are there any bacteria that get their food from other organisms, the way animals do? [Yes] [No]

3. Bacteria reproduce [sexually] [asexually].

4. Bacteria that live on our bodies benefit us by

[producing vitamins]

[keeping dangerous bacteria from invading our bodies]

[both of these].

5. Are all archaea extremophiles? [Yes] [No]

6. Some chemoautotrophs make food using

[chemical energy]

[energy from sunlight].

In life, it's the stuff you can't see that does us the most damage.



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Domain Eukarya and Protists

1. All the living things found in the domain Eukarya have [prokaryotic cells] [eukaryotic cells]
2. Name the four kingdoms that make up the domain Eukarya.

Protists _____

Plants _____

Fungi _____

Animals _____

3. Protists get food from photosynthesis or from other organisms. Place the protists below into the correct column.

Amoebas

Kelp

Diatoms

Ciliates

Plasmodium, the protist that causes malaria

Get food from photosynthesis

Get food from other organisms

Diatoms _____

Amoebas _____

Kelp _____

Ciliates _____

Plasmodium _____



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Plants

1. Match the following plant structures with their function.

- | | | |
|-----------------|---------|--|
| Roots | c _____ | a. Distributes water and other resources |
| Shoots | b _____ | b. Conduct photosynthesis |
| Vascular system | a _____ | c. absorb water and nutrients from soil |

Circle the correct answers:

2. Mosses [do] (do not) have vascular systems whereas ferns

(do) [do not] have vascular systems.

3. [Mosses] [Ferns] (Mosses and ferns) [Seed plants] have to live in a moist environment because sperm swim through the environment to fertilize eggs.



4. Describe each structure and write the name of the group of plants that possesses each of the structures.

<u>Structure</u>	<u>Description</u>	<u>Plant group in which structure is found</u>
Pollen	<u>male reproductive cells wrapped in a protective coating</u>	<u>seed plants</u>
Seed	<u>plant embryo and food supply wrapped in a tough outer coating</u>	<u>seed plants</u>
Flower	<u>reproductive structure of flowering plants</u>	<u>flowering plants</u>
Fruit	<u>structure surrounding seeds that helps spread the seeds around</u>	<u>flowering plants</u>
Cone	<u>reproductive structure of conifers</u>	<u>conifers</u>

