

Chapter 18 - Classification
(Page 447)

What Do You Know - Answer Key

1. Define taxonomy.
It is the science of classifying organisms. taxonomists
2. What are the two purposes of biological classification?
They are:
(i) to identify organisms.
(ii) to provide a basis for recognizing natural groupings of living things.
3. Who is credited with devising the biological classification system based on an organism's physical and structural features?
Carolus Linnaeus is credited.
4. The scientific name of the grizzly bear is *Ursus arctos*
 - a) What information does the first part of the name give us?
It gives us the genus of the grizzly bear.
 - b) What information does the second part of the name give us?
It gives us the species of the grizzly bear.
5. What type of key was used in identifying the pictures of leaves in the textbook?
It was a dichotomous key.
6.
 - a) What is a taxon?
It is a level of classification.
 - b) What are the seven taxa of Linnaeus's system?
They are kingdom, phylum, class, order, family, genus and species.
 - c) Which level is the most inclusive?
It is the kingdom level.
 - d) Which level is used as the base identification level?
It is the species level.
 - e) List the seven taxa for a human.
They are Animalia, Chordata, Mammalia, Primates, Hominidae, Homo, sapiens.
7. What are the five kingdoms in the five-kingdom system of classification?
They are Monera, Protista, Fungi, Plantae and Animalia.
8. Into what two kingdoms has the Monera kingdom been divided?
The two kingdoms are Eubacteria and Archaeobacteria.
9. How many domains are there? What are they?
There are three: Archaea, Bacteria, Eukarya.
10. What is the study of the evolutionary history of living things called?
It is called phylogeny.

Section 1-3: Studying Life (Page 15)

Characteristics of Living Things

No single characteristic is enough to describe a living thing.

Living things share the following characteristics:

(8)

- Living things are made up of units called cells.
- Living things reproduce.
- Living things are based on a universal genetic code.
- Living things grow and develop.
- Living things obtain and use materials and energy.
- Living things respond to their environment.
- Living things maintain a stable internal environment*.
- Taken as a group, living things change over time.

*The process by which organisms maintain a relatively stable internal environment is called homeostasis.

Section 19-2: Viruses (Page 478)

What is a virus? ✓

Viruses are particles of nucleic acid (DNA or RNA), protein and in some cases lipids. ✓

They differ widely in terms of size and structure. Most are so small they can only be seen using a powerful electron microscope.

All viruses have one thing in common: they enter living cells and, once inside, use the machinery of the infected cell to produce more viruses.]

virus - Latin word for poison

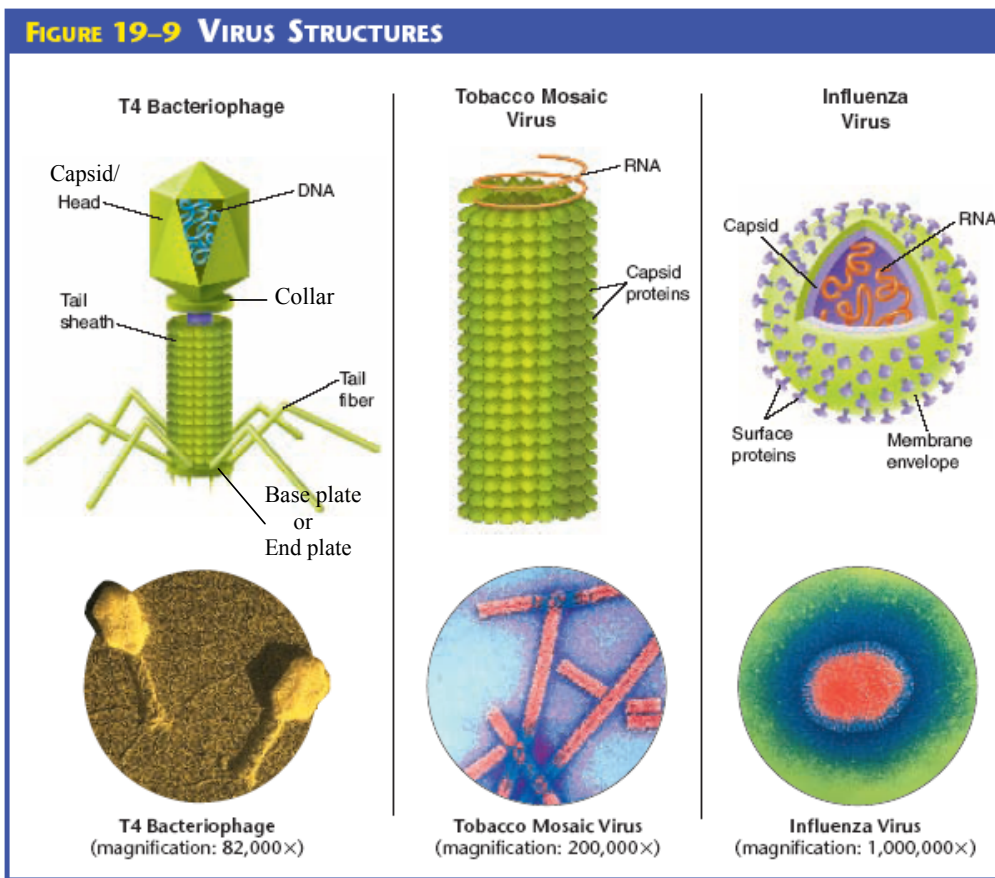
A typical virus is composed of a core of DNA or RNA surrounded by a protein coat or capsid.

The capsid includes proteins that enable a virus to enter a host cell. The capsid proteins bind to receptors on the surface of a cell and "trick" the cell into allowing it inside. Most viruses are highly specific to the cells they infect.

Plant viruses infect plant cells; most animal viruses infect only related species of animals; and bacterial viruses infect only certain types of bacteria. Viruses that infect bacteria are called bacteriophages (bacteria eaters).

phagocytosis

Virus Structure - Page 479



▲ **Figure 19-9** Viruses come in a wide variety of sizes and shapes. A typical virus is composed of a core of either DNA or RNA, which is surrounded by a protein coat, or capsid.

Figure 19-9