

CELLS Study Guide

THINGS TO KNOW (Standards):

1. An object is the sum of its parts. All of the parts of an object add up to be the object. For example, a car is a car because it has an engine, wheels, steering wheel, seats, body, windows, gas tank, etc.
2. Many objects have parts that are too small to be seen without being magnified. (Many cells can not be seen with the naked eye.) Microscopes and hand lenses can help you see plant and animal cells.
3. Living things are made up mostly by cells. Animal and plant cells are structured differently.
 - a. A plant cells has a membrane, wall, cytoplasm, nucleus, and chloroplasts.
 - b. An animal cell has a membrane, cytoplasm, and a nucleus. The membrane, cytoplasm, and nucleus are called the “organelles” of the cell.
4. Multi-celled organisms are both similar and different from single-celled organisms.
5. Microorganisms are too small to be seen with the naked eye.
 - a. There are beneficial microorganisms, and there are harmful microorganisms.
 - b. Microorganisms are living things.
 - c. Microorganisms are not plants and are not animals.
 - d. Decomposers are microorganisms.
 - e. Many microorganisms are used in the food-making process, and aid in human digestion.
 - f. Bacteria are the simplest living group of organisms and are in practically every environment.
 - g. Viruses are not living, but they are still microorganisms.
 - h. Different diseases are caused by microorganisms. There are four major types of germs: bacteria, viruses, fungi, and protozoa.
6. Some organisms’ cells vary greatly in appearance and perform very different roles in the organism.
7. Some organisms are made up of a collection of similar cells the benefit from cooperating.

BIG IDEAS:

- All living things are made of cells.
- Various cell parts carry out the basic functions of life.
- Most microorganisms do not cause disease, and many are beneficial.
- Some living things are made of a single cell; others are made of many cells.
- If germs are able to get inside one’s body, they may keep it from working properly.

What’s the Difference Between Plant Cells and Animal Cells?

