

## Chapter 5 Cells in Biology

### I. What is Cell?

Pronounce the words below!

- |                |                   |            |
|----------------|-------------------|------------|
| a. Bacteria    | e. Eukaryote      | i. Nucleus |
| b. Ribosomes   | f. Squid          | j. Archaea |
| c. Organelles  | g. Photosynthesis | k. DNA     |
| d. Microscopes | h. Organism       |            |

#### 1. Read the text below!

##### Animal Classifications

Cells are the smallest structural and functional units of all living organism. All cells have a cell membrane which controls the flow of substances in and out of the cell. Ribosomes which make proteins necessary for all cell functions. DNA, the genetic instruction the cell needs to make protein and cytoplasm, the watery substance that contains all the cell's structures. Some cells, like bacteria, are individual self-replicating independent life forms called unicellular organisms or single celled organisms. Other cells are part of multicellular organisms such as us humans and collectively carry out specialized functions to keep that organism alive.

The many kinds of cells that exist can be divided into 2 main categories prokaryotes and eukaryotes. Prokaryote cells lack a nucleus. Bacteria are the best known and most studied form of prokaryotic organisms. A recently discovered second group of prokaryotes called archaea also exists.

Cells that do have nuclei are classified as eukaryotes this includes fungus, plant, and animal cells, as well as some unicellular organisms. Beside a nucleus, the other significant difference between prokaryotes and eukaryotes is that eukaryotic cells contain specialized structures called organelles, and which specific life sustaining activities take place for the cell. The major organelles that exist include the Golgi apparatus which sort package process and modify proteins; mitochondria which are the energy provider for the cells; vacuoles the storage units found in some cells; the nucleus which controls all activities in the cell; and the endoplasmic reticulum which serves many general functions. Plant cells also have chloroplasts which are responsible for photosynthesis of sunlight.

Most cells are too small to be seen without the aid of a microscope. There are however exceptions, for example the nerve cell of giant squid can be thirty nine feet long.

#### 2. Answer the questions below!

- How many species of animals are in this word?
- What are vertebrate and invertebrate?
- What are the most known of vertebrate?
- Where do the reptiles live?
- What is the different between reptiles and amphibians?

### II. Listening

#### 1. Listening to the audio and fill the gaps!

Here's what each (1)\_\_\_\_\_ contains; Outer layer is the cell membrane; It controls what goes in and out

The cell gets energy from; The source of (2)\_\_\_\_\_; Also known as the powerhouse

All the (3)\_\_\_\_\_ help the cell with protein synthesis;

Endoplasmic reticulum will carry substances

Breaking down materials, (4)\_\_\_\_\_; The nucleus control the cell;

Kind of like a brain; Contains the DNA when cells divide to replicate;

Outside is a nuclear membrane full of pores

The nucleolus makes ribosomal subunits from proteins;

Secreting hormones are the (5)\_\_\_\_\_; Each unit of a cell is an organelle

The membrane keeps substances out; Inside cell, filled with cytoplasm

Lysosomes help break things down; Energy from mitochondria; Protein factories ribosomes

(6) \_\_\_\_\_; Transfer substances like proteins;

(7)\_\_\_\_\_ controls things

Cell membrane, mitochondria, lysosomes, ribosomes, cytoplasm, nucleus, e.r, golgi bodies, nucleolus.

If you look at a plant cell; They have a few different (8)\_\_\_\_\_;

Chloroplasts, vacuoles, and a cell wall

(9)\_\_\_\_\_ take the sun in convert to food through (10)\_\_\_\_\_

Large vacuoles store food, water and waste

Cell walls is the outer, rigid cellulose as the protector provide structure to the cell

III. Speaking

IV. Writing