

Teachers Guide for “The Cell Song”

CT State Standards	National Science Standards
<p>C. 15 Describe the basic structures of an animal cell, including nucleus, cytoplasm, mitochondria, and cell membrane, and how they function to support life.</p>	<p style="text-align: center;">Structure and Function in Living Systems</p> <ul style="list-style-type: none"> • All organisms are composed of cells – the fundamental unit of life. Most cells are single cells; other organisms, including humans, are multicellular. • Cells carry on the many functions needed to sustain life. They grow and divide, thereby producing more cells. This requires that they take in nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or an organisms needs.

I. Vocabulary covered within “The Cell Song”

1. Nucleus – the control center of the cell which contains the genetic code
2. Mitochondria – power plants of the cell
3. Vacuoles – Store food and water
4. Ribosomes – make proteins
5. Golgi bodies – Packaging and shipping centers in the cell
6. Endoplasmic reticulum – Highway system in cell responsible for protein transport
7. Lysosomes – cell janitors
8. Cytoplasm – gel-like substance that the cell parts are floating in
9. Cell Membrane – controls what comes in and out of the cell
10. Chloroplasts – part of plant cells where photosynthesis occurs
11. Cell wall – extra protective barrier only plant cells have

II. Understanding Cell Concepts within the Song

1. The cell works like a factory with many different parts working together to create proteins, transport substances, control what comes in and out, etc. The vocabulary words mentioned above are the primary parts of the cell.

2. Cells serve as the building blocks of all living things. They can be found in all organisms. They are often specialized as found in humans.
3. Plant cells differ from animal cells because they make their own food. They have chloroplasts where photosynthesis occurs and cell walls, which are an extra protective coating. Plant cells also have larger vacuoles.

Student Worksheet for "The Cell Song"

Part I. Match the following vocabulary words found in the cell song with their correct definitions.

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|-----------------------------|---|
| ___1. Mitochondria | A. Part responsible for protein transport |
| ___2. Lysosomes | B. Control center of the cell |
| ___3. Endoplasmic Reticulum | C. Extra protective barrier in plant cells |
| ___4. Cytoplasm | D. Gel like substance cell parts are in |
| ___5. Ribosomes | E. Packaging and shipping centers of the cell |
| ___6. Chloroplasts | F. Controls what comes in and out of the cell |
| ___7. Nucleus | G. Part of cell where photosynthesis occurs |
| ___8. Cell Wall | H. Stores food and water in a cell |
| ___9. Vacuole | I. Cell janitors |
| ___10. Golgi Bodies | J. Power plants of the cell |
| ___11. Cell membrane | K. Make proteins for the cell |

Part II. Answer the following questions to the best of your ability.

1. If you were to compare animal and plant cells, what would be two major differences found in plant cells as compared to plant cells?

2. Why are cells considered the building blocks of life?

3. Draw and label a picture of an animal cell using the parts you learned about in the song.