**Topic Review Guide**: Cell Structure - Subcellular Components (Topic 2.1)

**To Think About**: How do ribosomes reflect the common ancestry of all known life? What is the structure and function of the following subcellular organelles; ribosomes, rough ER, smooth ER, Golgi complex, mitochondria, lysosomes, a vacuole, and chloroplasts?

**Watch:** [**AP Daily Video 2.1 Cell Structure-Subcellular Components**](https://apclassroom.collegeboard.org/d/aay5b8rmhz?sui=6,2)

**Read:** Chapter 4.3 and 4.4, Biology in Focus

**Supplementary Resources**: Click the links below for more information to help you learn more about this lesson.

* [Guided Notes 2.1](https://docs.google.com/document/d/1XJPb7qeAqbop1Gq3Ea5Rik1AWk_4qs1fN7Cx5UPCl8A/edit?usp=sharing)
* [Slideshow](http://explorebiology.com/pptAP/CELLS/02Ch05organelles12007.ppt.pdf)
* Mr. Andersen’s [“Cellular Organelles” video](https://youtu.be/aczbMlSMr8U)
* Harvard : [The Inner Life of the Cell](http://www.youtube.com/watch?v=wJyUtbn0O5Y)
* Crash Course Biology: [Eukaryopolis—The City of Animal Cells](https://www.youtube.com/watch?v=cj8dDTHGJBY)
* Sumanas, Inc: [The Evolution of Organelles](http://www.sumanasinc.com/webcontent/animations/content/organelles.html)
* Wiley Publishing: [Cell Structure](http://www.wiley.com/legacy/college/boyer/0470003790/animations/cell_structure/cell_structure.swf)
* Crash Course Biology: [Plant Cells](https://www.youtube.com/watch?v=9UvlqAVCoqY)
* Cells Alive!: [Interactive Cell Models](http://www.cellsalive.com/cells/3dcell.htm)
* Florida State-Molecular Expressions: [Animal Cells](http://micro.magnet.fsu.edu/cells/animalcell.html)
* Florida State-Molecular Expressions: [Bacterial Cells](http://micro.magnet.fsu.edu/cells/bacteriacell.html)
* Florida State-Molecular Expressions: [Plant Cells](http://micro.magnet.fsu.edu/cells/plantcell.html)
* The Biology Place BioCoach: [Cell Structure and Function](http://www.phschool.com/science/biology_place/biocoach/cells/intro.html)

**Recall and Review:** Use the lecture in the video and your textbook to help you answer these questions in your BILL. Before you start, mark your level of understanding. After you have completed the questions, then check to see what level of understanding you have achieved. If you’re still at a level N or level A after in-class activities and before quizzes, it is recommended that you stop in for office hours.

See TRG Questions on the back of this sheet.

| **Essential Knowledge:**  What You Absolutely Must Know and Understand | | | | |
| --- | --- | --- | --- | --- |
| Levels of Mastery | | | | *I can describe the structure and/or function of subcellular components and organelles. (Topic 2.1)* |
| **N** | **A** | **E** | **M** | **Questions You Should Be Able to Answer** |
|  |  |  |  | 1. **Create a diagram (model)** of a prokaryotic cell, labeling the typical structures shared by all prokaryotic cells. |
|  |  |  |  | 1. **Create** a table in your BILL containing the following information about eukaryotic cell organelles:  | **Organelle** | **Description of Structure** | **Description of function (actual function, not an analogy)** | **Located in plant cell, animal cell, both?** | | --- | --- | --- | --- | |
|  |  |  |  | 1. **Create** a Venn diagram that compares and contrasts the structure and function of both plant and animal cells. |

| Learn More: For more information about cell structure and function, use the links below:   * [CellCraft](http://www.carolina.com/teacher-resources/Interactive/online-game-cell-structure-cellcraft-biology/tr11062.tr): a game that lets you build a cell from scratch and then attempt to keep it alive * [Unlocking the Secrets of our Cells](http://www.nobelprize.org/mediaplayer/index.php?id=1781): a documentary from the Nobel Prize Foundation about discoveries relating to the structure and function of our cells * [The Cell and Its Organelles](http://www.nobelprize.org/educational/medicine/cell/game/): a game from the Nobel Prize Foundation that tests your knowledge of cell organelles * Mr. Andersen’s [“A Tour of the Cell” video](http://www.bozemanscience.com/a-tour-of-the-cell) * [1974 Nobel Prize in Physiology and Medicine](http://www.nobelprize.org/nobel_prizes/medicine/laureates/1974/): awarded for “discoveries concerning the structural and functional organization of the cell.” |
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