

Animal Cell Organelle Roles and Terminology Grade 12 Biology – Biochemistry

<h2 style="margin: 0;">Lesson</h2>	Cross Curricular	Computational Thinking
	Safety Notes	Practice proper posture when using a computer
<p>Big Ideas</p> <ul style="list-style-type: none"> Investigate appropriate terminology and roles related to organelles. <p>Learning Goals</p> <ul style="list-style-type: none"> Students will learn appropriate terminology related to organelles, including lysosomes, vacuoles, mitochondria, ribosomes, smooth and rough endoplasmic reticulum, and Golgi bodies. Students will learn the roles of the various organelles, such as lysosomes, vacuoles, mitochondria, internal cell membranes, ribosomes, smooth and rough endoplasmic reticulum, and Golgi bodies. Students will learn about computational thinking. Students will create digital cue cards with computational thinking and coding. 	<p>Specific Expectations</p> <ul style="list-style-type: none"> Use appropriate terminology related to and matching the roles of various organelles, such as lysosomes, vacuoles, mitochondria, ribosomes, smooth and rough endoplasmic reticulum, and Golgi bodies, in cellular processes. 	
<p>Description</p> <p>Students will learn appropriate terminology and the roles of various animal cell organelles, such as lysosomes, vacuoles, mitochondria, ribosomes, smooth and rough endoplasmic reticulum, and Golgi bodies.</p>		
<p>Materials</p> <ul style="list-style-type: none"> <i>Biochemistry Animal Cell Organelle Terminology with Coding</i> handout. <i>Biochemistry Animal Cell Organelle Terminology with Coding Teacher Copy</i> handout Internet Internet Accessible Devices such as Chromebooks, Computers, or Ipads 	<p>Accommodations/Modifications</p> <p>Students have the opportunity to type, verbally record with speech-to-text software, and draw their answers.</p>	

Introduction

- Introduction: Cell Analogy – Animal Cells Compared to SpongeBob
https://www.youtube.com/watch?v=2fVB7N1t_yY

Action

- Educators will direct students to use a variety of sources, such as textbooks and the internet, to research and define the following terms, and relate the terms to organelles in the **Animal Cell Organelle Terminology** section of the *Biochemistry Animal Cell Organelle Terminology with Coding* handout.
- Once a student completes the **Animal Cell Organelle Change Terminology** section of the *Biochemistry Animal Cell Organelle Terminology with Coding* handout, they will find a partner that is also finished to review each of the terms and how they relate to cell.
- Educators will review the **Animal Cell Organelle Change Terminology** with the *Biochemistry Animal Cell Organelle Terminology with Coding Teacher Copy* handout, asking students to volunteer their results and ideas.
- Students will view and engage with Scratch program, *Biochemistry Animal Cell Organelle Terminology Part 1 Example*, <https://scratch.mit.edu/projects/359203206/>
- Educators will direct students to brainstorm coding methods in the **Brainstorming** section of the *Biochemistry Animal Cell Organelle Terminology with Coding* handout to solve the patten that will efficiently include the remaining terminology: Vacuoles, Mitochondria, Golgi Apparatus, and Lysosomes.
- Students will use computational thinking skills to remix the *Biochemistry Animal Cell Organelle Terminology Part 1 Example*, <https://scratch.mit.edu/projects/359203206/> , with the purpose of coding the remaining terminology, Vacuoles, Mitochondria, Golgi apparatus, and Lysosomes, into the program efficiently.

Consolidation/Extension

- Educators will share the *Biochemistry Animal Cell Organelle Terminology Part 2* Scratch program, <https://scratch.mit.edu/projects/359693257/>, with the students to provide an example on how to efficiently code all of the required animal cell organelle terminology into the Scratch program.
- Students will compare and contrast their remixed code and the *Biochemistry Animal Cell Organelle Terminology Part 2* Scratch program, <https://scratch.mit.edu/projects/359693257/>
- Review: Watch *The Parts of a Cell Song*: <https://www.youtube.com/watch?v=NkC9AiJf7gI>