

Cells: Understanding Life Systems Complete Unit

Lesson 1 – Cell Theory

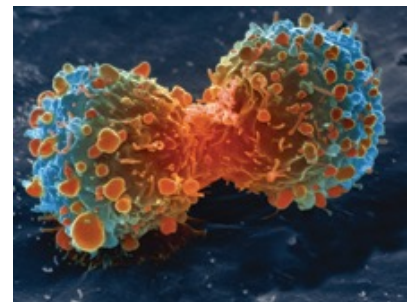
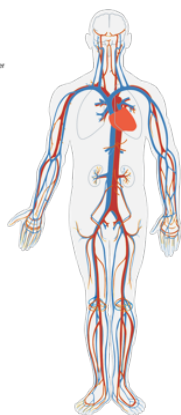
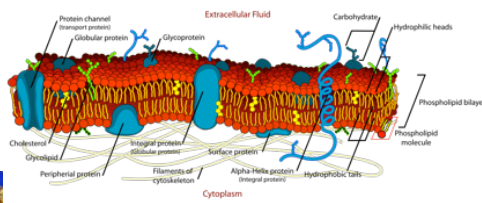
Lesson 2 – Animal Cells

Lesson 3 – Plant Cells

Lesson 4 – Diffusion and Osmosis through the Cell Membrane

Lesson 5 – Unicellular and Multicellular Organisms

Lesson 6 – Cell Organization



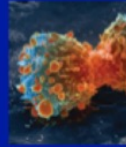
The Cell Theory – An Introduction

- Biology
- Cell facts
- Discovery of cells
- Cell Theory Scientists
- The Cell theory
- The Modern day cell theory
- Types of cells



Animal Cells

- Function of Cells
- The Cell Theory
- Animal Cells
- Cell Components and Organelles
 - Cytoplasm
 - Cell Membrane
 - Nucleus
 - Mitochondria
 - Endoplasmic Reticulum
 - Golgi Bodies
 - Vacuoles



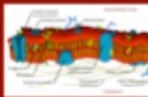
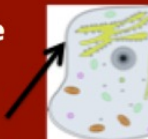
Plant Cells

- Function of Cells
- Animal vs. Plant Cells
- Common Cell Organelles
- Plant Specific Organelles
 - Large Vacuoles
 - Cell Wall
 - Chloroplasts
- Photosynthesis



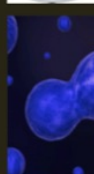
Diffusion and Osmosis through the Cell Membrane

- The Cell Membrane
- Phospholipids
- Semi-Permeable
- Membrane Channels
- Cell Membrane Transport
- Diffusion
- Osmosis
- Hypotonic, Hypertonic and Isotonic Solutions



Unicellular and Multicellular Organisms

- Cells
- Unicellular Organisms
 - ✓ Bacteria, Protozoa, Fungi and Amoeba
- Multicellular Organisms
 - ✓ Plants, Animals and some Fungi and algae
- How They Meet Their Needs
 - ✓ Feeding
 - ✓ Movement
 - ✓ Reproduction
 - ✓ Gas Exchange



Cell Organization - Cells, Tissues, Organs and Systems

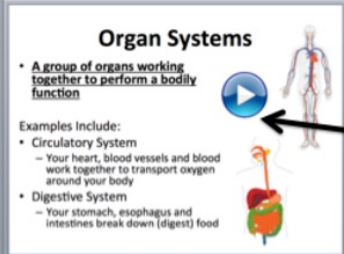
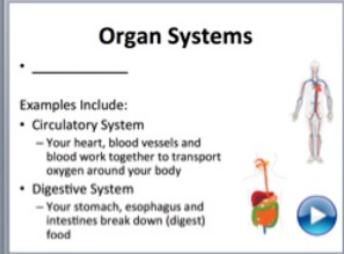
- Cells
- Cells vs. Living things
 - What do they have in common?
- Cellular Organization
- Specialized Cells
 - ✓ Muscle Cells
 - ✓ Nerve Cells
- Tissues
- Organs
- Organ Systems



What You Get

Inside the Unit

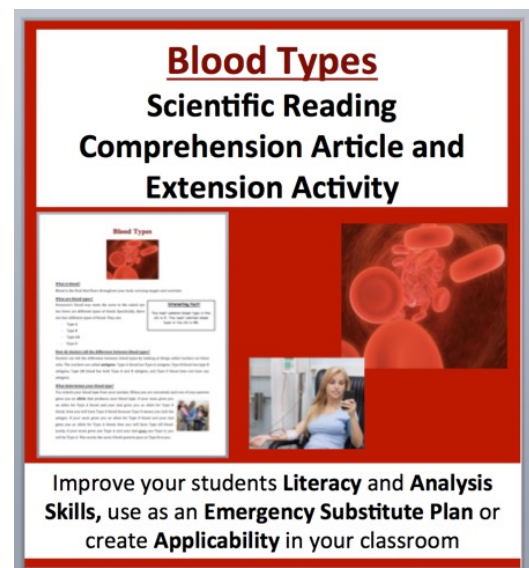
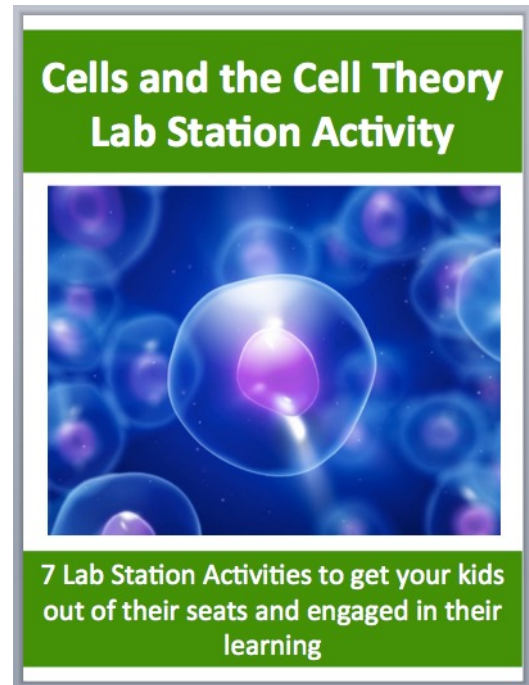
- 4 weeks of teaching
- 7 PowerPoint lessons complete with Teacher and Student Versions
 - Multiple videos embedded into the slides of each lesson
- 1 Lab Station Activity
- 1 Scavenger Hunt Activity
- 4 Reading Comprehension Articles
- 5 Class Activities/Assignments
- Student notes in Word

Teacher Version	
 Organ Systems • A group of organs working together to perform a bodily function Examples Include: • Circulatory System – Your heart, blood vessels and blood work together to transport oxygen around your body • Digestive System – Your stomach, esophagus and intestines break down (digest) food	Embedded Video Click in slideshow mode and it automatically opens
Student Version	
 Organ Systems • _____ Examples Include: • Circulatory System – Your heart, blood vessels and blood work together to transport oxygen around your body • Digestive System – Your stomach, esophagus and intestines break down (digest) food	Some text is removed in the student version. This keeps your students focused and engaged.

Specifics

Inside the Unit

- 1 Lab Station Activity
 - Cells and the Cell Theory
- 4 Reading Comprehension Articles
 - Blood Types
 - Genetics and Gene Therapy
 - Stem Cell Therapy
 - The Immune System
- 1 Device-Based Scavenger Hunt Activity
- 5 Class Activities/Assignments

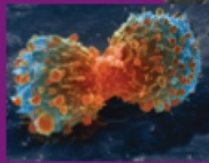


Lessons Included In The Unit

1. [The Cell Theory: An Introduction](#)
2. [Animal Cells](#)
3. [Plant Cells](#)
4. [Diffusion and Osmosis through the Cell Membrane](#)
5. [Unicellular and Multicellular Organisms](#)
6. [Cell Organization - Cells, Tissues, Organs, and Systems](#)

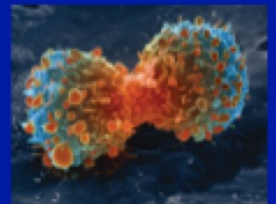
The Cell Theory – An Introduction

- Biology
- Cell facts
- Discovery of cells
- Cell Theory Scientists
- The Cell theory
- The Modern day cell theory
- Types of cells



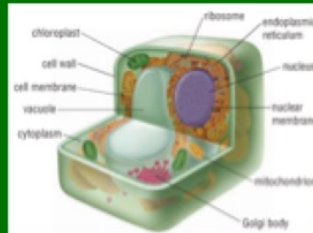
Animal Cells

- Function of Cells
- The Cell Theory
- Animal Cells
- Cell Components and Organelles
 - Cytoplasm
 - Cell Membrane
 - Nucleus
 - Mitochondria
 - Endoplasmic Reticulum
 - Golgi Bodies
 - Vacuoles



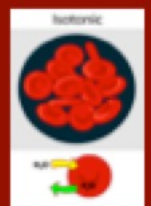
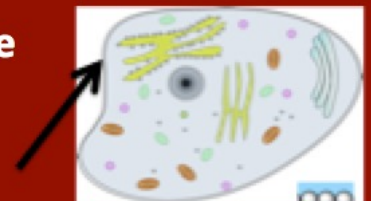
Plant Cells

- **Function of Cells**
- **Animal vs. Plant Cells**
- **Common Cell Organelles**
- **Plant Specific Organelles**
 - **Large Vacuoles**
 - **Cell Wall**
 - **Chloroplasts**
- **Photosynthesis**



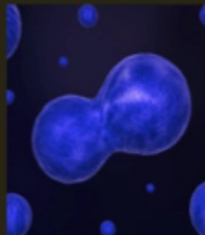
Diffusion and Osmosis through the Cell Membrane

- **The Cell Membrane**
- **Phospholipids**
- **Semi-Permeable**
- **Membrane Channels**
- **Cell Membrane Transport**
- **Diffusion**
- **Osmosis**
- **Hypotonic, Hypertonic and Isotonic Solutions**



Unicellular and Multicellular Organisms

- **Cells**
- **Unicellular Organisms**
 - ✓ Bacteria, Protozoa, Fungi and Amoeba
- **Multicellular Organisms**
 - ✓ Plants, Animals and some Fungi and algae
- **How They Meet Their Needs**
 - ✓ Feeding
 - ✓ Movement
 - ✓ Reproduction
 - ✓ Gas Exchange



Cell Organization - Cells, Tissues, Organs and Systems

- **Cells**
- **Cities vs. Living things**
 - What do they have in common?
- **Cellular Organization**
- **Specialized Cells**
 - ✓ Muscle Cells
 - ✓ Nerve Cells
- **Tissues**
- **Organs**
- **Organ Systems**

