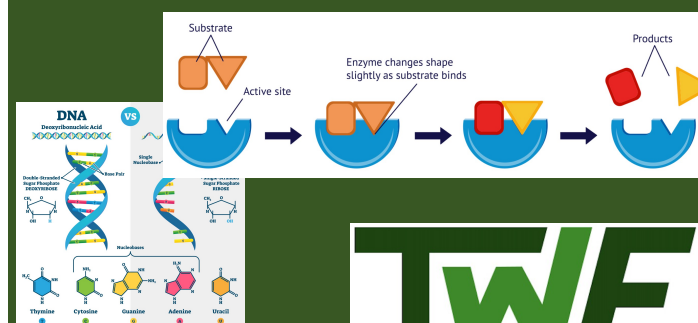
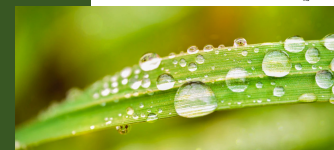
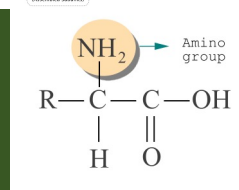
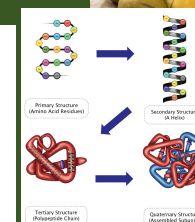
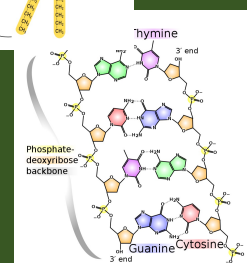
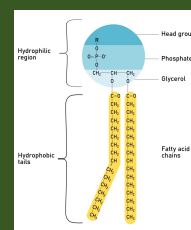
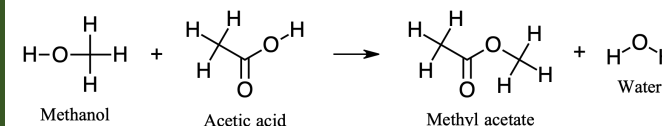


Biochemistry - Unit

- 4-5 weeks of teaching material
- 6 Lessons in Office and Google Format
- 6 Activities
- 2 Unit Tests with Answer Key
- Many Practice Problems

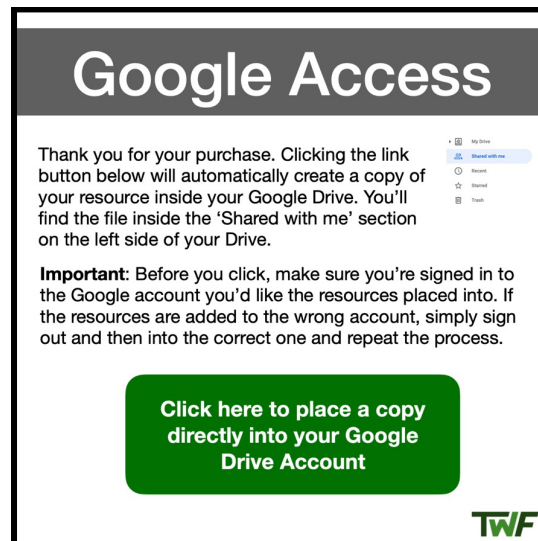
1. Biochemistry - Senior Biology Introduction
2. Carbon Chemistry
3. Carbohydrates and Lipids
4. Proteins and Nucleic Acids
5. Enzymes
6. Cell Membrane and Transport



TWIF

Office and Google Versions

- The lessons inside this unit come in both PowerPoint and Google Slides format
- Each lesson also contains an Exit Ticket that you can use to check for student understanding
- Your resource is perfect for distance learning and integrates seamlessly with Google Classroom as I've included a link that will automatically create a copy of the resources and put them directly into your Google Drive with one click



Thank you for your interest

Inside the Unit

- 5 weeks of teaching material
- 6 lessons
- Office and Google versions of EACH lesson
- Teacher and student versions for each lesson
- Many videos and simulations embedded into the slides
- Student notes in Word and Google Doc

Semi-permeable Membrane

What molecules can get through the cell membrane directly?

- **Hydrophobic (water hating) and small, uncharged polar molecules can pass directly through**

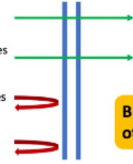
Hydrophobic molecules
• O_2 , N_2 , CO_2 , etc.

Small, uncharged polar molecules
• H_2O , glycerol, etc.

Large, uncharged polar molecules
• glucose, sucrose, etc.

Ions
• Cl^- , K^+ , Na^+ , etc.

But what about the other stuff?



Semi-permeable Membrane

What molecules can get through the cell membrane directly?

- _____

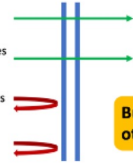
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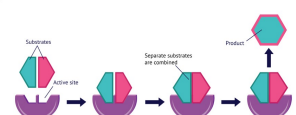
Ions
• Cl^- , K^+ , Na^+ , etc.

But what about the other stuff?



Enzyme Activity

- Reactions will occur while the substrate is attached
- **These chemical changes cause the enzyme to lose its affinity for the new product**
- The product will be released, and the active site opens for the next substrate to enter

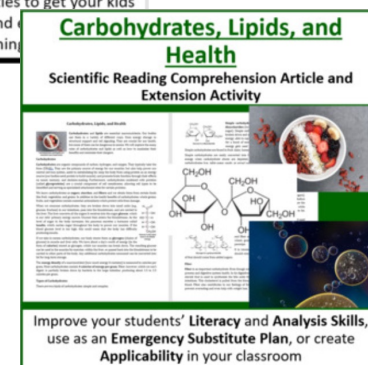
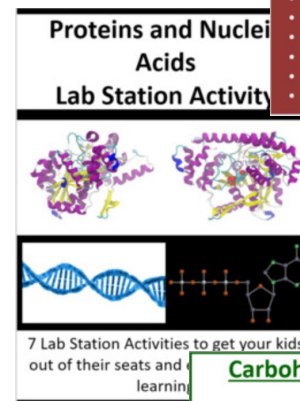
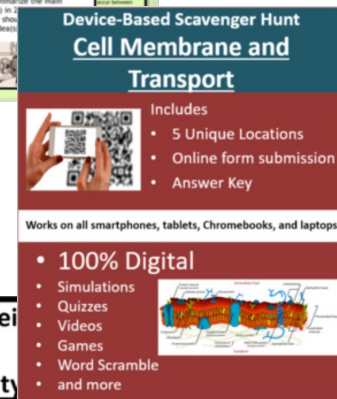
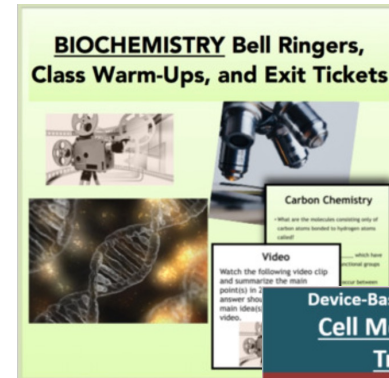


2

Thank you for your interest

Inside the Unit

- 2 Unit Test with Answer Key
- Biochemistry Bell Ringers
- Biochemistry – Digital Scavenger Hunt
- Cell Membrane and Transport – Digital Scavenger Hunt
- Carbohydrates, Lipids, and Health – Reading
- RuBisCo - Reading
- Proteins and Nucleic Acids - Lab Station Activity



Thank you for your interest

The following lessons are included.
Please click on any to preview.

[Lesson 1 - Biochemistry - Introduction](#)

[Lesson 2 - Carbon Chemistry](#)

[Lesson 3 - Carbohydrates and Lipids](#)

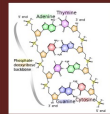
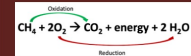
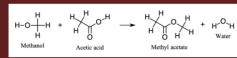
[Lesson 4 - Proteins and Nucleic Acids](#)

[Lesson 5 - Enzymes](#)

[Lesson 6 - Cell Membrane and Transport](#)

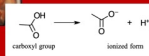
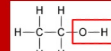
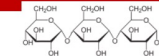
Biochemistry Introduction

- Biochemistry
- Organic Compounds
- Chemical Reactions
 - Dehydration Reactions
 - Hydrolysis Reactions
 - Neutralization Reactions
 - Redox Reactions



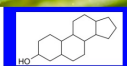
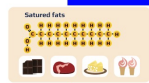
Carbon Chemistry

- Carbon
- Organic Molecules
- Hydrocarbons
- Functional Groups
- Acids and Bases
- Dehydration Reactions
- Hydrolysis Reactions



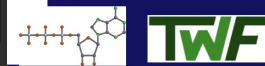
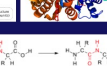
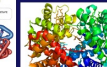
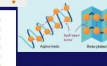
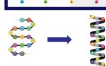
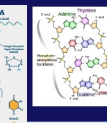
Carbohydrates and Lipids

- Carbohydrates
- Isomers
- Mono-, Di-, and Polysaccharides
- Lipids
- Fatty Acids
- Fats - Triglycerides
- Phospholipids
- Steroids



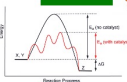
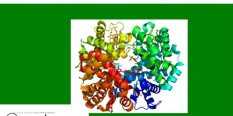
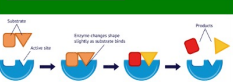
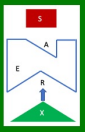
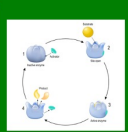
Proteins and Nucleic Acids

- Function of Proteins
- Amino Acids Structure
- Essential Amino Acids
- Polypeptides
- Protein Structure
 - Primary, Secondary, Tertiary, Quaternary



Enzymes

- How Catalysts Work
- Enzyme Activity
- Cofactors and Coenzymes
- Enzyme Inhibition - Competitive and Non-Competitive
- Allosteric Regulation
- Feedback Inhibition
- Increasing and Decreasing Enzyme Activity
- Enzyme Denaturing
- Lactose Intolerance



Cell Membrane and Transport

- Cell Membrane as a Boundary
- Phospholipid Bilayer
- Semi-permeable Membrane
- Cell Membrane Channels
- The Fluid Mosaic Model
 - Simple Diffusion
 - Facilitated Diffusion
 - Osmosis
- Active Transport
 - Phagocytosis
 - Pinocytosis
- Exocytosis
- Hypertonic, Isotonic, and Hypotonic Water Balance

