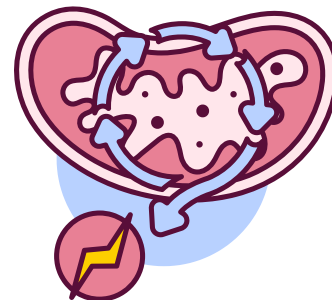
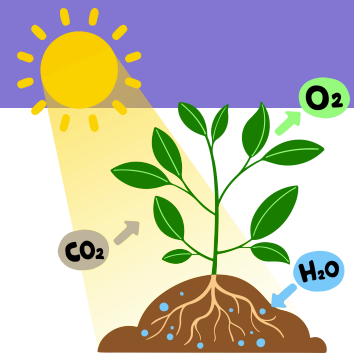
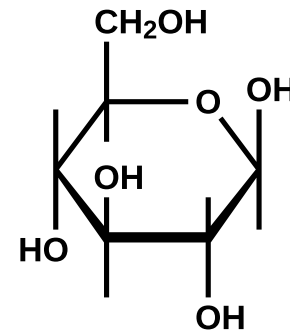
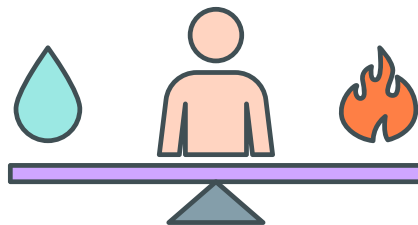
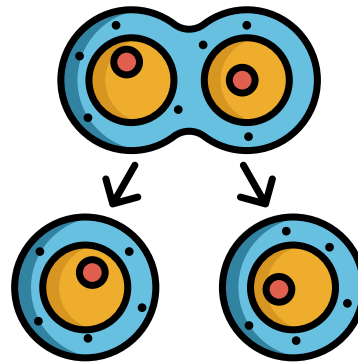
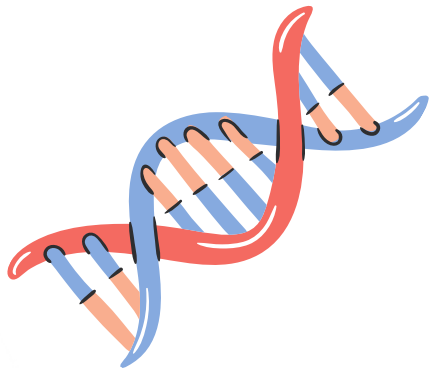


# NGSS HS-LS1

## Molecules to Organisms: Structures & Processes Full Standard BUNDLE

- ✓ Everything You Need to Teach NGSS HS-LS1
- ✓ Lessons, Activities, Labs, Projects, and more
- ✓ HS-LS1-1, LS1-2, LS1-3, LS1-4, LS1-5, LS1-6, LS1-7



# Bundles Included

## NGSS HS-LS1-1 Curriculum Bundle

### DNA to Proteins: How Structure Drives Function

- ✓ 5 Lessons and 5 Activities
- ✓ Everything You Need to Teach NGSS HS-LS1-1



## NGSS HS-LS1-2 Curriculum Bundle

### Body Systems at Work: Modeling Interactions in Multicellular Organisms

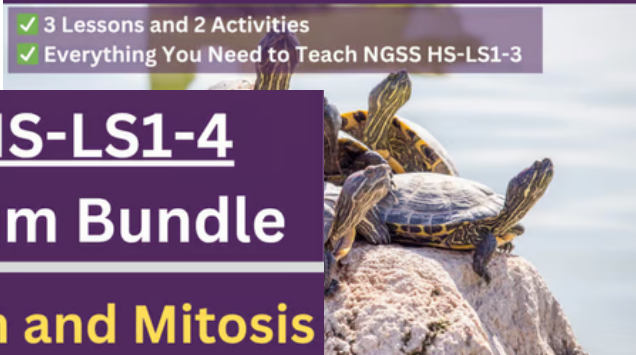
- ✓ 2 Lessons and 4 Activities
- ✓ Everything You Need to Teach NGSS HS-LS1-2



## NGSS HS-LS1-3 Curriculum Bundle

### Maintaining Homeostasis

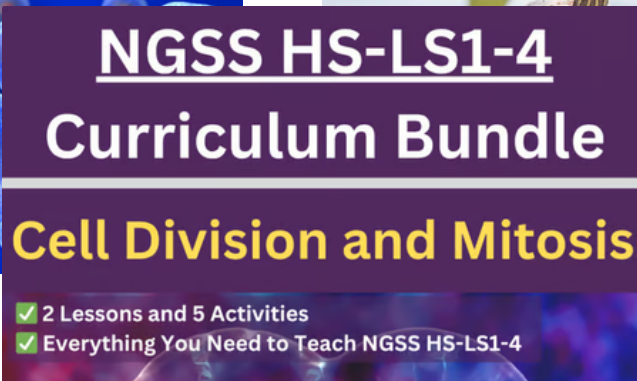
- ✓ 3 Lessons and 2 Activities
- ✓ Everything You Need to Teach NGSS HS-LS1-3



## NGSS HS-LS1-4 Curriculum Bundle

### Cell Division and Mitosis

- ✓ 2 Lessons and 5 Activities
- ✓ Everything You Need to Teach NGSS HS-LS1-4



## NGSS HS-LS1-5 Curriculum Bundle

### Photosynthesis: Light to Chemical Energy

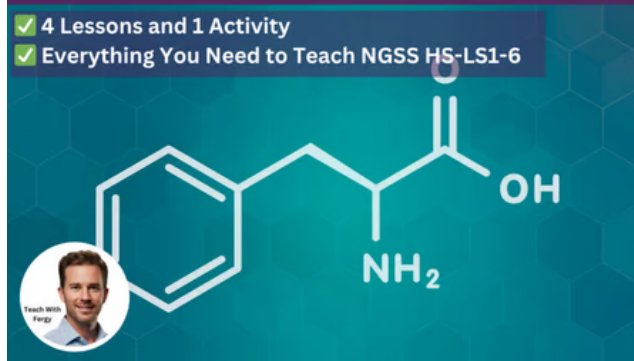
- ✓ 2 Lessons and 5 Activities
- ✓ Everything You Need to Teach NGSS HS-LS1-5



## NGSS HS-LS1-6 Curriculum Bundle

### Sugar to Structures: Modeling Carbon-Based Molecules

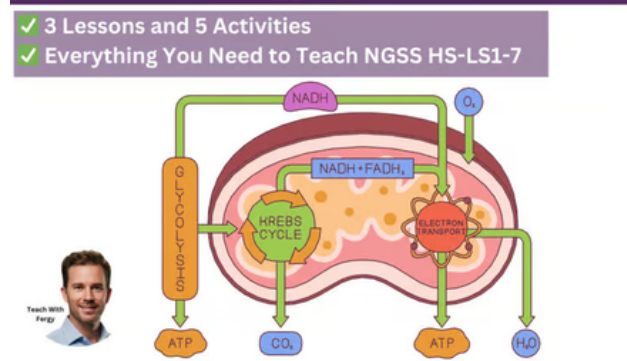
- ✓ 4 Lessons and 1 Activity
- ✓ Everything You Need to Teach NGSS HS-LS1-6



## NGSS HS-LS1-7 Curriculum Bundle

### Cellular Respiration Model: Energy Transfer

- ✓ 3 Lessons and 5 Activities
- ✓ Everything You Need to Teach NGSS HS-LS1-7



# Everything You Need to Completely Cover NGSS HS-LS1

## Complete Lessons

## Activities

## Labs

## Projects

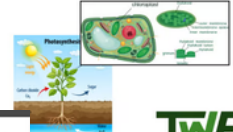
### Mitosis and the Cell Cycle

- From One to Trillions
- Why it Happens
- The Cell Cycle
- Genetic Material
- Genes
- Interphase
- Mitosis Stages
- Cytokinesis
- Checkpoints in Mitosis
- Errors in Mitosis



### PHOTOSYNTHESIS INFOGRAPHIC ASSIGNMENT

- Students are tasked with creating an infographic that demonstrates their understanding of photosynthesis
- Full rubric included



### PHOTOSYNTHESIS COMIC BOOK ASSIGNMENT

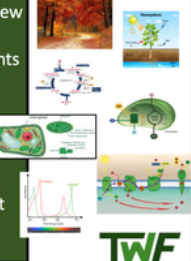
#### High School

- Students create a comic book that narrates the journey of a carbon atom through the process of photosynthesis
- Full rubric included



### Photosynthesis

- Photosynthesis overview and equation
- Chloroplasts & Pigments
- Photosynthesis & Cellular Respiration connection
- Chlorophyll a & b
- The Light Reaction
- The Light Independent Reaction/Calvin Cycle
- Essential RuBisCO



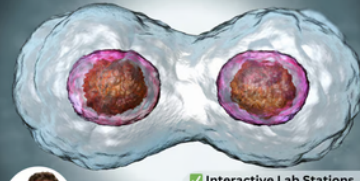
### Exercise and its Importance for Health - Scientific Reading Comprehension Article

Improve your students Scientific Literacy and Analysis Skills, use as an Emergency Substitute Plan or create Applicability in your classroom



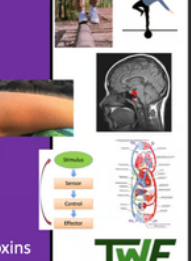
### Cell Cycle and Mitosis Lab Station Activity

- ✓ Interactive Lab Stations
- ✓ Mitosis & Cell Cycle Review
- ✓ No-Prep Setup
- ✓ Bonus Word Activities



### Homeostasis

- Homeostasis
- Homeostatic control systems have 3 parts:
  - Sensor
  - Integrator
  - Effector
- Negative Feedback
- Positive Feedback
- Examples including
  - Thermoregulation, removing wastes/toxins



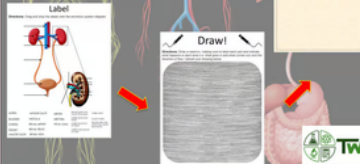
### Chapter 4: The Excretory System

#### Digital Interactive Notebook Pages

- 100% Digital and Interactive
- Perfect for your Google Classroom or Microsoft OneDrive

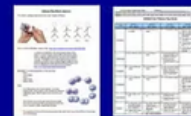
Report!

Draw!



### Mitosis Flip Book Activity

- Designed to get kids really looking at the process of mitosis
- Effective learning & studying tool
- Comes with a fully description plus a detailed marking & peer evaluation rubric.



# The Standard is Explained and the Resources it Incorporates are Outlined

## HS-LS1 From Molecules to Organisms: Structures and Processes

Note: There may be resources that overlap between the standards. Simply choose the order that best fits your classroom. Also, there are more resources here than you will most likely decide to use. I have provided extra so you can make the best decision for your students on what is best to include.

**HS-LS1-1.** Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells. [Assessment Boundary: Assessment does not include identification of specific cell or tissue types, whole body systems, specific protein structures and functions, or the biochemistry of protein synthesis.]

### Resources:

- Proteins and Nucleic Acids – Lesson
- Genetic Material - Lesson
- Translation – Lesson
- Transcription - Lesson
- Specialized Cells – Lesson
- Proteins and Nucleic Acids - Lab Station Activity
- Genetic Material – Scavenger Hunt Activity
- Transcription and Translation - Lab Station Activity
- Crash Course BIOLOGY Video Worksheet Translation
- Bill Nye Video Worksheet - Genes

**HS-LS1-2.** Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. [Clarification Statement: Emphasize functions at the organism system level such as nutrient uptake, water delivery, and organism movement in response to neural stimuli. An example of an interacting system could be an artery depending on the proper function of elastic tissue and smooth muscle to regulate and deliver proper amount of blood within the circulatory system.] [Assessment Boundary: Assessment does not include interactions and functions at the molecular or chemical reaction level.]

### Resources:

- Specialized Cells - Lesson
- Cell Membrane and Transport - Lesson
- Cell Membrane and Transport – Scavenger Hunt Activity
- Crash Course Video Worksheet 24 Cell Membranes
- Crash Course Video Worksheet 41 Multicellular Function
- Cell Organization - Digital Interactive Notebook Pages

**HS-LS1-6.** Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules. [Clarification Statement: Emphasis is on using evidence from models and simulations to support explanations.] [Assessment Boundary: Assessment does not include the details of the specific chemical reactions or identification of macromolecules.]

### Resources:

- Biochemistry Introduction – Lesson
- Carbohydrates and Lipids – Lesson
- Carbon Chemistry – Lesson
- Proteins and Nucleic Acids – Lesson
- Crash Course Carbon & Biological Molecules - Video Worksheet

**HS-LS1-7.** Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy. [Clarification Statement: Emphasis is on the conceptual understanding of the inputs and outputs of the process of cellular respiration.] [Assessment Boundary: Assessment should not include identification of the steps or specific processes involved in cellular respiration.]

### Resources:

- Introduction to Cellular Respiration and Fermentation – Lesson
- Efficiency and Regulation of Cellular Respiration – Lesson
- Krebs Cycle and ETC – Lesson
- Krebs Cycle - Worksheet
- Cellular Respiration - Lab Station Activity
- Exercise and its Importance for Health – Reading
- Clothespins and Muscle Fatigue – Activity
- Cellular Respiration Do Cells Breathe - Video Worksheet

**HS-LS1-3.** Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. [Clarification Statement: Examples of investigations could include heart rate response to exercise, stomate response to moisture and temperature, and root development in response to water levels.] [Assessment Boundary: Assessment does not include the cellular processes involved in the feedback mechanism.]

### Resources:

- Homeostasis – Lesson
- Thermoregulation – Lesson
- The Urinary System - Lesson
- Thermoregulation - Lab Station Activity
- The Excretory System - Digital INB Pages

**HS-LS1-4.** Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms. [Assessment Boundary: Assessment does not include specific gene control mechanisms or rote memorization of the steps of mitosis.]

### Resources:

• Importance of Cell Division - Lesson  
 • Mitosis and Cell Division - Lesson  
 • Mitosis and Mitosis Lab Station - Activity  
 • Crash Course Mitosis and the Cell Cycle - Video Worksheet  
 • Mitosis and Cell Division – Scavenger Hunt Activity  
 • Mitosis and the Cell Cycle Word Search and Scramble – Activity  
 • Mitosis Flip Book - Activity

• Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy. [Clarification Statement: Emphasis is on illustrating inputs and outputs of matter and the transformation of energy in photosynthesis by plants and other photosynthesizing organisms. Examples of models could include diagrams, chemical equations, and conceptual models.] [Assessment Boundary: Assessment does not include specific biochemical steps.]

• Photosynthesis - Lesson – Grades 9 and 10  
 • Photosynthesis - Lesson - Grades 11 and 12  
 • Crash Course Photosynthesis - Video Worksheet  
 • Photosynthesis – Reading  
 • Photosynthesis - Infographic Assignment  
 • Photosynthesis - Comic Book Assignment  
 • Photosynthesis - Lab Station Activity

# **Who is this Bundle for?**

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- **Teachers who teach High School Science and use the NGSS**
- **Teachers who want multiple resources at their fingertips including lessons and a variety of activities, in order to meet the standard**
- **Teachers who don't have time to develop their own resources or organize what to teach and when**