

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

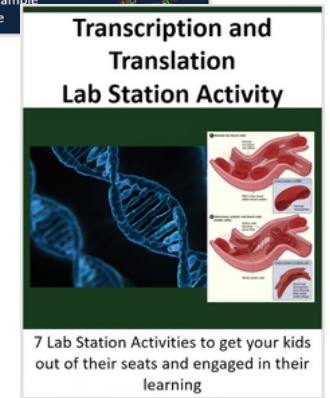
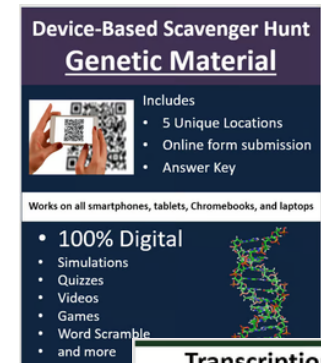
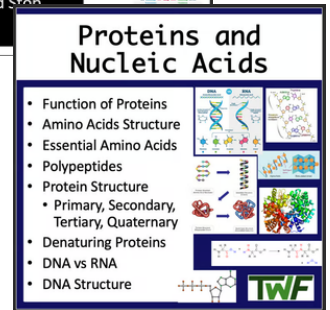
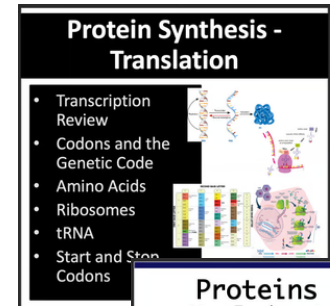


Resources Included

✓ 5 Lessons

✓ 5 Activities

- 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



Everything You Need to Teach NGSS HS-LS1-1

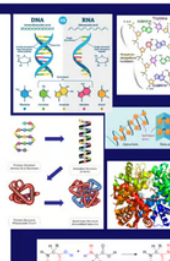
Specialized Cells

- Hierarchy of Cells
- Specialized Cells
- Cells
- Tissues
- Organs
- Organ Systems
- Organisms



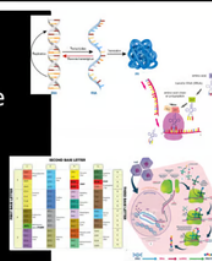
Proteins and Nucleic Acids

- Function of Proteins
- Amino Acids Structure
- Essential Amino Acids
- Polypeptides
- Protein Structure
 - Primary, Secondary, Tertiary, Quaternary
- Denaturing Proteins
- DNA vs RNA
- DNA Structure



Protein Synthesis - Translation

- Transcription Review
- Codons and the Genetic Code
- Amino Acids
- Ribosomes
- tRNA
- Start and Stop Codons



Genetic Material - DNA and RNA

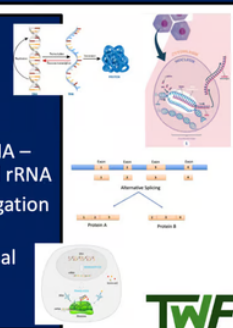
- Structure of Nucleotides
- Functions of Nucleic Acids
- Humans vs. Chimps
- DNA vs. RNA
- Nitrogenous bases
- DNA Facts
- Genes
- DNA Hierarchy



TWF

Protein Synthesis - Transcription

- One gene – one polypeptide
- Transcription
- DNA vs. RNA
- Three types of RNA – mRNA, tRNA, and rRNA
- Initiation → Elongation → Termination
- Post transcriptional Modifications

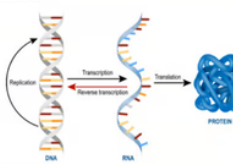


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Crash Course Biology 2.0 #35: Translation: How RNA Gets Translated into Protein Power

- ✓ Classroom Ready - Just Print and Go!
- ✓ Active Engagement - Keep Students' Attention
- ✓ Direct Video Link Included

[WATCH VIDEO](#)



Includes Student Copy and Answer Keys

Teach With Pencil

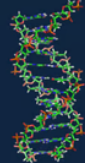
Device-Based Scavenger Hunt Genetic Material

Includes

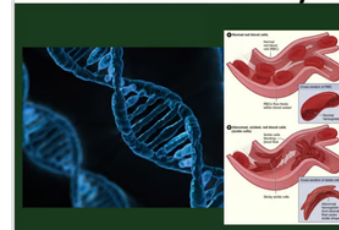
- 5 Unique Locations
- Online form submission
- Answer Key

Works on all smartphones, tablets, Chromebooks, and laptops

- 100% Digital
- Simulations
- Quizzes
- Videos
- Games
- Word Scramble and more

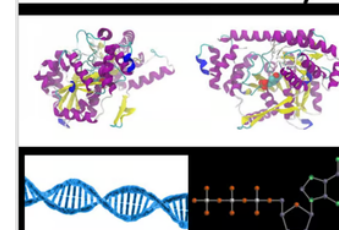


Transcription and Translation Lab Station Activity



7 Lab Station Activities to get your kids out of their seats and engaged in their learning

Proteins and Nucleic Acids Lab Station Activity



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The Standard is Explained and the Resources it Incorporates are Outlined

HS-LS1 From Molecules to Organisms: Structures and Processes

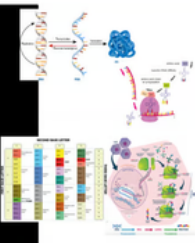
HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.
[Assessment Boundary: Assessment does not include identification of specific cell or tissue types,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

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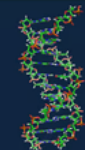


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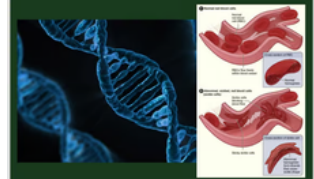
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Who is this Bundle for?

- **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**