

Engage: DNA Treasure Hunt

INSTRUCTOR:

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Understanding DNA Components and Traits Expression

Big Idea:

The Blueprint of Life: Nucleic acids, particularly DNA, serve as the blueprint for the traits expressed in living organisms.

Essential Questions:

- How do the components of DNA contribute to its role as the genetic material?
- What is the relationship between the nucleotide sequence of DNA and the expression of specific traits in organisms?
- What scientific explanations exist for the origin of DNA, and how have these shaped our understanding of genetic inheritance?



Engage Assignment 1: "DNA Treasure Hunt"

Objective:

Students will identify and understand the components of DNA and their roles in genetic material.

Instructions:

1. Look around the room for hidden "DNA Treasures." These are parts of DNA like nucleotides and base pairs.
2. Each treasure has a short description explaining its role in DNA.
3. Write down the name and role of each treasure you find on your recording sheet.
4. Answer the questions below after you've found all the treasures.

Recording Sheet:

Treasure Name	Role in DNA
Adenine (A)	
Thymine (T)	
Cytosine (C)	
Guanine (G)	
Hydrogen Bonds	
Sugar Phosphate Backbone	
5' End	
3' End	

Questions:

1. What are the four types of building blocks (nucleotides) found in DNA?

- The four types of building blocks found in DNA are _____, _____, _____, and _____.

2. How do building blocks pair up in DNA?

- In DNA, building blocks pair up by _____ matching with _____ and _____ matching with _____.

3. How does the order of building blocks in DNA determine an organism's traits?

- The order of building blocks in DNA determines an organism's traits by _____.

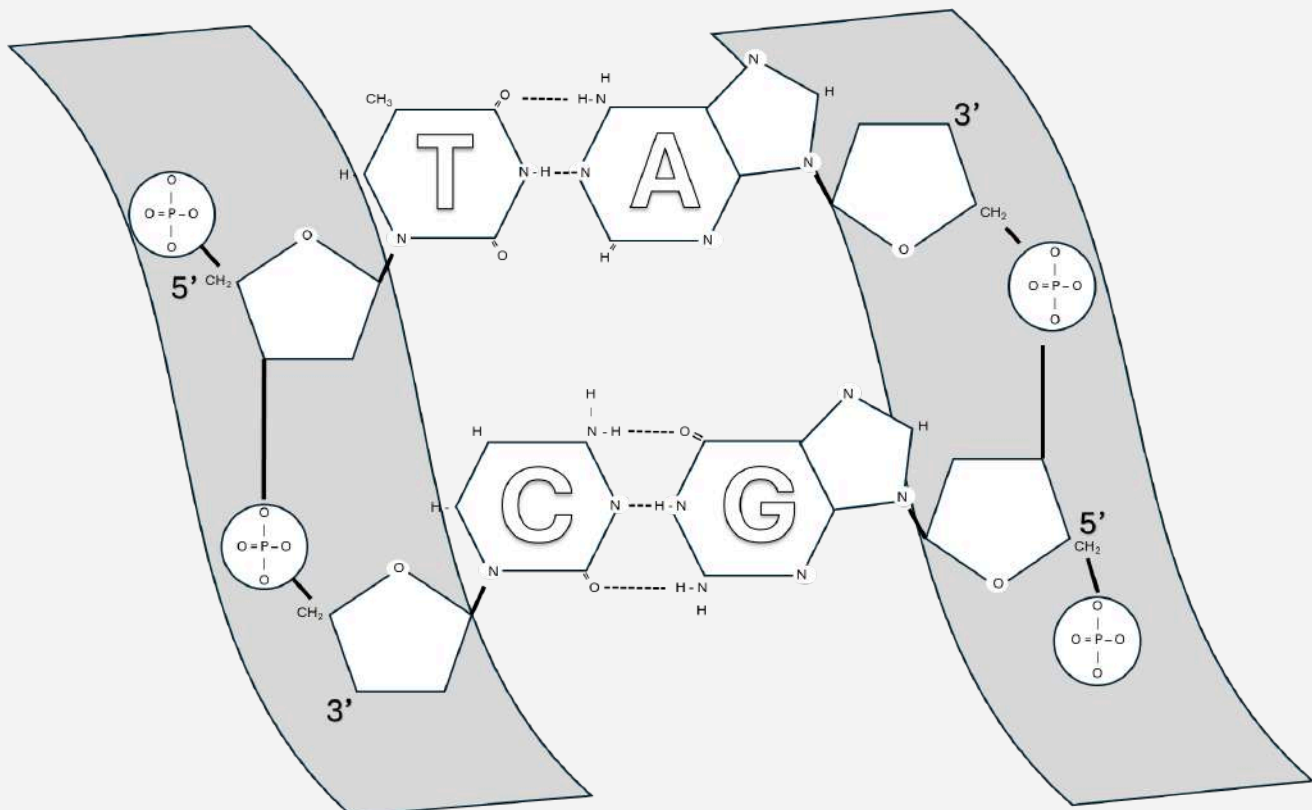
Reflection:

- Which part of this activity helped you understand how DNA works the best? Explain why.

- I understood how DNA works best when _____ because _____.



Label: Label all treasures on the map below!



Treasures to cut and place around the room -

