

STAAR Review to Go: Science Features

4: DNA
Reporting Category 2, TEKS B.6A

TEKS

B.6 The student knows the mechanisms of genetics, including the role of nucleic acid the principles of Mendelian Genetics. The student is expected to:
A. identify components of DNA, and describe how information for specifying the traits organism is carried in the DNA

English Language Proficiency Standards (ELPS)

5.B Cross-curricular second language acquisition/writing. The student is expected to write required basic vocabulary and content-based grade-level vocabulary.

TEKS and ELPS are embedded in each activity and are reflected in the content and language objectives.

Materials lists aid in activity preparation.

For the folder

- tape or glue
- scissors
- 3 sheets of cardstock
- snack-size resealable plastic bag
- erasable marker
- transparency

The titles of **Activity Masters** and **Student Pages** are printed in bold for ease of reference.

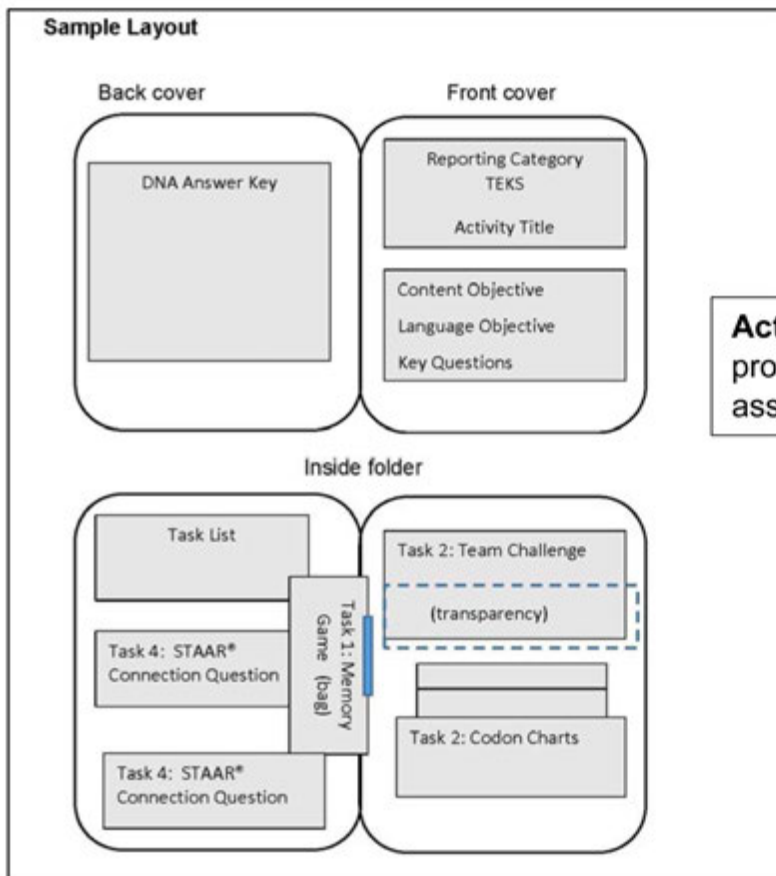
For each student

- **DNA Student Answer Sheet**

STAAR® Released Test Questions

2015: Questions 24, 41
2014: Questions 17, 52
2013: Questions 18, 30, 43

STAAR® Released Test Question item numbers are listed for reference or further review.



Activity Folder Sample Layouts provide an option/example for assembling folders.

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Folder tab label: RC 2 TEKS B.6A
DNA

Folder Tab Labels are provided to aid in organization of folders.

Cover:

Reporting Category 2
Mechanisms of Genetics

TEKS B.6A

DNA

Language Objectives and Content Objectives describe the focus of the TEKS-based activity in student-friendly language.



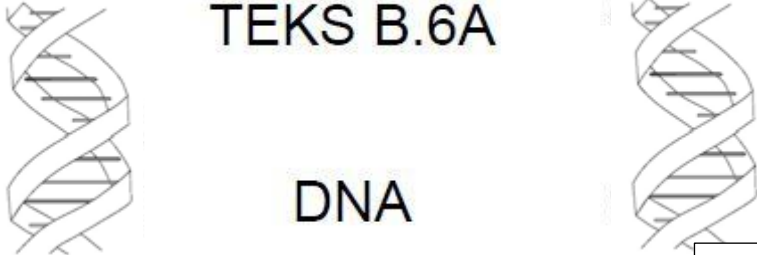
Content Objective
I can explain how the information for the traits of an organism is carried in DNA.

Language Objective
I can use simple and complex sentences to write about how information for the traits of an organism is carried in DNA.

Key Questions

1. What are the components of DNA?
2. How is the information for the traits of an organism carried in DNA?
3. Why is DNA referred to as the genetic code for organisms?

Key Questions help students focus on what they need to know after completing the tasks in the activity folder.



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DNA Task List

Task 1: Memory Game

Play the memory game using the cards provided.

Task 2: Team Challenge

the challenge.

nce for insulin, fill in one side of the DNA template on the DNA
ng the nine nitrogen bases shaded in blue.

- Fill in the complementary bases.
- Label your DNA using the following terms: *nucleotide*, *phosphate*, *deoxyribose sugar*, and *hydrogen bonds*.

Task 3: Writing Task

- All organisms have a set of instructions that determine their characteristics, or traits. Explain how the information for traits is carried in DNA.
- Use this sentence stem if needed.
The information for the traits of an organism is located _____.

Task 4: STAAR® Connection Questions

Answer the practice questions. Provide evidence to support your answers.



Varied border designs are used to differentiate tasks.

Task 1: Memory Game

- Shuffle the cards and place them face down in rows.
- Take turns flipping over two cards at a time. If the cards match, the player keeps the set and receives an additional turn. If they don't match, the cards are flipped back over and the next player takes a turn.
- The person with the most cards at the end of the game wins.



Each activity includes a literacy component to foster student engagement and processing.

Task 4: STAAR® Connection Question

2. Which of the following nitrogen-base sequences complements the DNA sequence AATTCGTA?

- A TTUCCAT
- B UUAAGCAU
- C TTAAGCAT
- D TTAACGAT



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DNA Student Answer Sheet

Task 2: Team Challenge
Label the DNA using the 9 bases shaded in blue from Task 2. Fill in the complementary bases and label the following: nucleotide, phosphate, deoxyribose sugar, and hydrogen bonds.

Task 3: Writing Task
All organisms have a set of instructions that determine their characteristics or traits. Explain how the information for traits is carried in DNA.

Each activity includes a student takeaway that provides students with a study resource.

Task 4: STAAR®

1. The answer is

2. The answer is

Task 1: DNA Memory Game Cards

Trait	Nitrogen base	Double helix
A characteristic or feature that is inherited	Make up the rungs of DNA (A, T, C, G)	The term used to describe the shape of DNA, often referred to as a twisted ladder
Nucleotide	Deoxyribose sugar	Hydrogen bonds
The 5-carbon sugar found in backbone of DNA	The type of bond located between the nitrogen bases in DNA	

Some review activities include card sorts or have other manipulatives. Cards are stored in the folder either in a pocket (created using cardstock or an envelope) or in a resealable plastic bag.

