

ESCUELA EXPERIMENTAL CON ÉNFASIS
EN TIC - PROA BIOTECNOLOGÍA VM

THE LAB HEROES

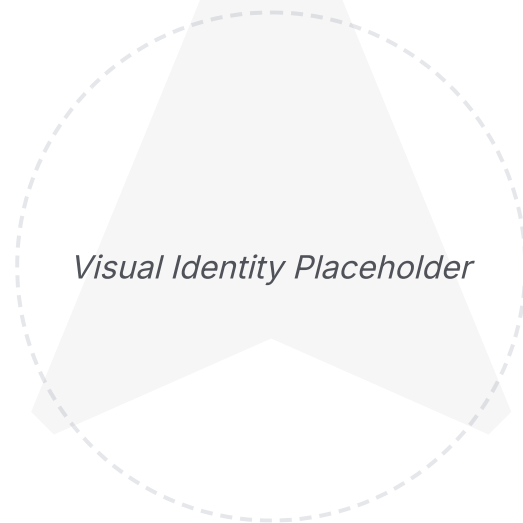


**Cuento creado con Storybook
para 4to Año de Inglés**

Lic. Noelia Corso

TransFORMAR Córdoba

The Lab Heroes: Solving Agricultural Infections
with Science



Module 1: Biotechnology and Sustainable Farming

Your Learning Path

01 Learning Objectives

- ✓ Understand basic microbiology and genetic concepts.
- ✓ Use specialized vocabulary in English (ESP) for scientific contexts.
- ✓ Analyze scientific processes used in modern farming.

Navigation Guide

Use the scroll or keyboard to navigate. Use the buttons to progress. Click on **bold terms** for translations (if available).

[Let's start the journey!]

Preparing for the Story

Task 1: Simple vs. Academic English

Simple English

Academic Term

"A very small thing"

Microorganism

"To fix or change genes"

Genetic Modification

"A small piece of a plant"

Enter academic term...

Task 2: Technical Definitions

1. MICROBE

Define the term...

2. EXTRACTION

Define the term...

3. SAMPLE

Define the term...

4. GENETIC CODE

Define the term...

QR CODE
PLACEHOLDER

WATCH TRAINING VIDEO

The Investigation Begins

STORY PART 1

THE LAB HEROES By Noelia Corso

Maya and Leo are students in a big lab. They see a problem in the farm fields. There is a grey color on the plants. They need to investigate this sudden infection. Maya goes to her workbench.

STORY PART 2

She wears gloves and a lab coat. She takes a piece of a sick leaf. She wants to extract a sample. She looks for a small microorganism inside the leaf. Maya and Leo want to help the farmers. They must modify the genes of the plant.

Analyzing the Problem

BEFORE READING

- Predict content
- Scan for headers

WHILE READING

- Highlight keywords

- Contextualize terms

AFTER READING

- Summarize main idea
- Translate key concepts

Task 3: Linguistic Translation

"There is a grey color on the plants. They need to investigate this sudden infection."

Translate the sentence into Spanish...

Task 4: Academic Protocol Analysis

Why does Maya wear **gloves and a lab coat** ?

Cross-contamination

Sterile environment

Pathogens

Biosafety

Inside the Laboratory



VIDEO PLAYER: THE LAB HEROES

[Extraction Protocol]

Task 5: Process Analysis

Order the steps (1-4) of the laboratory process:

Use a **centrifuge** to separate cell components.

Collect the **sample** from the infected wheat leaf.

Analyze the extracted **genetic code** on the computer.



Use a **pipette** to transfer liquid.

Developing the Cure

STORY PART 3

They work hard to fix the genetic code. They want to make the plants strong again. They put the liquid in the water for the plants.

"The grey color goes away. The plants are green and healthy again. Their teamwork and biotechnology saved the day."

Explaining the Solution

Roleplay Activity: Lab Hero

Prepare a speech for the Córdoba Farming Association explaining your discovery.

KEYWORDS TO INCLUDE:

Biotechnology

Genetic modification

Resistance

Record your speech or practice with a partner:

Type your speech notes here...

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Check Your Progress

Academic Upgrading

Rewrite the simple sentences into academic English using the keywords provided.

ENHANCE • IMPLEMENT • TRANSFORM • PIGMENTATION • VITALITY • PATHOGEN

EXAMPLE:

"The plants are green" → "The crops have regained their natural pigmentation."

"Changed the code"

Rewrite using academic terms...

"Sickness is gone"

Rewrite using academic terms...

"Water helped"

Rewrite using academic terms...

Module Conclusion

Technical Glossary

Biotechnology

Using biological systems or living organisms to develop products.

Modification

The process of changing something, typically to improve it.

Pathogen

A bacterium, virus, or other microorganism that can cause disease.

Resistance

The ability of an organism to survive exposure to a pathogen.

Sustainability

The ability to maintain farming processes without damaging the environment.

Final Task: Summary & Translation

STEP 1: ENGLISH SUMMARY (5 SENTENCES)

Problem, Solution, Result...

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STEP 2: SPANISH TRANSLATION

Traduce tu resumen aquí...

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CONGRATULATIONS!

You have completed the Biotechnology Module.