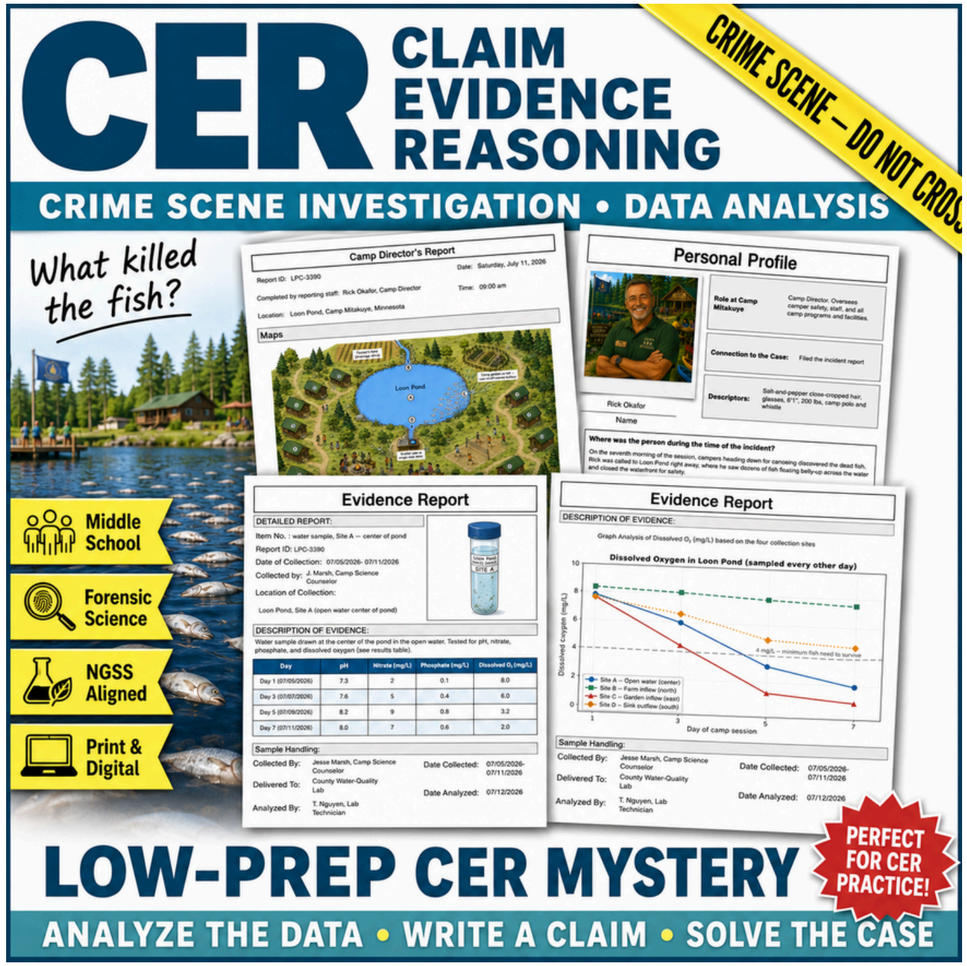
# WHAT KILLED THE FISH?
# CSI INVESTIGATION

# CER Practice




# Scroll Through

## To take a peek inside!

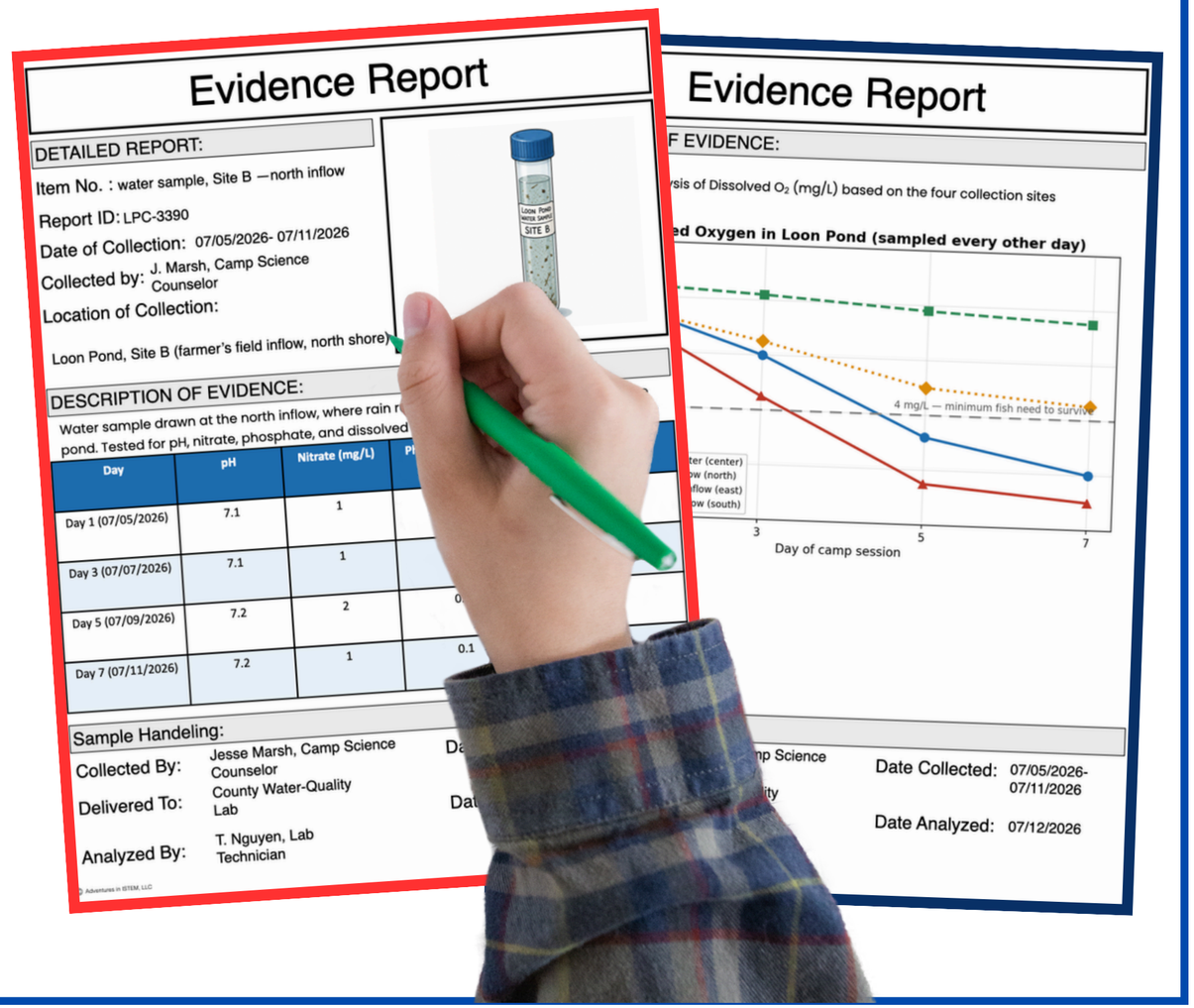
**Help students analyze data, pull out key details from passages, and then share their findings in a CER.**

# Resource *includes*

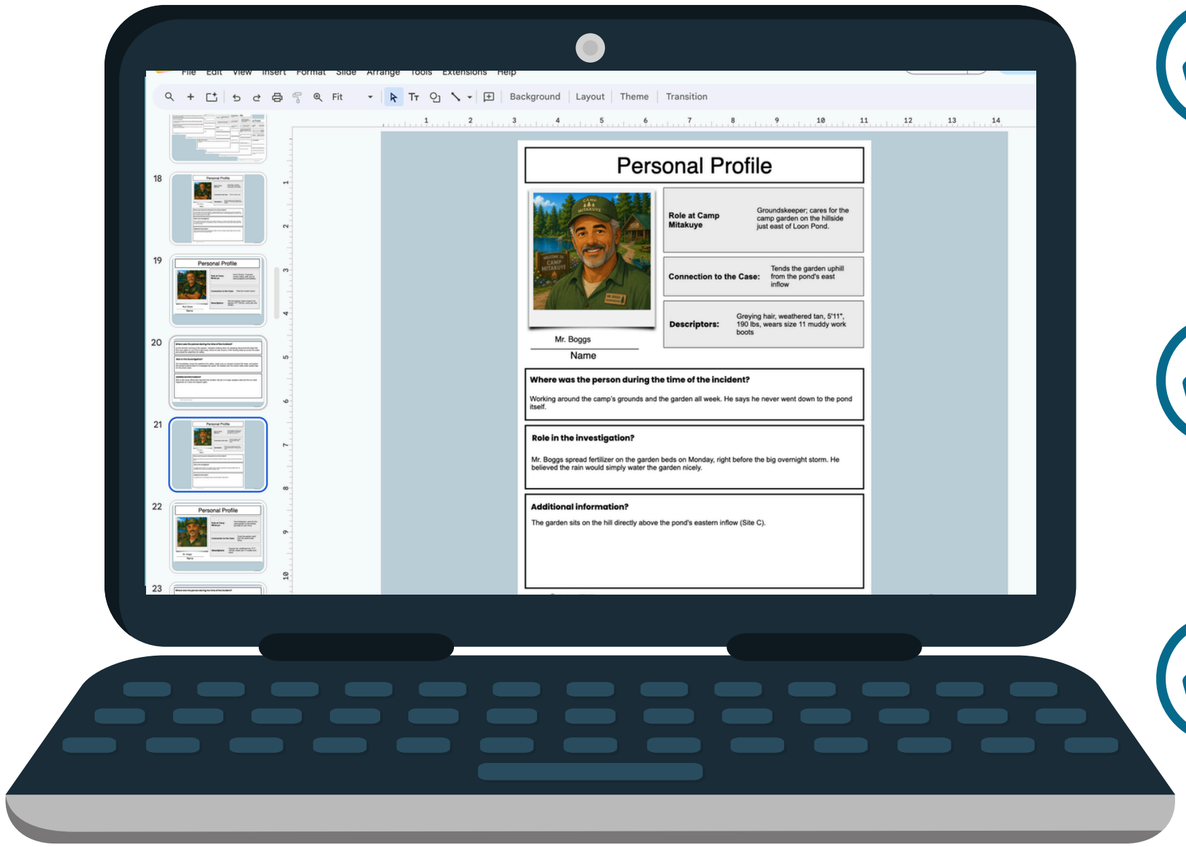
- [x] Teacher presentation
- [x] Student journal
- [x] Camp Director's reports
- [x] Science reports
- [x] writing template
- [x] Grading rubric
- [x] Sentence starters and student self-assessment checklist

## WHAT KILLED THE FISH?
## CSI INVESTIGATION

# *CER Practice*



# DO YOUR STUDENTS STRUGGLE WITH




- Interpreting data
- Finding the key details in passages
- Using evidence to support a claim
- Using reasoning to link the evidence to the claim

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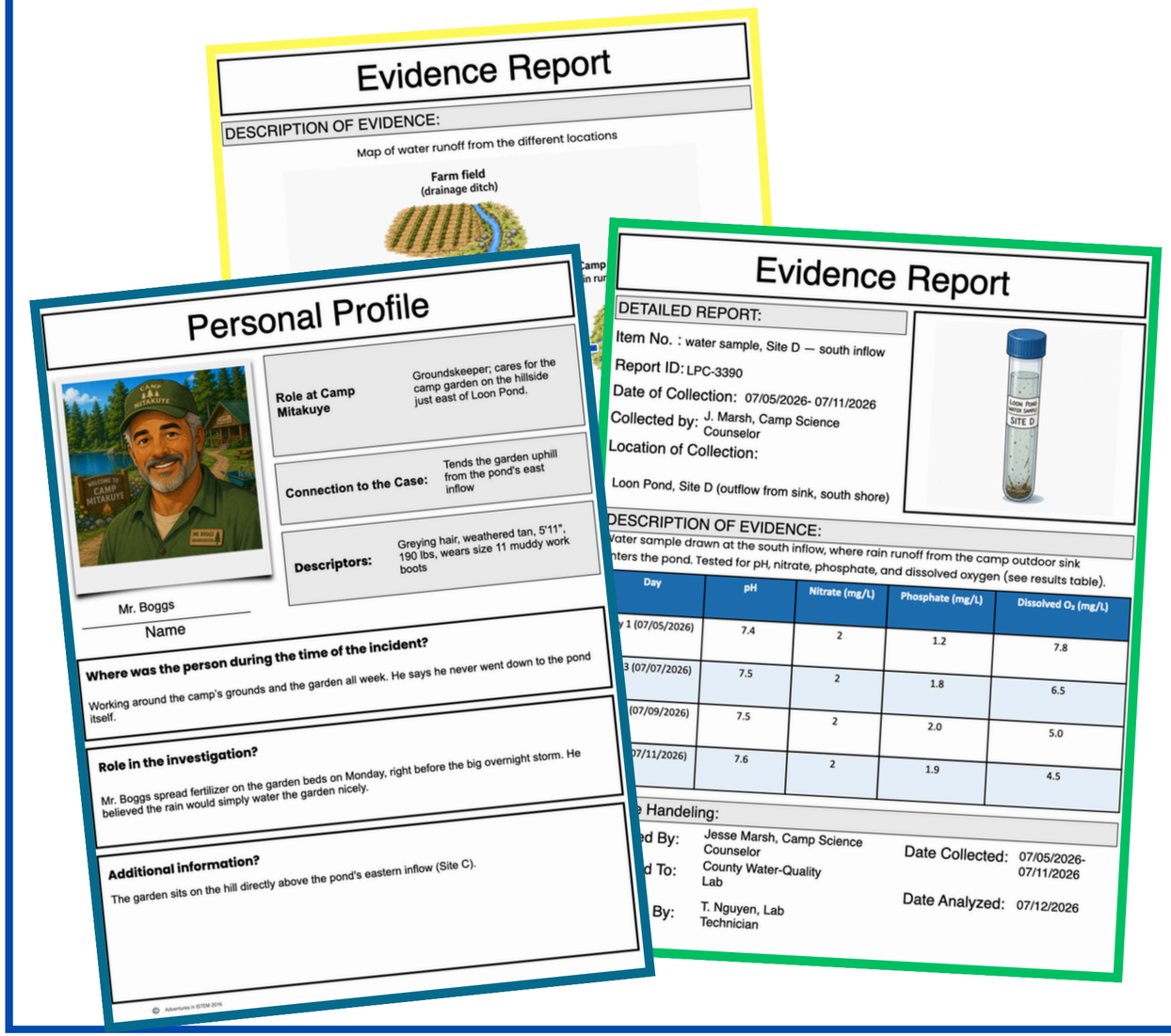
# I've Got You Covered

- Engaging lesson where the students become the detectives
- Data tables to interpret
- Camp director report for students to pull out key details
- Journal to help students record their observations
- Sentence support to help them write their CER

This activity was a great way to work on CER without being too "science-y." I teach 9th grade instructional biology and this was just the right amount of science and writing. My students lose interest very quickly and solving the mystery kept them guessing. After every piece of evidence, they were were trying to figure out how he died. Great resource!- Carolynn

# WHAT KILLED THE FISH?
# CSI INVESTIGATION
# CER Practice



Evidence Report

DESCRIPTION OF EVIDENCE:

Map of water runoff from the different locations

Farm field
(drainage ditch)

Personal Profile

Role at Camp Mitakuye: Groundskeeper; cares for the camp garden on the hillside just east of Loon Pond.

Connection to the Case: Tends the garden uphill from the pond's east inflow

Descriptors: Greying hair, weathered tan, 5'11", 190 lbs, wears size 11 muddy work boots

Mr. Boggs
Name

**Where was the person during the time of the incident?**

Working around the camp's grounds and the garden all week. He says he never went down to the pond itself.

**Role in the investigation?**

Mr. Boggs spread fertilizer on the garden beds on Monday, right before the big overnight storm. He believed the rain would simply water the garden nicely.

**Additional information?**

The garden sits on the hill directly above the pond's eastern inflow (Site C).

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Evidence Report

DETAILED REPORT:

Item No. : water sample, Site D — south inflow

Report ID: LPC-3390

Date of Collection: 07/05/2026- 07/11/2026

Collected by: J. Marsh, Camp Science Counselor

Location of Collection:

Loon Pond, Site D (outflow from sink, south shore)

DESCRIPTION OF EVIDENCE:

Water sample drawn at the south inflow, where rain runoff from the camp outdoor sink enters the pond. Tested for pH, nitrate, phosphate, and dissolved oxygen (see results table).

| Day | pH | Nitrate (mg/L) | Phosphate (mg/L) | Dissolved $O_2$ (mg/L) |
|---|---|---|---|---|
| y 1 (07/05/2026) | 7.4 | 2 | 1.2 | 7.8 |
| 3 (07/07/2026) | 7.5 | 2 | 1.8 | 6.5 |
| (07/09/2026) | 7.5 | 2 | 2.0 | 5.0 |
| 7/11/2026) | 7.6 | 2 | 1.9 | 4.5 |

e Handeling:

ed By: Jesse Marsh, Camp Science Counselor

d To: County Water-Quality Lab

By: T. Nguyen, Lab Technician

Date Collected: 07/05/2026- 07/11/2026

Date Analyzed: 07/12/2026

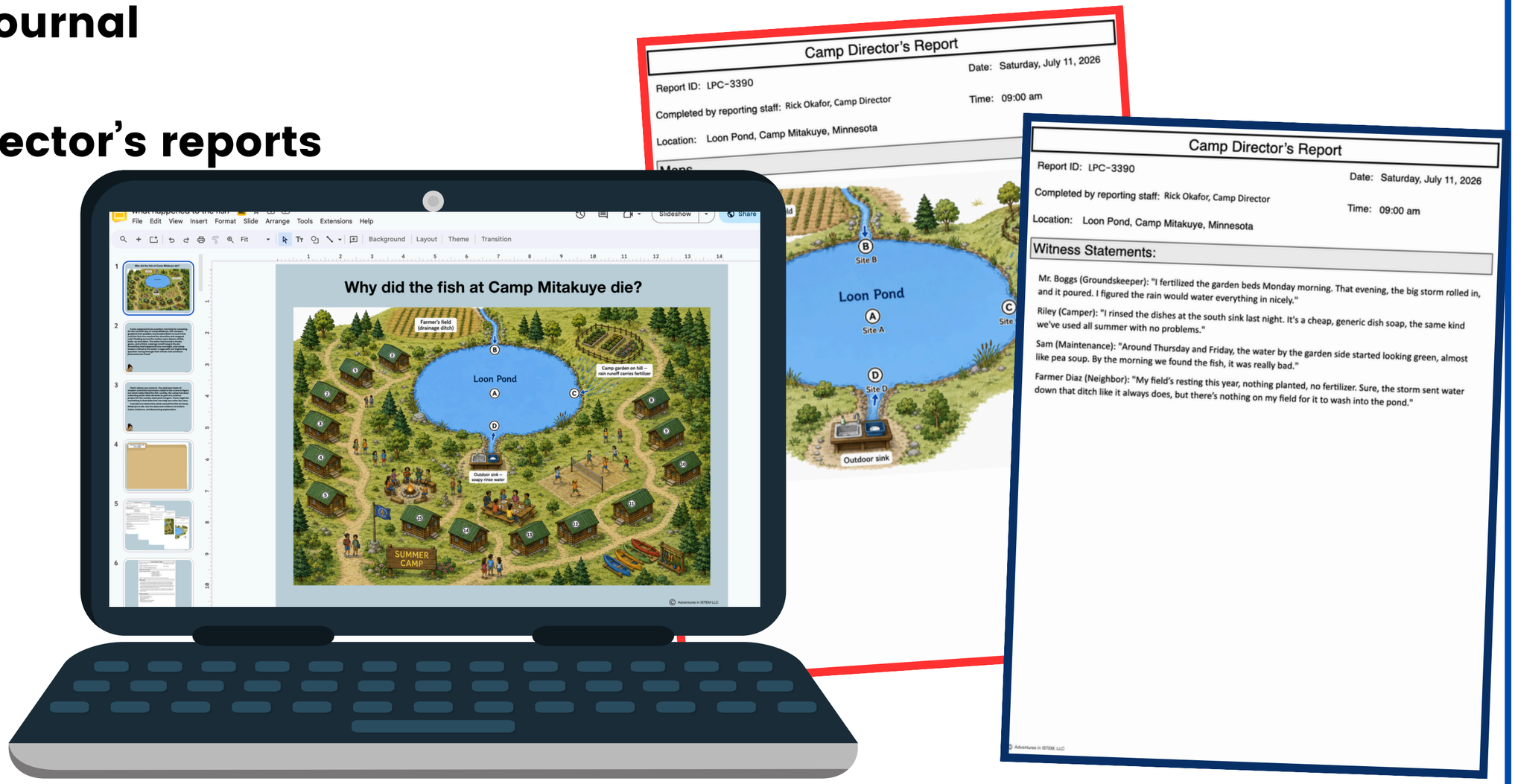
# What Are students Doing?

- ☑ **Reading police reports**
- ☑ **Analyzing and interpreting data from the forensic reports**

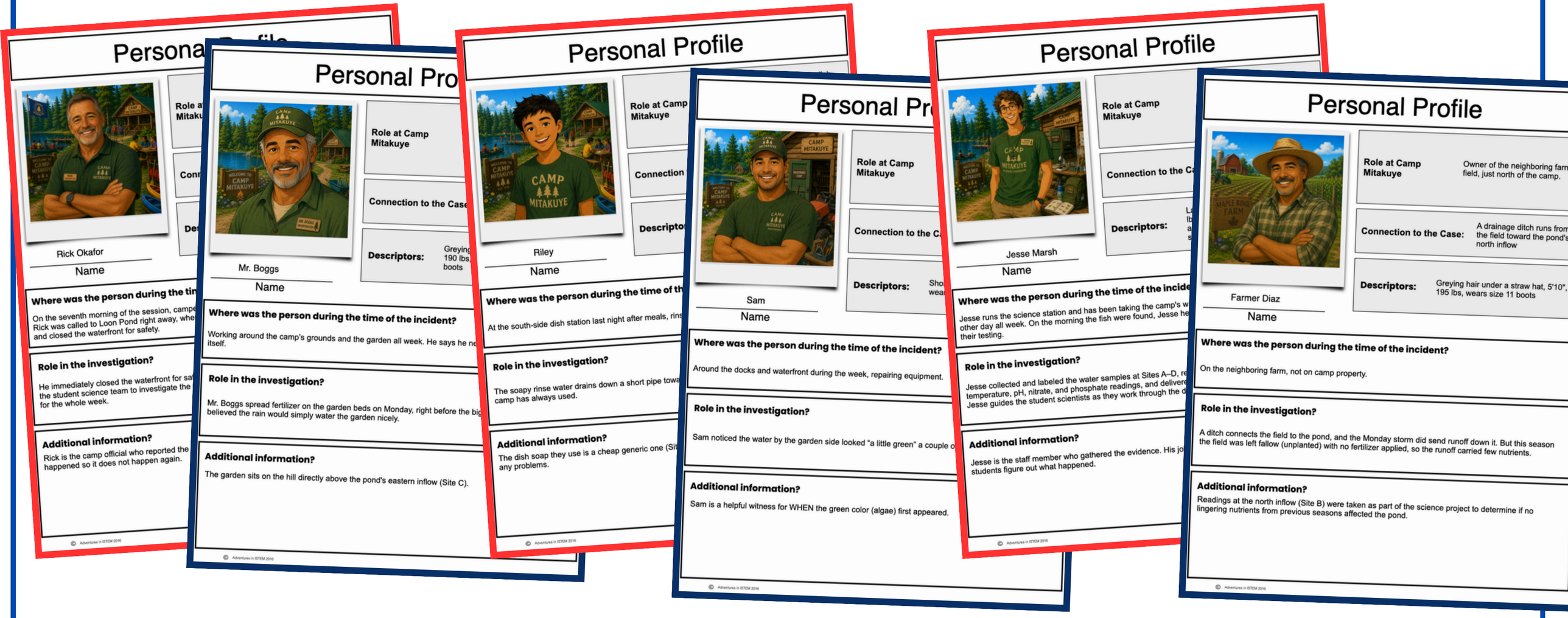
  **Fingerprint, footprint, DNA, Chemical Analysis, fabric analysis**
- ☑ **Organizing their thoughts**
- ☑ **Answering the question as to what happened using claim, evidence, reasoning**

# Introduce the Case and have students go through the camp director's reports

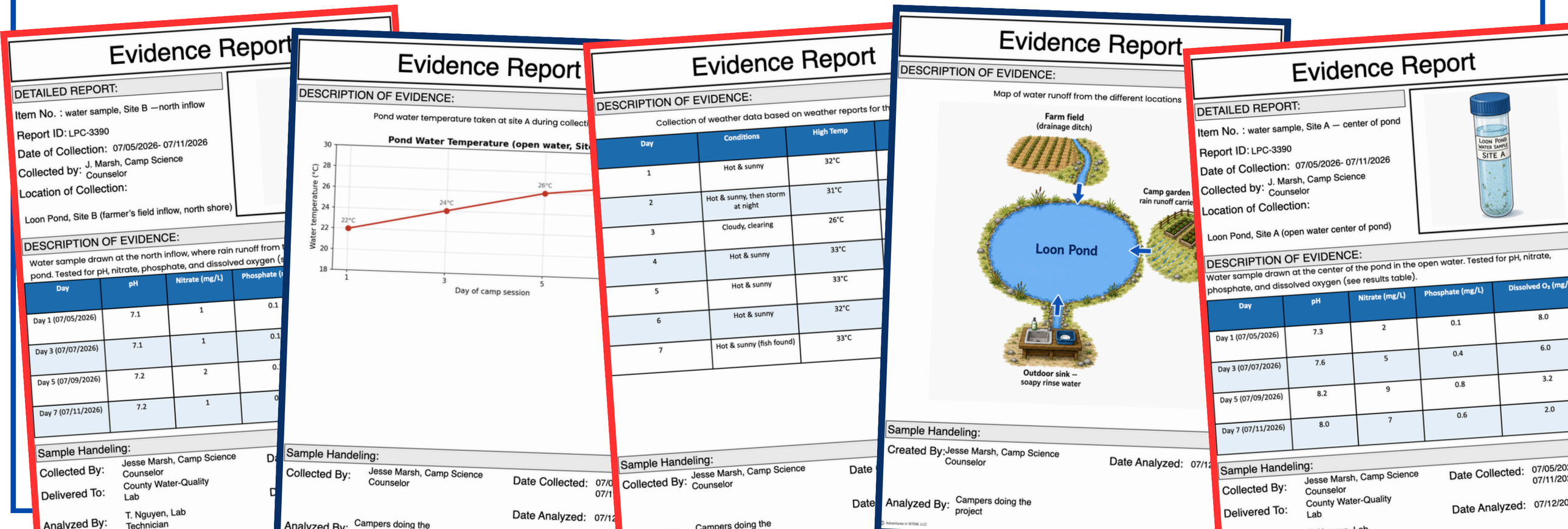
- [x] **Student journal**
- [x] **Camp director's reports**



# Next, have them look at the different profiles of the suspects



# Then, have them review the various forensic evidence: They will analyze the water samples for the week, check it with the weather report, determine the cause.



Evidence Report

DETAILED REPORT:

Item No. : water sample, Site B —north inflow

Report ID: LPC-3390

Date of Collection: 07/05/2026- 07/11/2026

Collected by: J. Marsh, Camp Science Counselor

Location of Collection:

Loon Pond, Site B (farmer's field inflow, north shore)

DESCRIPTION OF EVIDENCE:

Water sample drawn at the north inflow, where rain runoff from t
pond. Tested for pH, nitrate, phosphate, and dissolved oxygen (s

| Day | pH | Nitrate (mg/L) | Phosphate (m |
|---|---|---|---|
| Day 1 (07/05/2026) | 7.1 | 1 | 0.1 |
| Day 3 (07/07/2026) | 7.1 | 1 | 0.1 |
| Day 5 (07/09/2026) | 7.2 | 2 | 0.1 |
| Day 7 (07/11/2026) | 7.2 | 1 | 0 |

Sample Handeling:

Collected By: Jesse Marsh, Camp Science Counselor

Delivered To: County Water-Quality Lab

Analyzed By: T. Nguyen, Lab Technician

Evidence Report

DESCRIPTION OF EVIDENCE:

Pond water temperature taken at site A during collecti




Sample Handeling:

Collected By: Jesse Marsh, Camp Science Counselor

Date Collected: 07/0 07/1

Analyzed By: Campers doing the

Date Analyzed: 07/12

Evidence Report

DESCRIPTION OF EVIDENCE:

Collection of weather data based on weather reports for th

| Day | Conditions | High Temp |
|---|---|---|
| 1 | Hot & sunny | 32°C |
| 2 | Hot & sunny, then storm at night | 31°C |
| 3 | Cloudy, clearing | 26°C |
| 4 | Hot & sunny | 33°C |
| 5 | Hot & sunny | 33°C |
| 6 | Hot & sunny | 32°C |
| 7 | Hot & sunny (fish found) | 33°C |

Sample Handeling:

Collected By: Jesse Marsh, Camp Science Counselor

Date

Date

Campers doing the

Evidence Report

DESCRIPTION OF EVIDENCE:

Map of water runoff from the different locations




Sample Handeling:

Created By: Jesse Marsh, Camp Science Counselor

Date Analyzed: 07/12

Analyzed By: Campers doing the project

Evidence Report

DETAILED REPORT:

Item No. : water sample, Site A — center of pond

Report ID: LPC-3390

Date of Collection: 07/05/2026- 07/11/2026

Collected by: J. Marsh, Camp Science Counselor

Location of Collection:

Loon Pond, Site A (open water center of pond)




DESCRIPTION OF EVIDENCE:

Water sample drawn at the center of the pond in the open water. Tested for pH, nitrate, phosphate, and dissolved oxygen (see results table).

| Day | pH | Nitrate (mg/L) | Phosphate (mg/L) | Dissolved $O_2$ (mg/ |
|---|---|---|---|---|
| Day 1 (07/05/2026) | 7.3 | 2 | 0.1 | 8.0 |
| Day 3 (07/07/2026) | 7.6 | 5 | 0.4 | 6.0 |
| Day 5 (07/09/2026) | 8.2 | 9 | 0.8 | 3.2 |
| Day 7 (07/11/2026) | 8.0 | 7 | 0.6 | 2.0 |

Sample Handeling:

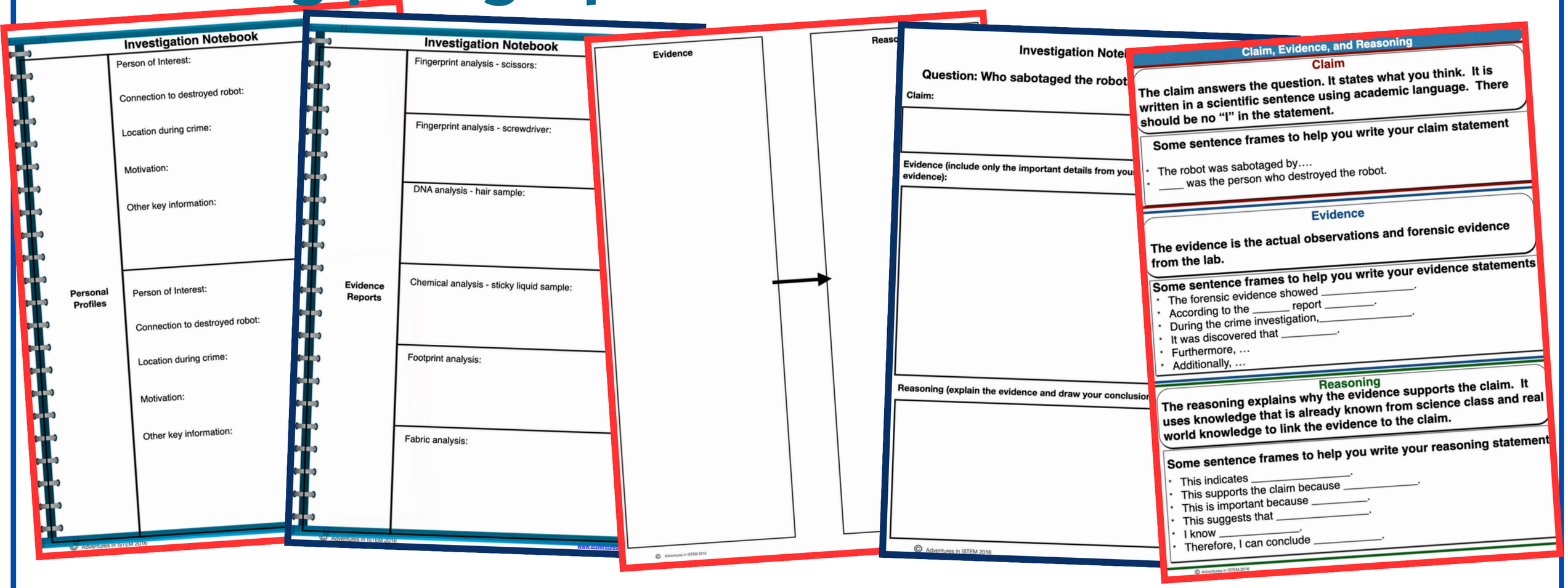
Collected By: Jesse Marsh, Camp Science Counselor

Date Collected: 07/05/20 07/11/20

Delivered To: County Water-Quality Lab

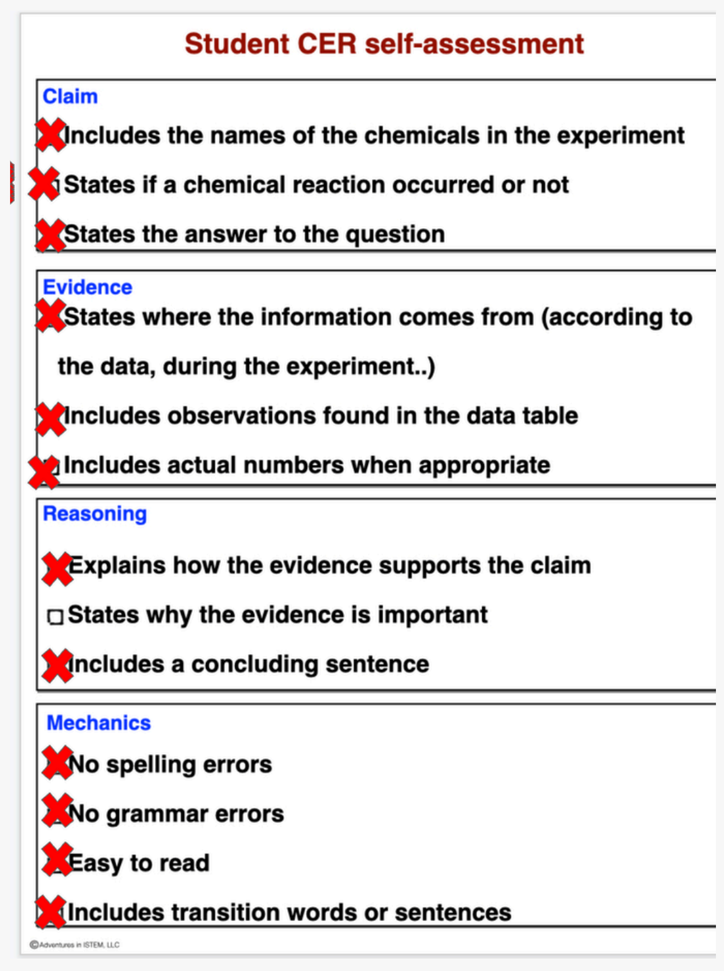
Date Analyzed: 07/12/20

# Students will put all of their findings and state what happened using a claim, evidence, reasoning paragraph



# HOW TO USE THE RESOURCE IN 3 simple steps

1. Print the PDF version, make copies, and hand out to students
2. Use the digital version by clicking the titles in the RED BOX to make your own copy (found at the end of the PDF)
3. Share the resource with your students using your favorite LMS (Google Classroom, Powerschool (schoology), Canva...)



**Student CER self-assessment**

**Claim**

- [x] Includes the names of the chemicals in the experiment
- [x] States if a chemical reaction occurred or not
- [x] States the answer to the question

**Evidence**

- [x] States where the information comes from (according to the data, during the experiment..)
- [x] Includes observations found in the data table
- [x] Includes actual numbers when appropriate

**Reasoning**

- [x] Explains how the evidence supports the claim
- [ ] States why the evidence is important
- [x] Includes a concluding sentence

**Mechanics**

- [x] No spelling errors
- [x] No grammar errors
- [x] Easy to read
- [x] Includes transition words or sentences

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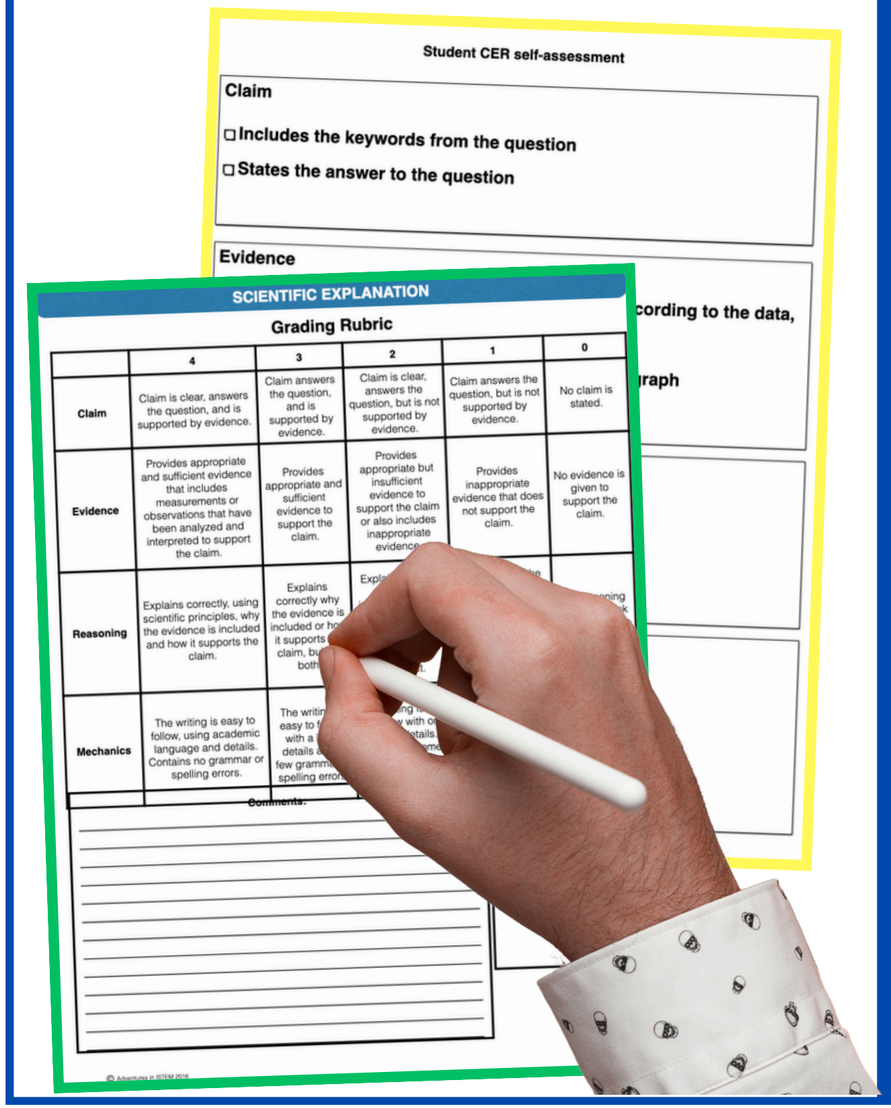
# CSI INVESTIGATION

## CER Practice




# Check out what teachers just like you have said about products like this:

★★★★★

I have to give my students multiple opportunities to write argument essays over the school year. I always love having new ways to explain this process. This was a fun activity that really helped my students understand what to do.- Megan

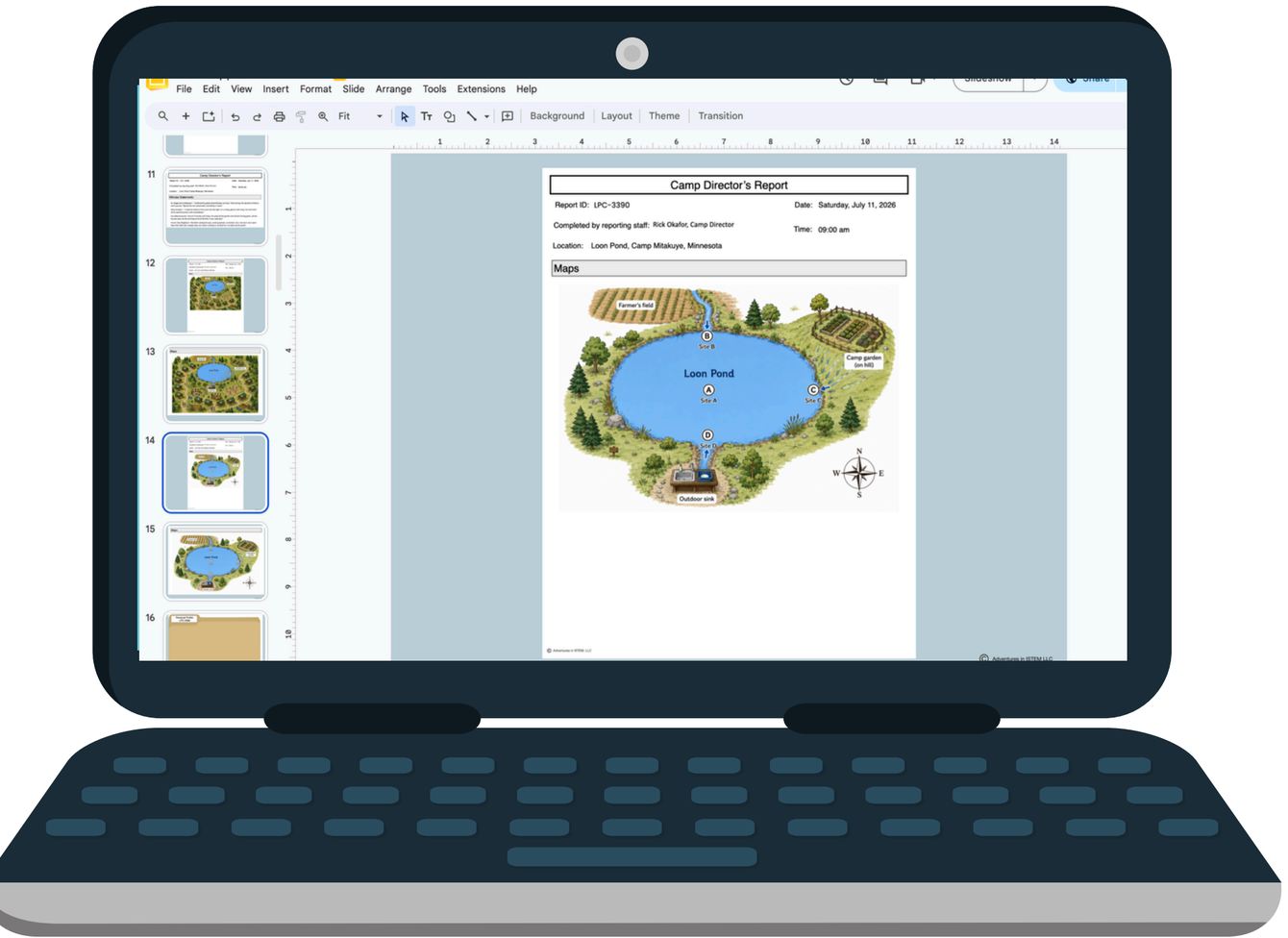
★★★★★

This was a fantastic way of reviewing CER with my students! They were engaged from the get-go! This year, my students are all about crimes and solving mysteries. This resource allowed them to get into the crime and use their CER skills to determine who might have committed the crime. I kept it open-ended, if they haad solid evidence to prove someone's guilt, then they got the points. I was amazed at how creative they got with the evidence, and how invested they were in solving the crime! Thank you so much for creating this resource, it was amazing!- Heather

★★★★★

My students loved this activity so much! They were so into solving the "crime" that they didn't even realize the work athey were putting in! An excellent way for them to practice CER in little steps and then allow them to put it all together!- Brea

# Get Instant Access

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