

# STUDENT GUIDE

## EXPLORE 1C LESSON 18



### Part 1: Our Motivation

Record what we were trying to figure out that led to this investigation.



### Part 2: Analyzing and Interpreting Data

Read the Lesson 18 Data Set handout assigned to your group. Use the table below as a key for which variable you will be analyzing, and use it to fill in the blank on the next page.

Data Set #	1	2	3	4	5	6
Variable	Muscle Glycogen	Lactate	pH	Epinephrine	Glucose Released by the Liver	Blood Glucose

Review the experiments that scientists conducted to measure the changes in oxygen used in moderate and intense exercise. Summarize the methods that they used and the data they collected.

Compare the methods from the two investigations. How do they compare in what they measure?

Review the data scientists collected and record your observations about how \_\_\_\_\_ (*variable*) changes over time during exercise and during recovery. Identify if \_\_\_\_\_ (*variable*) levels return to a stable state during recovery.

Do these studies come to the same conclusion?



### Part 3: Sharing Our Findings

Prepare a brief summary of the data you just analyzed and its conclusions. Your audience will be your classmates who did not interpret and analyze this data. In your summary, be sure to include:

- A one-sentence description of the aims of the studies
- A summary of the investigations that scientists used, including the methods and what was measured.
- A summary of the data and results found by both studies.
- A one-sentence conclusion about the effect of exercise on the variable studied.

The class will share what each group found. Use the table below to capture key details from your classmates about the findings from each data set.

Variable	Trends Observed	Notes

Reflect on how the lens of stability and change informed the design of these studies. In your response, be sure to describe:

- How did these studies use the lens of stability and change to study how the body responds to exercise?
- What does that tell you about how scientists study the effects of exercise on the human body?



#### Part 4: Constructing Explanations

Use the findings from your investigation to construct an explanation to the Module Questions, *Why are there so many changes to my body during exercise? How does milk help with recovery from these changes?* Be sure to speculate about how the trends you found in this lesson might help you answer the Module Questions.



#### Part 5: Asking New Questions

Record any new questions that you have that might help you:

- Find additional information about the changes in our bodies brought on by exercise and exercise of different intensities.
- “Fill in a gap” in your explanation or our class explanation.
- Settle an area of disagreement that we’ve identified in our explanations.