

A Hot Hand

In this class, you will often work in a team using a handheld to do science. You will measure the temperature of the palm of your hand and the palm temperatures of your teammates in this experiment. In the process, you will learn how to use LabQuest, a device you will be using throughout the school year, and how to use Temperature Probes. You will also get to know your teammates better.

OBJECTIVES

In this experiment, you will

- Use a Temperature Probe to measure temperature.
- Calculate temperature averages.
- Compare results.

MATERIALS

LabQuest
LabQuest App
Temperature Probe

beaker
water
paper towel

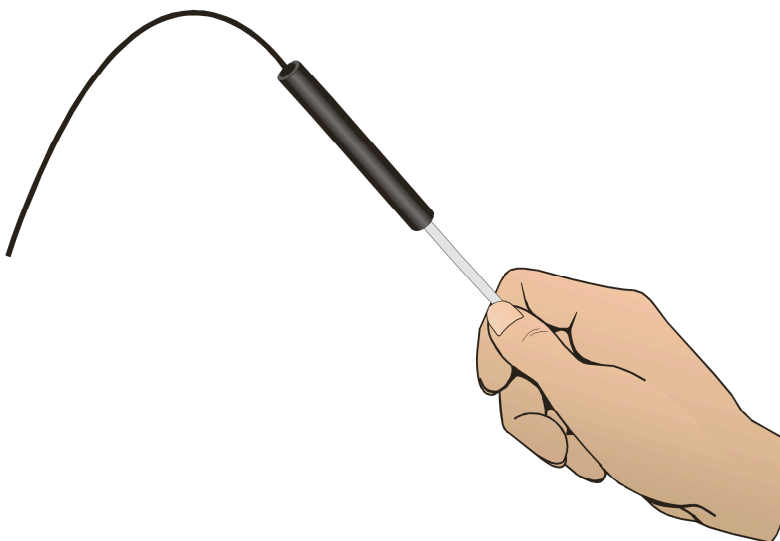


Figure 1

PROCEDURE

1. Connect the Temperature Probe to LabQuest.
2. Press the power button on LabQuest to turn it on. Choose New from the File menu. If you have an older sensor that does not auto-ID, manually set up the sensor.
3. On the Meter screen, tap Length. Change the data-collection length to 60 seconds.
4. Measure the temperature of the palm of your hand.
 - a. Start data collection.
 - b. Pick up the Temperature Probe and hold its tip in the palm of your hand as shown in Figure 1. Data collection will end when 60 seconds have gone by.
5. Record your highest temperature.
 - a. When data collection is complete, a graph of temperature *vs.* time will be displayed. To examine the data pairs on the displayed graph, tap any data point. As you tap each data point, the temperature values of each data point are displayed to the right of the graph.
 - b. Record your highest temperature.
 - c. Tap Meter.
6. Prepare the Temperature Probe for the next run.
 - a. Cool the Temperature Probe by placing it into a beaker of room-temperature water until its temperature reaches the temperature of the water. The temperature of the probe is displayed on the screen.
 - b. Use a paper towel to dry the probe. Be careful not to warm the probe as you dry it.
7. Repeat Steps 4–6 for each person in your team.

DATA

Student name	Highest temperature
	°C
	°C
	°C
	°C
Team average	°C

Name _____ Date _____

PROCESSING THE DATA

1. Calculate your team average for the highest temperatures. Record the result in the data table above.
2. How did the highest temperatures of your teammates compare?
3. Who had the “hottest hand”?

EXTENSION

1. Determine the class average for highest temperature.