Make a Thermometer to Study the Weather

Name: _____

Date: _____

Student worksheet — *Answer Key*

Directions: Record your data in the table below.

1. Use your thermometer to measure the temperature of several surroundings. List the measured values in Table 1. Use the last column for an additional location you measure.

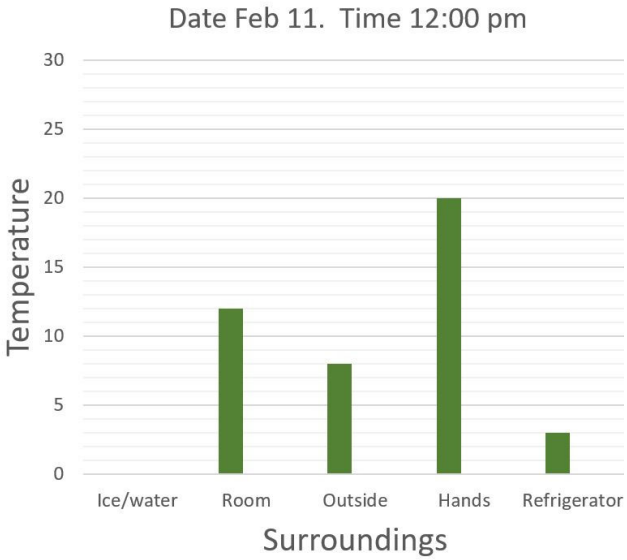
The table below shows example results obtained by the Science Buddies team. Students' results are likely to be different.

Table 1	**Temperature measurements** **Date:** ***February 11, 2019*** **Time:** ***12:00 PM***				
Surrounding	Ice/water bath	Room	Outside	Hands	*Refrigerator*
Temperature	*0*	*12*	*8*	*20*	*3*

Directions: Graph your data.

2. Use the graph template below to make a bar graph of the measurements listed in Table 1.

This graph uses the data listed in Table 1. Students' results are likely to be different.



Make sure that:

☐ The date and time are filled in.

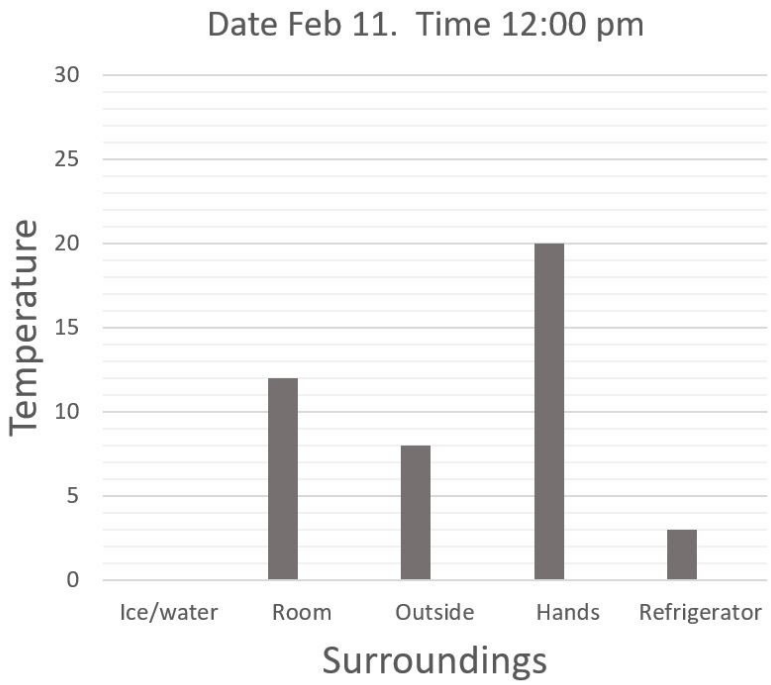
☐ All measurements are included.

Make a Thermometer — Page 2

Answer Key

Directions: Answer questions about the graphs.

3. Determine the temperature for “Hands” and “Outside” using the information provided in the graphs.

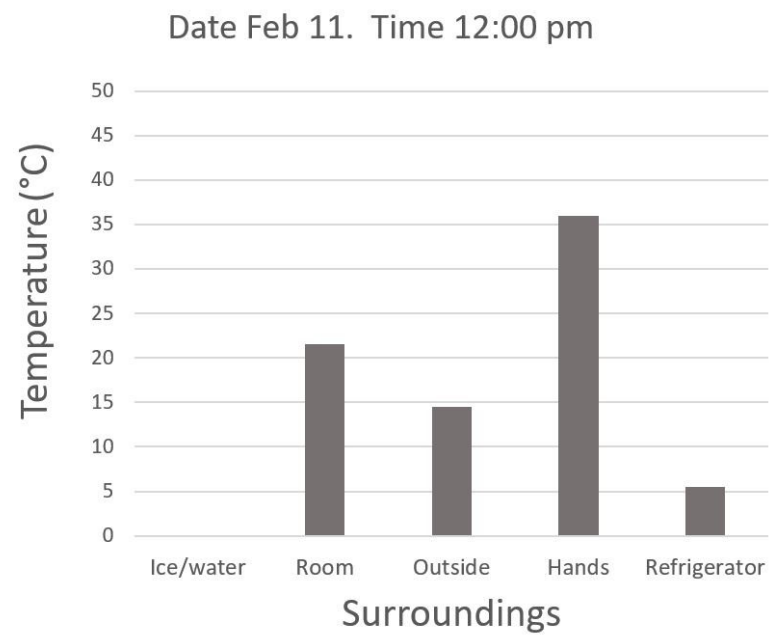


Example measurements taken with a **homemade thermometer**.

Read the temperature from the graph:

Hands: *20*

Outside: *8*



Example measurements taken with a **store-bought thermometer**.

Read the temperature from the graph:

Hands: *36*

Outside: *14*

Make a Thermometer — Page 3

Answer Key

4. Answer the questions below about the graphs provided in step 3.

What do you notice about these graphs? How are they similar or different?

The pattern is similar: higher readings with the homemade thermometer are also higher for the store-bought thermometer.

The values are different: for hands, the homemade thermometer reads 20 and the store-bought thermometer shows 36.

The measurement for “Hands” and “Outside” are different. Can both measurements be correct? Why or why not?

Yes, both can be correct.

These two thermometers use different units, so the readings are different even if they measure the same temperature (the same degree of warmness).

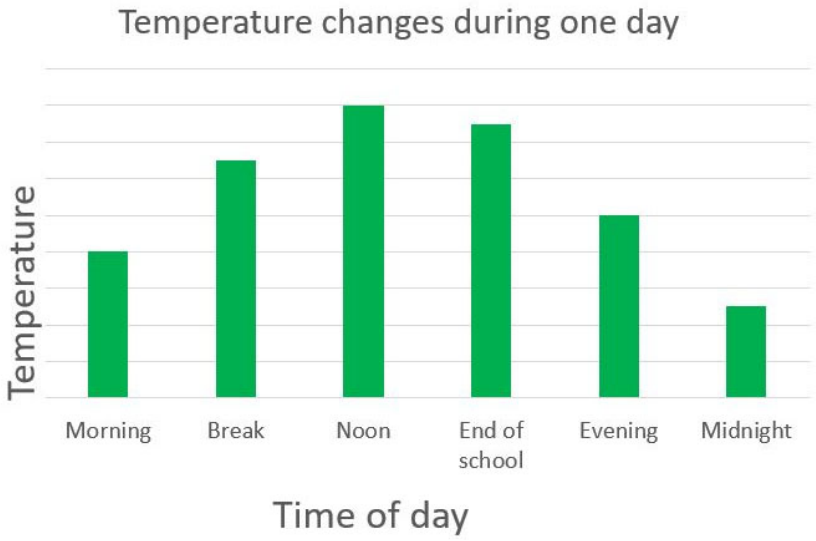
Make a Thermometer — Page 4

Answer Key

Directions: Graph your predictions.

5. In the template below, graph how you think the temperature will change over a day.

Note: the pattern shown is likely to be similar regardless of where you live. Students might decide to include negative values and/or draw a line graph instead of a bar graph. Both are fine.



6. Graph how you think the temperature will change over a year.

Note: this is a generic graph. The graph for your local climate might look very different. Students might also draw a line graph instead of a bar graph, which is fine.

