

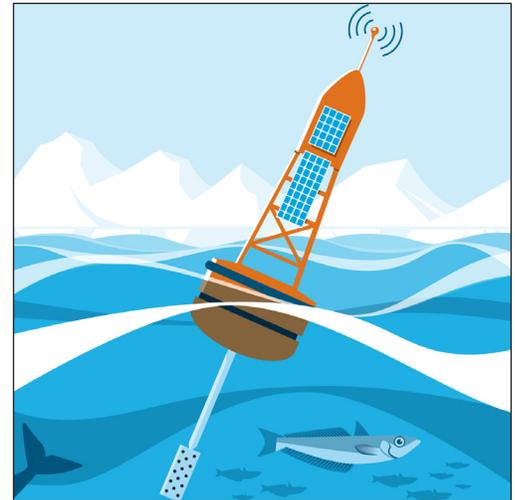
Activity Sheet: Absolute Value and Ordering Rational Numbers

Name: _____

Date: _____

Under the Sea

The Living Ocean Institute is a world-renowned oceanographic research organization. One of its current research projects is in the far North Pacific Ocean, where the Institute is using underwater, unmanned probes. These self-propelled, waterproof electronic devices include sophisticated temperature sensors that collect and transmit temperature data from different ocean depths. The following table shows readings from a day earlier in the year. Use this data to answer the questions below.



Name of Probe	Snowball	Ice Pop	Mitten	Frosty	Bootz
Ocean Depth (in Meters)	-25	-100	-75	0 (on the surface)	-125
Temperature (in °C)	4	-1	0	2	-2

NOTES:

- Although freshwater freezes at 0°C (32°F), ocean water freezes at about -2°C (28.4°F) because of the salt content.
- Depths are shown as negative numbers, indicating distance below sea level.

WORK THE MATH

- Plot the depths on the depth number line at right.
- Plot the temperatures on the temperature number line at right.
- Order the depths from least to greatest in the table below and show the absolute values of each depth reading.

Probe					
Depth					
Absolute Value					

- Order the temperatures from greatest to least in the table below and show the absolute values of each temperature reading.

Probe					
Temperature					
Absolute Value					

- The average winter air temperature in the Arctic is -40°C . One of the research interns remarks that this temperature is greater than the water temperature recorded by the probe Bootz. Do you agree or disagree? On a separate piece of paper, explain your thinking.

Ocean Depth
(in Meters)



Temperature



Now Try This

- What real-world reason might a researcher have to know the absolute value of the depth of one of the probes? On a separate piece of paper, explain your thinking.