

TEMPERATURE GUIDE

Race Rocks reference information has an extensive record of the Average High Sea Surface Temperatures dating back to the 1920's. Students can use this information to practice graphing skills and evaluate changes in temperatures over time. A discussion on Global Warming is appropriate during this activity. Most students who select a sea temperature year 50 years previous will find that the sea was colder than it is during our most recent years. Students are encouraged to think about how even small changes in temperature may affect where animals such as sea lions are able to live to eat, mate and raise young.

A template for the students to record their graphing data as well as questions for this activity is provided as follows.

OCEAN QUEST STUDENT ACTIVITY

name _____

ABIOTIC FACTORS: TEMPERATURE

PURPOSE:

To find evidence of changes in sea surface temperature at Race Rocks over a 50 year period.

OBSERVATIONS:

Follow the STEP 1 PROCEDURE in Student Activity: TEMPERATURE. Fill in the data table.

DATA TABLE FOR MEAN HIGH SEA SURFACE TEMPERATURE

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Recent year												
200_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
50 yrs. Ago												
19 _____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

GRAPHING ACTIVITY

Use your data table to plot the temperatures for the most recent year. Use a pencil to mark the dots and then use a coloured pencil to connect the dots in a line graph. Repeat and use a different colour for the previous 50 year data. Complete the SHARE YOUR KNOWLEDGE questions when done.

Title: **Temperature**

Mean High Temp.
Degrees C

13

12

11

10

9

8

7

6

5

4

Month Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

Year 200_____ = ----- (colour) Year 19_____ = _____ (colour)

SHARE YOUR KNOWLEDGE

1. How would you describe the difference in temperatures from the most recent year compared to 50 years previous. A) temperature has increased over time B) temperature has decreased over time C) temperature has not consistently increased or decreased over time.
2. Which months in your comparison showed the greatest change in temperature?
3. California Sea Lions migrate to Race Rocks in the summer months. What reason could they have to travel north instead of staying in California waters.
4. Sea Lions mate and give birth in cooler B.C. waters. If global warming were to increase, where would the Sea Lions possibly migrate to in the summer months instead of Race Rocks.
5. Many animals adapt to their environment given enough time. What two physical features would you change in a California Sea Lion to allow the animal to remain in California waters in the summer months? Give a reason why these changes are beneficial to the Sea Lion. A sketch would be helpful.