

# WHAT ARE BIOMES?

Unit 3:

## Student Worksheet: Treeline and Latitude

Name \_\_\_\_\_

### Introduction

The predominate biome along the equator is a tropical rainforest. Moving north or south from there will be deserts, grasslands, forest and tundra biomes. Besides latitude, the elevation of a region will also determine the types of plants and animals found there.

Tree line is the edge of where trees are able to grow. Above tree line the conditions are too harsh for trees to grow. Although there are many factors that will determine where tree line occurs, by examining the elevation of tree line at different latitudes a pattern can be seen.

Over time the location of tree line has changed as the climate has changed. During periods of high glaciation the northernmost tree line was in the Lower 48 while during interglacial period tree line extended as far north as the Seward Peninsula and North Slope of Alaska. As the climate has changed over thousands of years the boreal forests have gone through several extinctions and reestablishments.

### Prediction

What happens to the elevation of tree line as the distance from the equator increases?

### Directions

Plot the latitude and tree line elevation data from the table below on the graph to show the relationship between latitude and tree line.

#### Data

Place	Latitude	Treeline Elevation (M)
Chugach Mountains, Alaska	61	700
Sikhote-Alin, Russia	46	1,600
Hawaii	20	3,000
Costa Rica	9.5	3,400
Mount Kilimanjaro, Tanzania	3	3,950
Andes, Peru	- 11	3,900
Sierra de Córdoba, Argentina	- 31	2,000
Tasmania, Australia	- 41	1,200
Torres del Paine, Chile	- 51	950
Navarino Island, Chile	- 55	600



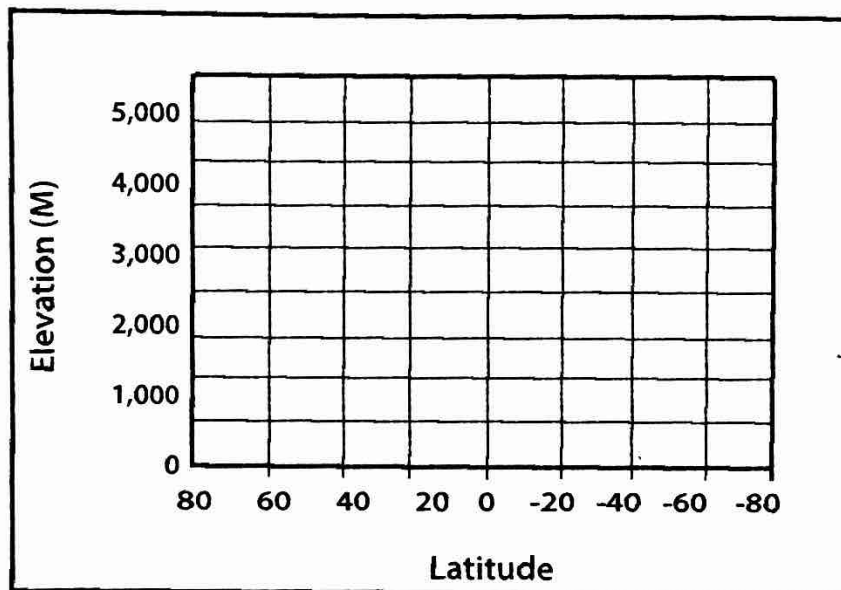
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Comparing Treeline Elevation and Latitude



### Questions

1. As the latitude increases, what happens to the tree line?
2. At what elevation would you be able to find alpine tundra on the equator?
3. The latitude in Nome, Alaska is 64.5 degrees. Based on your graph, what would you expect its tree line elevation would be?
4. What is the approximate latitude where tree line is at 0 meters elevation in the northern hemisphere?



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5. If climate change increases the temperature, what might happen to the elevation of the tree line? How would the latitude change where the treeline is found if temperature increases?

Elevation -

Latitude -

6. If climate change increases the temperature how might the landscape around your community change?

