

*Pollen Bots*

### Part I. Monitoring Cedar Pollen

In Tokyo and other Japanese cities, little pollen counting robots are hanging out on porches, rooftops and windows. The bots are 30 cm tall and weigh about 1 kg. They have eyes that glow in five different colors that indicate the level of cedar pollen in the air.

Stranger yet, hundreds of thousands of Japanese wear surgical masks and plastic goggles in the spring. Between one-fourth and one-half of the population is estimated to be allergic to pollen from cedar trees. An increase in allergy to cedar pollen was first reported in the 1960's – about a decade after a major reforestation effort in Japan. Today, nearly 15% of the Japanese archipelago is home to mature cedar trees.

1. The growth of cedar buds depends on the weather of the preceding summer, according to Japan's Forestry Agency. Cedars will produce more pollen in spring if there has been more sunshine, higher temperatures and less rainfall in the summer. Where would you look on the web to predict if there will be an increase or decrease in pollen for Japan in 2009?

Do you think there will be a higher pollen count in the spring of 2009? Explain.

2. How might global warming affect people who are allergic to cedar pollen?
  
  
  
  
  
  
  
  
  
  
3. Pollen samples are being taken continuously around the world. This includes both fresh pollen as well as fossil pollen, the best preserved plant remains in sediments and sedimentary rocks. Are pollen counts available in your area? (Hint: Check weather sites.)

List the current pollen count for your area.

What does your pollen count tell you?

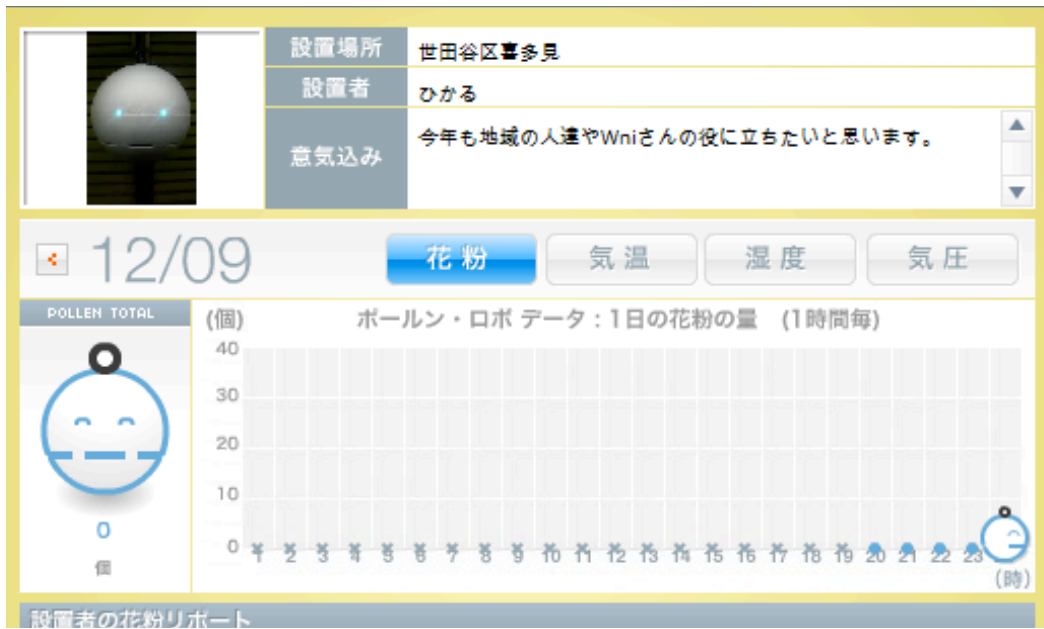
4. Make a list of at least five careers in which working with pollen is part of the job.

Part II. Looking at past pollen counts in the Tokyo metropolitan area

From the site: <http://weathernews.jp/pollen/> You should see a green map of Japan with circles showing where pollen robots are actively counting pollen.



Here is a graph for a Tokyo location showing the number of pollen during the day for December 9, 2008.



1. What do you observe about cedar pollen on December 9, 2008

Here is an earlier one for March 29, 2008.



2. What do you observe about cedar pollen during March 2008?

3. Explain the differences.

4. Why is cedar pollen being counted?