



**Eugene  
School  
District 4J**

Monday, February 2, 2015

To: Sheldon High School Biology Teacher

From: George Formosa, Head Environmental Control, 4J Grounds & Maintenance

RE: indicator species

As our maintenance crews have managed the sports parks at the four city high schools they have become alarmed by the absence of lichen on the sidewalks. As you are no doubt aware, lichen species are an indicator of ecosystem health. We would like to initiate a lichen reintroduction policy and need your help. The grounds maintenance crews need to assess the health of the environment, so determining the size and density of the lichen population is critical.

Will you please survey the science courtyard and/or paved surfaces at Sheldon High School and determine the population size and/or average density?

Sincerely,

George Formosa

**Plant Population**  
Biology B

Name: \_\_\_\_\_ Per. \_\_\_\_\_

You will design an experiment to determine the size of the lichen population on the ground level and exposed portion of the concrete in the Sheldon High School science courtyard. You will be graded based on the following rubric.

<b>Grading Criteria</b>	<b>Possible Points</b>	<b>Points Earned</b>
<b>Title</b>	1	
<b>Purpose</b> <ul style="list-style-type: none"><li>• Explain the purpose of the experiment</li></ul>	3	
<b>Procedure</b> <ul style="list-style-type: none"><li>• Include information on the following:<ul style="list-style-type: none"><li>○ Where are you going to be sampling?</li><li>○ How are you going to select the plots you sample?</li><li>○ How many plots are you going to sample?</li><li>○ How will you calculate the population size?</li></ul></li></ul>	8	
<b>Data Collected</b> <ul style="list-style-type: none"><li>• The data table is labeled, neat, and conveys the relevant data</li></ul>	10	
<b>Results</b> <ul style="list-style-type: none"><li>• Give your estimate of the population of <i>lichen</i> in the science courtyard</li></ul>	5	
<b>Total</b>	27	