<table>
<thead>
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<th>Challenge Title</th>
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<td>Be a Scientist</td>
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**Authors:**
Suzanne Brosseau  
Petrova Elementary School

**Content area:**  
Science

**Grade level:**  
4

**Standards / Knowledge or Skills addressed:**
Tour of Saranac Lake as we walk to the Saranac Laboratory  
Parts of a microscope, using a microscope, viewing an x-ray

**Investigative Question:** (needs to be a specific question that will guide and focus students throughout the activity)

Lab Centers:
What are the parts of a microscope? (Lab worksheet)  
How can you identify disease using a microscope? (Lab worksheet)  
Which x-ray shows disease? (Lab worksheet)

**Challenge:** (Defines what the students will do – ex: write a lab report, create a brochure, prepare a debate…)  
Compete a three part lab report.

**Context and prior knowledge:**
History of E.L. Trudeau  
View and use a microscope

**Materials:** (List resources needed, student handouts necessary, lab supplies…)
Chart labeling parts of a microscope  
Lung plates - one healthy, one with TB  
7 - slides with healthy cells, 7 - slides with diseased cells  
3 part lab report for each student

**Directions for Students:** (attach all handouts and worksheets needed to complete the challenge)

Day 1 - Prior to departing for trip explain to students the 3 part lab report. Explain each aspect and that they will be working independently in 2 parts, and in group for 1 part. Each student will be responsible for their own lab report. Explain rubric and point system.
Day 2 - Take Saranac Lake Historical Society Tour while walking to the Saranac Laboratory.
Once at the lab break students into three working groups.

Scientists Group 1
Parts of a Microscope.

Scientists Group 2
Use a Microscope to view diseased and healthy tissue.

Scientists Group 3
View lung plates as a group.

Day 3 -
Discuss findings of lab reports.
## Challenge Quality Checklist

**Title:** Be a Scientist

**Author(s):** 

**Date:** 

**Class:** 

<table>
<thead>
<tr>
<th>Standards / Criteria</th>
<th>Points possible</th>
<th>Points Awarded</th>
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<tbody>
<tr>
<td>Part 1 - Read information on microscope, answer questions</td>
<td>7</td>
<td></td>
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<tr>
<td>Correctly label parts of a microscope</td>
<td>25</td>
<td></td>
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<tr>
<td>Part 2 View slides under microscope</td>
<td>10</td>
<td></td>
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<tr>
<td>Correctly complete microscope lab report</td>
<td>25</td>
<td></td>
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<tr>
<td>Part 3 View lung plates, discuss in group</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Correctly complete lung plate lab report</td>
<td>25</td>
<td></td>
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100 points