

# Homework: The Science of Pictured Rocks II

In the last homework you were supposed to design an experiment which tests the following hypothesis about the color patterns on Pictured Rocks:

“Every full moon, the roots of the trees above Pictured Rocks shed colored tears, which seep into the ground, flow underground towards the cliff and runs down its edge, coloring the sandstone and creating the vertical streaks.”

This homework, you will do what is called **peer review**, that is, you will critique the paper of one of your group members. To do so, switch your paper with another person in your group (if your group has three members, switch the papers in a “circle”).

Read the paper of your peer carefully, and discuss the following points in a short paper of your own (aim for one page or less).

- Discuss whether the experiment proposed by your peer will be able to test the hypothesis, and if so, which parts of the hypothesis are tested.
- If the experiment will confirm or reject the hypothesis, will you be able to observe the effect **directly** (e.g., you will see the “tears”) or **indirectly** (will you see the effect of the tears)?
- Assume that somebody has performed the experiment proposed by your peer, and the hypothesis was rejected (For example, suppose the experiment was to rip out a tree at full moon and see whether a colored fluid oozes out of the roots, and now assume that you observed no such fluid coming out).

You should play devil’s advocate, in other words, your job is to try defend the hypothesis in the light of the outcome of the experiment. Try and find things that the experiment might have “missed”. Here are some examples:

- What if there is a time delay between the full moon and the tears coming out?
- What if only every second tree oozes?
- What if the tears do not flow in a straight line towards the cliff?