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Project proposal

Implications of Slope on the Volume of Surface Runoff in Bolton, VT

The purpose of this project is to find out how slope angles and plant life in Vermont affect the amount and types of surficial sediment runoff into the streams below. For the experiment, we will purchase a roof gutter and cut it into six exactly identical sections. They will be capped off on each end and five will be installed into the ground at different locations. One will be kept as a control gutter. The upper gutter edge will be flush with the ground surface, and the lower edge will be above the ground, leveling the gutter so it can collect maximum water and sediment. After each rain event, each gutter will be emptied into a jar of its own. This will allow for a qualitative comparison of sediments between each environment that contained a gutter. A comparison between the types of sediments can also be made from this collection.

With this data, we will be able to distinguish which environments are the most static, and which are more active for sediment runoff. This is important because it provides insight for how the land will react to certain actions against the environment. We hypothesize that steeper slopes will deposit more material than the shallower slopes due to increased water velocity coming off the hill. We will keep in mind, however, there are other factors that may influence the collection of sediments other than those we can account for, such as wind deposited debris. The control gutter will help us determine the amount of unwanted sediment.