Take several ziploc bags, boil radish leaves, boil radish roots, chop up a radish and drop it in, boil alfalfa leaves, boil pea leaves/pods.

 Radish are very hardy, bitter foods. They can grow in fairly adverse environments with fairly well, but thus begs the question: Why? Is whatever it is in a radish that makes it bitter necessary for it to live, and if so can it positively affect the growth of another radish in the environment? If it is in the chemical makeup, will having an excess of whatever it is lead to a greater growth or will it actually feature disadvantage in the long run? Perhaps the answer lies in the chemicals of the leaves, body, or roots?

 In terms of design, the planted in question can be a series of ziploc bags so as to eliminate the need for major horizontal storage while having numerous radishes growing at the same time. In one series of bags (3 or more), all that will be there is a sheet of paper (With a hole to plant the radish above the water level), 3 radish seeds, and (deionized) water. In a second series, there will be paper, 3 radish seeds, (deionized) water, and the chopped body of a radish in the water. In a third series, there will be the paper, 3 radish seeds, (deionized) water, and the liquid collected from boiling radish leaves. In the fourth series there will be paper, 3 radish seeds, (deionized) water, and the liquid collected from boiling the roots of a radish. We will measure germination as well as growth over the two week period we have been given.

I personally hypothesize that there will be marked improvement from the radish featuring the chopped body of the grown radish due to the presence of whatever chemical in the radish that allows for bitter flavour. (Andrew)

 I, Cindy, hypothesize that the chopped radish piece will release excess chemicals due to being separate from its original body and from this release in chemicals, it’ll improve the growth of the radishes sharing the same environment by enhancing the amount of chemicals the radishes have.

My (Addie’s) hypothesis is that, due to there being specialize chemicals in the environment released from the chopped radish, the growth of the radish seed may be deterred or delayed.

Experimental Design

Question: Is the chemical in a radish body itself, the chemical in the leaves, or chemical in the roots, affectual in radish growth?

Predictions:

 I, Cindy, hypothesize that the chopped radish piece will release excess chemicals due to being separate from its original body and from this release in chemicals, it’ll improve the growth of the radishes sharing the same environment by enhancing the amount of chemicals the radishes have.

My (Addie’s) hypothesis is that, due to there being specialize chemicals in the environment released from the chopped radish, the growth of the radish seed may be deterred or delayed.

 This experimental design begins with twelve ziploc bags, thirty-six radish seeds, twelve paper sheets, water, 20-30-20 fertilizer, and a grown radish. The main focus of this experiment requires only four ziploc bags; The extra bags are to help keep consistency. All bags will receive a paper & three seeds. They’ll all receive equivalent amounts of water and fertilizer. The control bag will consist of water and fertilizer only, but the other three bags will have an added variable with the water and fertilzer. A chopped piece of radish will be in one ziploc bag, liquid from boiling radish leaves will be in another bag, and liquid from boiling radish roots will be in the last bag. The purpose of these variables is to test which part of the radish body is most effective in increasing radish growth. For the remaining eight ziploc bags, the steps will be repeated: one bag with chopped radish, one with root liquid, one with leaf liquid, and one with nothing.