

Past Experiments

Feasible & Successful Experiments:

How does reacting different household acids with baking soda effect the circumference of a balloon attached to the beaker?

How does the width of paper airplane wings affect how far they fly?

* Past student tapes a long measuring tape to the floor, threw his airplanes along the tape, and had a partner read and record how far the plane had gone.

How does temperature affect how far a rubber band can be stretched?

*Notes: Finding a way to maintain rubber band temperature is hard because it gets cold as soon as exposed to environment

How does the type of paper affect how food coloring will spread?

How does acidity affect metal or teeth?

*Note: Past mentors used nails for the metal. For teeth, we can get buffalo teeth from the Bone Room

How much force does it take to push a skateboard on surfaces of different roughness?

How does the material of insulation affect the melting of an ice cube?

*Note: Ice cubes must be small so that they can melt completely within the class period

How does weight placement on a paper airplane affect how far it flies?

*Note: Hard to standardize throws, but results are clear.

How do different preservation methods (salt, sugar, lemon juice, etc.) affect decomposition/molding of fruit?

How do water additives (i.e. salt or sugar), affect rate of freezing?

*Consider that freezer will need to be opened several times to check on the water, which will affect freezer temp.

How do different colors affect heat absorption?

How does temperature of water affect surface tension?

How does pH of a solution affect egg shell hardness?

How do different type of fabrics/materials affect the spread of dye?

How do different fruits/vegetables affect the amount of electricity they can conduct?
(fruit/potato battery)



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Experiments that were...not so good:

How does the ability to smell affect the ability to determine the flavor of chewing gum?

*Note: these types of experiments can be done, but whatever the subjects are tasting/eating need to be similar in feel and texture so that that isn't an added variable, and they also need to have 'natural' flavors that would be easy to identify. I.e. it won't work if you have Boston cream pie flavored yogurt and key lime pie yogurt because those are artificial flavors that aren't easily identified to begin with.

Does ice melt faster in boiling water vs fridge?

*By 7th grade, students know that heat will make an ice cube melt faster than cold. In this case, the question is certainly feasible and has easily measured results, but we want them to explore something they don't know the answer to!

Does a person's age affect whether or not they will take and eat a candy that is placed in front of them.

*In other circumstances this could be a cool experiment on impulse control. For this class, however, it is really not very feasible since all of their participants are their 7th grade peers, who only differ in age by a matter of months. In addition, we are trying to steer away from any experiments which involve the students eating candy!

Does eating sugar affect people's reflexes? (test reflexes by PersonA dropping ruler at any time within a 15 sec time range and seeing how far down the ruler PersonB catches it)

*We don't really want to be feeding the kids sugar! A better variation on this experiment might be to look at the effect of temperature on reflexes (using an ice bath, or warm water bath).

How does cooking time affect "solidness" of an egg?

*For one, this is a case where students most likely know that longer cooking time will result in a more fully cooked egg, up to a point. The other issue is that there isn't a good way to measure how "cooked" one egg is in comparison to another...you're basically looking at the two categories of cooked and uncooked, or would have to devise some type of rating scale....but you wouldn't really have a scientific way of measuring the data



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