

## Mr. Hill's Calamity Assignment #2

Name: \_\_\_\_\_

Hi guys, hope everyone is doing well. I haven't had much feedback on the first assignments. The plan is that you share your work with me if you have access to the internet. Take pictures or share google docs with me via email. I still have a lot of you guys who haven't done the original Study Island Blizzard Bags too. Go to Study Island and complete all three if you haven't please. I know some of you are doing the packets that have been sent to your homes and are waiting to bring them back to school and that's fine if you can't send them to me through email.

Moving forward into these next assignments I wanted to get you thinking and doing some hands-on activities. I have two assignments that will take a little time to complete and hopefully be fun to do. One is an outdoor wildlife research project you can do no matter where you live and the other is going to have you doing some serious Scientific Method thinking and creating by making a Rube Goldberg machine.

### Activity One: Nature Search

**The Objectives:** I want you guys to explain/show that people and wildlife share the same environments and generalize that different habitats have characteristic life forms and finally identify ways the environment affects the life forms that occupy it.

**Where:** This is designed to be an outdoor activity. You can be in your yard, in the woods, in town or in the country. Make sure the weather is suitable to be outside. Make sure you have permission to be outside and permission to be where you do your observations. Be safe and practice State rules of social distancing for your and others health and wellness.

**Definition: Wildlife** - includes all animals that have not been domesticated by people. Spiders, insects, reptiles, amphibians, and most species of fish, birds and mammals may be considered wildlife.

**Supplies:** paper and pencil and/or phone with camera and/or voice recorder...you need something to record your observations as they happen.

**Procedure:** Find a comfortable spot outside where you can record (written or recorded) your environment for at least a half hour. Identify the habitat thoroughly, list the non wildlife things you see, ex. grass, flowers, trees, rocks etc and describe the setting as urban or rural, yard or woods. Also, record all wildlife (don't forget the definition) you see...name the things you see if you can, describe their appearance and what they are doing. After the half hour of observation, if you can, start moving around your area of observation. Walk around for another half hour and continue your observations...please take detailed notes on what you observe. Enjoy yourself.

**Assessment:** If you are enjoying yourself outside you can answer these questions outside or you can go back in if you need to.

1. What was the most surprising thing you observed?
2. Pick a wildlife creature you saw in a rural setting or urban setting. Do you think it could survive and act the same in the opposite setting? How do you think it would look (same or different)? Would it eat and live the same?
3. Do you think the environment affects the wildlife you saw?
4. List and describe all the wildlife you observed in your notes.
5. List and describe all the plants you observed in your notes.
6. Identify and describe three things that people could do to help support the habitat and wildlife you saw in your observations.

7. Bonus: Is anyone finding any more mushrooms?

## Activity 2: Rube Goldberg Machine

A Rube Goldberg machine, named after American cartoonist **Rube Goldberg**, is a machine intentionally designed to perform a simple task in an indirect and overly complicated way. Usually, these machines consist of a series of simple unrelated devices; the action of each triggers the initiation of the next, eventually resulting in achieving a stated goal.

**Objective:** I want you guys to get creative and think scientifically. You are going to come up with a task/goal, plan and design a Rube Goldberg style machine, build it, test it and rebuild or fix anything that needs adjusted until you get your machine to work. It would be great if you could video record your final design and show me how it works.

Watch this link if you have access to get a good idea of what your design might kind of look like...maybe...lol <https://pbskids.org/designsquad/video/chain-reaction-machine/>

**Procedure:** Communicate with the adult(s) in charge at home and tell them about your assignment and get permission to use random items you have available to create your Rube Goldberg machine. Feel free to ask them if they'd like to help you if you'd like. They are welcome to give ideas and help out. They may have fun with this too. Do some "**research**" around your home (old toys, Hot Wheel tracks, string, ping pong balls, dominoes, tape, glue etc) to find possible items you could use for the project. You do not need to buy anything for this project. You are going to try and create a chain reaction type of machine, like the game MouseTrap if you are familiar with that, that will perform a simple task ( "**problem**" ). Once you have found potential supplies you need to brainstorm what and how you could put all of your parts together to do ("**hypothesis**"). Write down what you are "**planning**" on designing and what it is going to do. Draw a diagram or two of what you think it might look like. Start building, creating, "**testing**" and "**retesting**". This may be frustrating and take a while. That happens when you are designing, engineering and inventing. You'll get it to work. Redesign as you go. Once your machine works a few times "**record your results**" (take pictures or draw it) and "**share**"(email me or bring back when we get to back to school). Notice it kinda looks like the Scientific Method.

Email me, [sean.hill@crooksville.k12.oh.us](mailto:sean.hill@crooksville.k12.oh.us) at any time with questions...have fun and enjoy this activity guys...hope you guys are hanging in there...get creative...Go Ceramics!