**PHASE 1**

**September 30th**

Today I went looking on the Internet for science fair project ideas. I watched the following videos, but decided not to do each for the following reasons:

-https://www.youtube.com/watch?v=BmqDLMAesck: too expensive and I don’t think I could do it safely

-https://www.youtube.com/watch?v=dAboZJgB6XU: I decided I wasn’t interested in the topic that much

<https://www.youtube.com/watch?v=TqB2-FRZy0s>: I watched a different video showing how it is actually fake, so it wouldn’t work

I decided to go with the video “Changes to Plant Growth with different Liquids”. I will start filling in my research table soon.

**October 3rd**

1) The topic of my science fair is **Growing Plants**

2) I am choosing this topic because my dad grows a lot of plants in the backyard and I want to do an experiment to see if I can learn something new that he can use in his garden. I also think plants are cool because we have lots in our house and it is my responsibility to water them. I notice changes to the plants when I forget to water them, but I don’t understand what is going on, and would like to know more about this topic.

3) WEB OF WHAT I THINK I KNOW ABOUT THE TOPIC



4) -How can some plants live without water for long periods of time?

-What is a grow light?

-Can I water a plant too much?

-What time of day is the best for watering plants?

-What is in ‘plant food’?

-Why are some plants called ‘indoor plants’, and others are called ‘outdoor plants’?

-Why are some parts of a plant green?

-When did people start using greenhouses?

-How does a greenhouse work?

5) Independent variables: amount of water, type of water, time of day I water, hours of sunlight the plant gets, time of day the plant is in the sun, grow light vs natural light vs regular indoor light, type of soil, amount of soil, type of pot, type of plant, air temperature in the room, humidity level in the room, if I cut the plant (prune it)

Dependent variables: How tall the plant gets, how many leaves it has, how big the root system is, how long the plant takes to germinate (come out of the soil from the seed), if the plant produces flowers or just leaves

**October 4th**

6) WEB OF HOW THE VARIABLES RELATE TO EACH OTHER



**October 5th**

7) Does the type of soil affect whether there are flowers or just leaves on the plant, the number of leaves, and/or how tall the plant will get?

Does the type of light source affect how many leaves my plant will have?

Does the air temperature affect how many leaves my plant will have?

Bonus: I saw that some types of plants grow better when planted together. If I have different plants growing together in different soil conditions, which combination will help the plants grow best?

If I create a fertilizer by adding together parts of different bags of fertilizer that help in different ways, which combination will help my plants grow the best?

I saw online that fungi help plants grow better in a forest. I created an experiment where I wanted to add the fungi to plants and see if they grow faster than plants with fertilizer.

9) The question I will choose is: I saw that some types of plants grow better when planted together. If I have different plants growing together in different soil conditions, which combination will help the plants grow best?

10) My project is an experiment.

**PHASE 2**

October 23, 2017

1) My project is a Life science project

2) I know my parents have grown plants for years and my uncle owns a large garden that he uses to grow vegetables. I will ask them for what they know.

Today I went online to the following website to read about plant growth.

URL: [www.plantgrowth.com](http://www.plantgrowth.com)

Name: How plants grow

Author: Not listed

Date edited: 2016

-plants use water, sunlight, and carbon dioxide to create food

-the name of the food is glucose

-the plants do all this in their leaves

-plants get their water from their roots (it says not all plants)

-plants do something called photosynthesis, also in their leaves

-plants in different parts of the world get more and less sunlight, so not all plants need the same amount of sunlight (they call it an adaptation)

-plants build up strong structures in their stems so they can reach higher because they are competing for the sunlight.

-plants use up the sugar that they created when it is nighttime or if there is a part of the plant that is underground (like the roots)

-…(more research)

I have new questions I’m going to research:

What is photosynthesis?

What is the plant that needs the least amount of light to live? Where is it?

What is glucose?

Does only water work?

Why do plants have flowers? Why do only some plants have flowers?

Source: <http://www.espsciencetime.org/teachers.cfm?subpage=330664>

Name: Why plants have flowers

Author: Schoolworld

Date: 2017

I asked the question: Why do plants have flowers?

-plants have flowers to reproduce, and the new plants are slightly different than the parents. This way, they can deal with something new coming along like a disease or a colder climate

-pollen is a cell that moves from one flower to another, and the flower that gets the pollen can turn into a fruit with seeds. Each seed has a combination of genetic material from each parent

-insect help pollen move, and so does the wind

… (more research)

New questions I will ask:

-why are flowers different colours?

-why do flowers bloom in the spring?

-are there male and female plants?

<https://www.healthline.com/health/glucose#overview1>

Name: Everything you need to know about Glucose

Author: Healthline Media

Date: 2017

I asked the question: What is glucose?

-glucose is also called blood sugar

-glucose helps keep your body working, main source of fuel

-you can have too much or too little of it, leading to permanent effects

-glucose is called a monosaccharide, which means it is a simple sugar

… (more research)

New Questions:

-Why is too much glucose bad for you?

-Why do plants make glucose if humans eat it?

October 24th

Title of Book: Flowers

Author of Book: J. T. Soliman

Published: 2017, Winnipeg MB, by SJB Printing Press

-flowers come out in spring because that is when plants want to spread their seeds

-flowers come in many colours to attract birds and insects

-some examples of flowers are…

-a flower turns into a fruit if it gets pollen, and then a human/animal can eat it

… (more research, having at least 4 books and 4 websites)

4) Vocabulary Page

-glucose: a simple sugar plants make

-pollen: a cell that can turn a flower into a fruit

-photosynthesis:

-root: the bottom of a plant, usually underground, where plants get their water from the soil

5) Word Web of what I know



6) If I cut off the sunlight source, the plant will have more flowers because leaves use sunlight to have energy, so if you don’t have sunlight, a plant wouldn’t need leaves. Also the plant will maybe panic and think it needs to reproduce because conditions have changed, and it is going to die soon.

**Bibliography**

**Electronic Sources**

URL: [www.plantgrowth.com](http://www.plantgrowth.com)

Name: How plants grow

Author: Not listed

Date edited: 2016

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