Madison Lemoine and Sady Diaz

Research Plan

How does the growth of algae affect our school pond?

Rationale

How does the growth of algae affect our school pond ? Our school pond had collective gain algae throughout the months from summer vacation. Algae is not only in the water , but the bacteria can affect our fish in the water or other animals and our plants. The problem can get bigger because algae reproduces very quickly.

Algae growth can affect our school pond a lot from the bacteria in the water. Algae growth always forms when the water plants are not completely remove nutrients from the pond. The surplus nutrients has increased of which algae is taken place.Parts of algae are always present throughout the water and ready to develop. When plant algae is taken place it decrease the quality of the water. Algae is growing more faster when algae plants can not develop correctly. In new designed ponds the growth of important oxygen producing plants which makes floating algae. Algae will make a green-like mass in the pond’s water and restricts plants growth. An articles states” Nothing is more bothersome than an excess of algae in a pond. You want to remove them .A pond is an unbroken up all the nutrients in the pond that algae grows and produces oxygen for the fish.

You can prevent the growth of algae in your pond by setting more plants and fish or other animals. The algae reproduces fast so remove algae regularly so algae is not ecosystem” this shows that algae can be effective and can destroy an ecosystem.

Algae reproduces using sunlight, water, carbon dioxide, and ect to be formed. Algae can contain high levels of oils carbohydrates sugars and proteins it can be used to produce renewable fuel animal feed. It fact it is used in human food algae and macroalgae are already widely used in food products such as baby food and ice cream. There are many ways plants and animals help the pond from all the bacteria in the water. The rocks and gravel can help with the bacteria that the organisms in pond can be reduced. The fish will help keep the pond from all the algae because they eat the algae. Plants help by using clustered up in the top of your pond. Animals in the pond like fish our provide with food and oxygen from the plants and algae. The old dirt will need to be removed and clean the filter so the environment of the pond is nice and healthy. Inspect the quality of water and adjust when needed with more efficient water. The article informs us that “ An integrated biological filter will enhance the activity micro life and thus it stimulates plant growth” this information from the article explains that filters may have a better chance of the water to be cleaner than resources needed in the pond.

The growth of algae can be effectively because of how bacteria grows in the water. The animals may not survive through all the musky algae water in the pond that is why it is so important our ecosystem can be effected from just algae being in our school pond. The plants and animals living under musky algae may not have a healthy environment to live in.

STATEMENT OF THE PROBLEM

 The growth of algae in the school pond because there's so much algae in our school pond since there is no movement or any flow of water to the water just sits in the heat with no flow or movement of water with the plants so without no movement or anything the algae will just continue to build up. This i is why we are trying to build a pump and get it working so we can have flow in our school pond to decrease the algae because with a lot of algae there is less oxygen in the water and our fish start to die.

HYPOTHESIS or Engineering Goals (Design Process Problem Statement)

Expected Outcomes

If we build a pump for our school pond this will help by keeping the water flowing to decrease the amount of algae.

Materials List

Hose

Pump

Filter

Pond

Plants

Water

Fish

Bucket

Algae

Gloves

PROCEDURES

First step: You must know what your school pond has like fish or plants and see how much algae is in the school pond.

Second step: collect the amount of algae in the pond and start to build your filter

Third step: when you start building your filter you must know where the flow of the water in the filter is going to be located and where the dirty water will be cleaned out and where the new clean water will be filtered you will attach the house to to the filter for the water to flow through.

Fourth Step: Once you have built the filter you must have it tested for 3-4 weeks to see the growth of algae is decreasing and increasing

Fifth step: you must record your data everyday and see the amount of algae that is in the school pond and the flow of water in the pond

Sixth step: After your done 3-4 week of testing you compare your data from the start to the end of testing

Seventh Step: Check the significant increase and decrease of the growth of algae

Eighth Step: You put all your design and steps and researcher paper together to put it in your board

Risk and Safety

Don’t press the on button when the slot is closed because if the filter is on it could break with the water trying to get through and the whole machine is just running and could break. Wear safety goggles to protect your eyes and wear gloves to take out algae or scrap.

Data Analysis

The procedures that we will use to collect the data is by using pie and bar graphs for our data.

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