Pond in a Jar "Nutrient Overload" Example Conditions

Experimental design considerations and recommendations

- Identify a location for jars that is both protected and sunny
- Use identical/similar clear jars for each sample
- An inexpensive lawn fertilizer (such as 10-10-10, available in granular form or as a liquid)[1] is sufficient, but other fertilizers or dishwashing powders may also be of interest for comparison
- Using just one source of water (pond water) is sufficient, but other sources may also be of interest for comparison
- Include at least one sample with no added nutrients so that students can compare results to see the specific changes that depend on the presence of nutrients

One possible set of samples is shown in the table below.

Sample	Water	Lawn Fertilizer
1	Tap	None
2	Tap	¼ tsp
3	Pond	None
4	Pond	1/8 tsp
5	Pond	¼ tsp
6	Pond	½ tsp

Tips for conducting the experiment

- Use pond water that appears nearly clear in a small jar. DO NOT use pond water from a location that is highly clouded or has been disturbed such that mud or silt from the bottom is included.
- Fill containers two-thirds to three-quarters full and stir or mix the samples thoroughly when adding nutrient sources. Also stir or mix once each day for the first few days, but be careful not to transfer any water from one container to another. Even with mixing, not all of the nutrients may dissolve. This is not a concern.
- Cover each jar with plastic wrap fastened with a rubber band around rim and poke several small holes in the plastic to allow some air exchange. This cover should minimize evaporation and be helpful for preventing insects or students' fingers or hair from getting in the samples.

[1] An example source: https://www.amazon.com/Bonide-Houseplant-10-10-10-Fertilizers-8-Ounce/dp/B002LFEQ6G/ref=sr_1_71?s=lawn-garden&ie=UTF8&qid=1499883341&sr=1-71&keywords=lawn+fertilizer