

Simulation – Handout 1

STOP & THINK: Think about all the different kinds of things that might be affecting algae. What do you think might be causing the algae to grow so much?

Simulation Instructions

Try to use the simulation to figure out what is causing the algae to grow so much.

For all these runs, keep the algae at 100, keep the fish at 10, and the decomposers on (checked box). Do not change anything else except what you need for each trial.

Nutrients Trial:

1. Click “Reset”
 2. Set the nutrients to **low**. Run the simulation.
 3. Now, set the nutrients to **medium**. Run the simulation again.
 4. Now, set the nutrients to **high**. Run the simulation again.
- NOTICE:** What happens to the algae each time?

Sunlight Trial:

5. Click “Reset”
6. Set the sunlight to **low**. Run the simulation.
7. Now, set the sunlight to **medium**. Run the simulation again.
8. Now, set the sunlight to **high**. Run the simulation again.

NOTICE: What happens to the algae each time? Is this similar or different from what happened in the nutrients trial?

Dissolved Air Trial:

9. Click “Reset”
10. Set the dissolved air per tick to **0**. Run the simulation.
11. Now, set the dissolved air per tick to **50**. Run the simulation again.
12. Now, set the dissolved air per tick to **100**. Run the simulation again.

NOTICE: What happens to the algae each time? Is this similar or different from what happened when you changed the nutrients or sunlight?

Name: _____ 5A or 5B Date: _____ SEEDS Y2 L4

Questions to Discuss in Your Group:

- What happens when nutrients, sunlight, and dissolved air are low or high?
- Based on the simulation, which of the three do you think is most important for algae?
 - a. If you need, try other settings in the simulation to help figure it out.
 - b. Once you have decided, make a check mark on your choice below:

Nutrients

Sunlight

Dissolved Air

I can't tell!

Based on the simulation, what caused the algae to all of a sudden grow so much? How do you know?

BEFORE YOU GO: Remember we talked about good discussions? Think about the discussions that you've been having with your group.

Was your discussion today: poor, good, very good. (circle) How do you know?
