

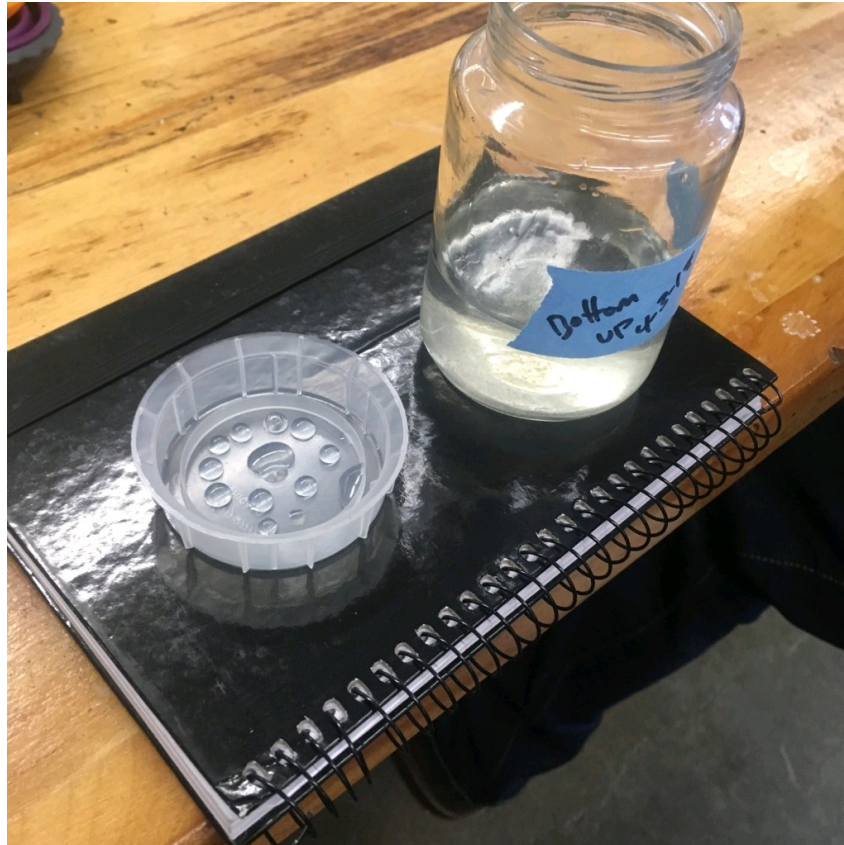


Community Spotlight

Each [Community Spotlight](#) features an outstanding group, partner, resource, or member of our community.

Food Chain Dynamics In A Simple Ecosystem

By Jessica Joyner, J. Phil Gibson, Anna Petrovicheva



Module Description:

Demonstrating predator-prey dynamics rarely fit the timeline of a lecture course or the scope of student experiences. This lab explores food chain dynamics in a microcosm of a simplified ecosystem with a primary producer and a grazer. It can be accomplished in two class sessions (one for experimental setup and the other for data collection). The primary producer is a marine algae and the grazer is brine shrimp (*Artemia* sp.), both of which are accessible and have low risk in culturing and maintenance. For the ecological context of predator-prey dynamics, the population densities are compared after a 2-week incubation of student designed experiment. Additionally, the concepts of 'bottom-up' or 'top-down' influences on an ecosystem can be taught and discussed in a broader context of ecosystem ecology.

Teaching Setting:

The module was designed for use in an introductory Ecology course with a mix of Biology and Sustainability majors, most of which were upperclassmen. The resource includes the lab exercise, a hypothesis workshop, teaching notes, and Excel sheet templates to estimate population sizes and compare means among groups via t-test or ANOVA.

Full Citation:

Joyner, J., Gibson, J. P., Petrovicheva, A. (2018). [Food Chain Dynamics In A Simple Ecosystem. Plants by the Numbers](#), QUBES Educational Resources.
[doi:10.25334/Q4C41H](#)

Visit Resource



Share



Tweet

Related Materials and Opportunities:

This module is one of several that was adapted by participants in the Botany Society of America (BSA)-sponsored Faculty Mentoring Network (FMN) “Plants by the Numbers” held during the Spring 2018 semester. If you are interested in adopting [plant-focused modules](#) that address quantitative reasoning skills, apply by August 24, 2018 to join the [“Plants by the Numbers II” FMN for Fall 2018](#). Dr. Phil Gibson also presented a [session at the BioQUEST/QUBES Summer Workshop](#) in which he describes the modules used in the BSA “Plants by the Numbers” FMN at the 2018 BioQUEST/QUBES Summer Workshop.

QUBES on Social Media



[BioQUEST](#) is a transformative, collaborative community empowering educators to drive innovation in STEM education for all students.

Copyright © 2024 QUBES, All rights reserved.

P.O. Box 1452, Raymond, NH 03077

You are receiving this email because you have shown interest in receiving updates from BioQUEST and QUBES.

[Subscribe / Unsubscribe](#) from mailing list

[View Community Spotlight on QUBESHub](#)

Community Spotlight: Issue 1