

BIO 110 Spring 07
Alien Ecology Lab

Each lab section will create a different evolutionary lineage (a tree of species). Each person will create three related species (25 points each), which have to fit logically with all the others in your section's tree. The ecosystem also has to make sense, in terms of energy flow and nutrient cycling.

What are your three species' niches?

Where do they live?

Which ecosystem?

Where within the ecosystem?

What time of the day/year?

Where do they get their energy?

How much energy do they require?

List any adaptations that affect energy requirements.

Where do they get the matter that makes up their bodies?

What specific nutrient(s) limit their growth?

List any adaptations that help them obtain these nutrients.

Where do they fit into global cycles for carbon, nitrogen, phosphorus, and sulfur?

How do these species reproduce?

How many different chromosomes do they have?

How many copies of each chromosome?

Are they sexual? How does this process work?

At the cellular level?

At the level of the organism's behavior?

What are their survivorship curves like? Why?

What and when were the speciation events that led their immediate ancestors not to breed anymore (assuming they are sexual...)?

How many individuals of your three species exist today (population size)?

Is this population growing or shrinking?

What factors limit their population size?

Density-dependent?

Density-independent?

How have these factors affected their evolution?