

Water and Food

Water contaminants

- Make a specific list of contaminants (things you wouldn't want to have in your water when you drink it)
- At first--?? (no life in space, but there are other contaminants)
- After your colonists use it there are contaminants like
 - Solids
 - liquids

Filtering water

- Look up how cities clean their water (sanitation systems or filtration plants)—here's a starting point—you find another resource for specifics
- Solids
 - Grate-like filter to get out very large stuff
 - Settling tanks
 - Heavy stuff sinks
 - Light stuff floats
- Liquids/ Bacteria
 - Distillation
 - Boiling
 - Reverse Osmosis
 - Charcoal Filters

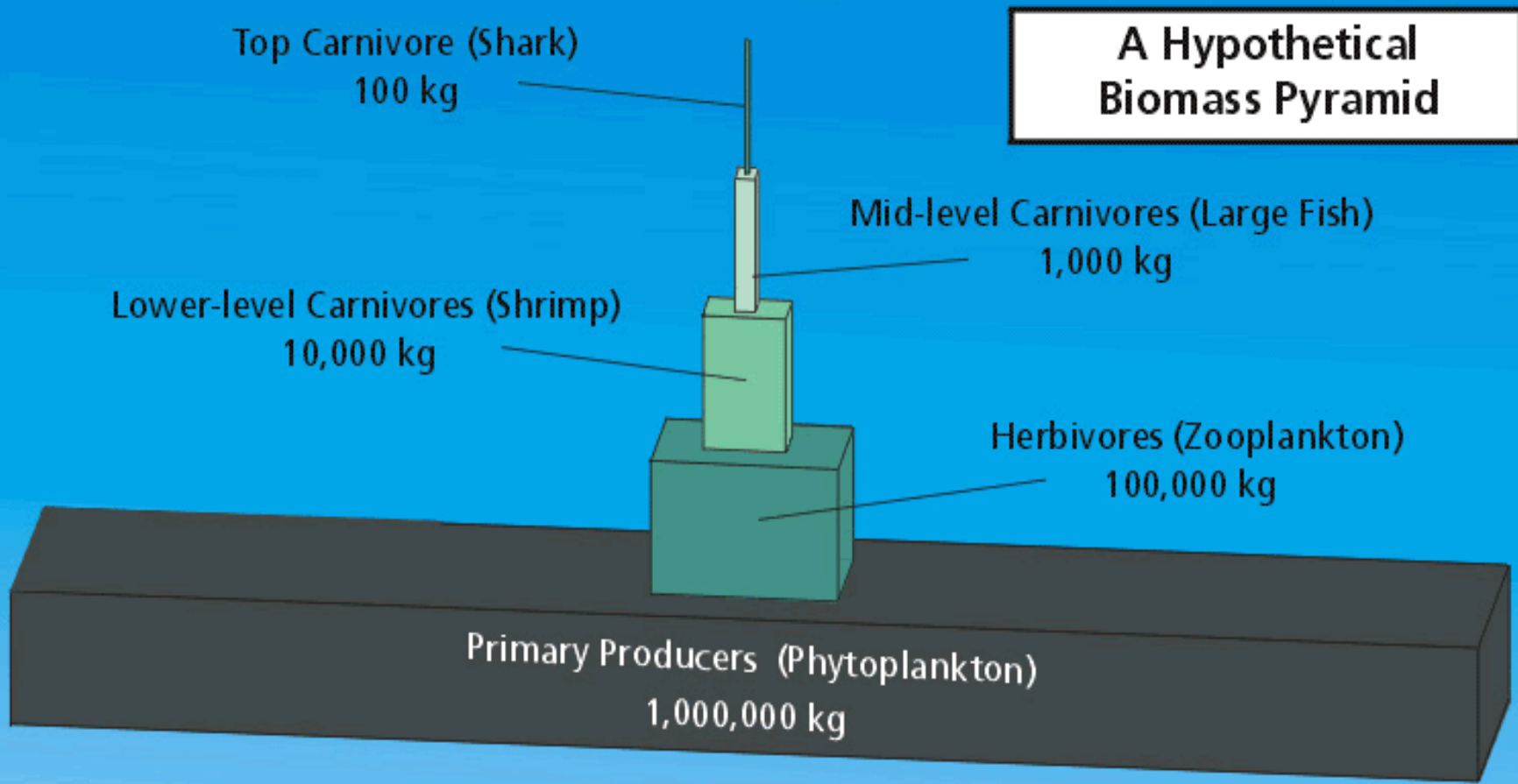
Food—Providing a Balanced Diet

- Make a specific list for your colony—remember that you need to be able to grow and produce all of these things.
- Carbs
 - --Grains, fruits, veggies
- Proteins
 - Soy (only complete veggie protein)
 - Animals (red meat, poultry, fish, bugs)
- Fats
 - Veggie sources-healthier (avocado)
 - Animals sources-too much and not a good kind
- Vitamins
 - Best source-fruits and veggies
 - Color tells you what they are high in
 - Algae
- Minerals

Meat vs. Veggie

- 90% of energy is lost between food levels
 - Best to eat off the bottom of the food web
 - Producers/decomposers
 - Plants, algae, bugs
- Harder to provide enough food if feeding people from higher in web
 - Herbivores/carnivores
 - Cows, sharks, whales, catfish

Most energy available at lowest levels of pyramid



Sustainable Food Supply

- Traditional “dirt farming”
 - Soil made of crushed rock and organic matter
- Hydroponics
 - Water plus added minerals