



Plankton Races



DO/SHOW	SAY
What Are Plankton?	Plankton comes from the Greek word planktos meaning “wanderer” or “drifter”. As a group, plankton are an eclectic collection of organisms adrift in the oceanic waters. The classification of an organism as ‘plankton’ has nothing to do with its biological grouping, but rather with its inability to swim actively against oceanic currents.
2 Kinds of Plankton	<ul style="list-style-type: none"> • Phytoplankton: Tiny photosynthetic plants • Zooplankton: Weak-swimming animals
Why Do Plankton Live at the Top of the Water Column?	<ul style="list-style-type: none"> • Phytoplankton need for the sunlight to be able to reach them • Zooplankton feed on phytoplankton <p>THUS, plankton have evolved with adaptations that keep them afloat!</p>
Plankton Adaptations	<ul style="list-style-type: none"> • flattened appendages • small bodies + complex shapes • large surface area to volume • flagella and cilia • gas filled floats • oil droplets stored in cells
Why Do We Care About Plankton?	Plankton provide important ecosystem services. For that reason, we should be invested in the continued survival of plankton and diversity of plankton for the sake of the marine ecosystem and food chain, and the important role they play in carbon uptake from the atmosphere.



<p>Why Do We Care About Plankton?</p>	<ol style="list-style-type: none"> 1. Plankton provide a food source for the upper part of the marine food chain. <ul style="list-style-type: none"> • If put on a scale, all of the plankton would outweigh all land based animals • You have most certainly swallowed some if you've ever been in the ocean! 2. Phytoplankton are photosynthetic and therefore consume carbon dioxide <ul style="list-style-type: none"> • The sheer number of phytoplankton means that they transfer carbon from the atmosphere into the ocean on a scale equivalent to larger land plants and forests 3. The decomposition of ancient plankton are responsible for the carbon stores at the bottom of the ocean that are still harvested today in the form of crude oil
<p>Plankton Races!!</p>	<p>The challenge today is for you to build your own plankton that will have the best chance of survival. You want to create a plankton that does not stay on the surface, but also doesn't quickly sink.</p> <p>Your goal is to build a plankton that sinks the slowest.</p>
<p>The rules</p>	<ol style="list-style-type: none"> 1. Plankton must be built only from the supplies that are provided 2. You must create a name for your plankton 3. If plankton floats for 10 seconds without sinking it is disqualified 4. No testing prior to the race 5. Course Leader is the judge and has the final say
<p>Setup</p>	<ul style="list-style-type: none"> • Supplies = Toothpicks, paper clips, metal washers, yarn, fishing sinkers, popsicle sticks, straws (regular and/or coffee stirrers), feathers, glue, plastic bags, clay, pipe cleaners, plastic beads, etc. • Fill container ½ to ¾ full of water • Set up the students (or groups) into rounds for racing A1 races A2, B1 races B2, C1 races C2, D1 races D2 A winner races B winner, C winner races D winner AB winner races CD winner for championship • Students in each round will drop plankton from same height at same time – the winner is the plankton that reaches the bottom second.
<p>Wrap-up</p>	<ul style="list-style-type: none"> • Why is it important for plankton to float (or sink slowly)? • Why did the winner win? • What was effective about the design? • Use post-race discussion to reinforce what we know about plankton adaptations