

# ***Cassiopeia* Culturing Lab**

**Grade Level:** 9<sup>th</sup> Grade and Above

**Summary:** Due to growing world populations and the corresponding decline of natural resources the rise of mariculture is a proven method of artificially supplementing diminishing marine stocks. The benefits and environmental threats will be discussed. The lab is focused on culturing *Cassiopeia*. The life cycle of the jellyfish will be explained before students use microscopes to create vials with embryos and settlement substrate. During their time at MarineLab, students will monitor his/her vial and record polyps and planula. Results will be discussed during “summary” class.

## **Program Objectives:**

- students will understand the concept of aquaculture and the reason behind the practice
- students will be able to identify the 2 methods of *Cassiopeia* spp. reproduction
- students will culture viable *Cassiopeia* larvae

## **Concepts Covered:**

- Pros/cons of mariculture/aquaculture
- *Cassiopeia* spp. life cycle
- Biological parameters necessary for culture

**Vocabulary:** mariculture, aquaculture, medusa, polyp, planula, strobilation, ephyra, embryo, axenic, budding, metamorphosis, substrate, motile, larva, gravid, settlement cue, alternation of generations

**Procedure:** Activity is preceded by an introduction to *Cassiopeia* spp. and its life cycle, as well as methods and issues surrounding mariculture. Students work in pairs to isolate embryos from the *Cassiopeia* spp. Embryos are placed in a plastic vial along with a few small stones and saltwater. Students view vials under the microscope to determine how many embryos were isolated. Vials are labeled and set aside to be monitored by students throughout the week. Students look for developing planula and polyps in their vials through the following days. Results are discussed during “summary” class.

## **Extensions:**

## **Resources:**



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