

The husbandry team at the National Aplysia Resource, led by manager Claudia Alvarez, breed and raise *Aplysia californica* for scientific research. © Danielle McDonald

Marine biomedical science

with Professor Danielle McDonald

Talking points

Knowledge

1. What are some causes of hypoxia?
2. What are some examples of how marine organisms have led to human health discoveries and innovations?
3. What are some of the daily and weekly tasks for the husbandry team at the National Aplysia Resource?

Comprehension

4. Why are *Aplysia* useful model organisms?
5. Why is it hard to breed and raise *Aplysia*?
6. Why is it important that the husbandry team keeps sibling *Aplysia* together and carefully tracks their development?

Application

7. How do you think scientists could use *Aplysia* from the National Aplysia Resource to understand how the human nervous system ages?
8. How do you think scientists could use Danielle's *Aplysia* research findings to develop new treatments for stroke?

Evaluation

9. What do you think you would most enjoy about working at the National Aplysia Resource, both as a member of the husbandry team and as an *Aplysia* researcher, and why? What do you think you would find most challenging about each role, and why?

Activity

"We hope to promote the National Aplysia Resource and the use of *Aplysia* as a model organism for human health and disease," says Danielle. "I hope researchers around the world use our *Aplysia* to better understand the nervous system and how it is affected by stress, hypoxia and ageing."

Design a leaflet to promote the National Aplysia Resource to marine biomedical scientists.

Your leaflet should be informative for your target audience as well as eye-catching and engaging. It should explain what *Aplysia* are, why they are a good model organism, how the husbandry team cares for them, and the health conditions scientists could study with them.

If you want to learn more about the National Aplysia Resource, check out the facility's website where you can find additional information, such as how to handle *Aplysia* and videos of their behaviour:
aplysia.earth.miami.edu/index.html

More resources

- Discover why scientists are looking to the oceans for new medicines: oceanexplorer.noaa.gov/ocean-fact/medicinesfromsea
- Learn about biomedical innovations inspired by fish: fishfocus.co.uk/marine-resources-serving-biomedical-innovation
- Learn more about what researchers at the University of Miami Rosenstiel School are doing in the field of marine biomedical science: marine-biomedicine.earth.miami.edu