MARINE BIOLOGY WITH DR SUSAN FITZER

TALKING POINTS

KNOWLEDGE

1. What is aquaculture?
2. What is ocean acidification?

COMPREHENSION

3. In your own words, how does ocean acidification affect bivalves?
4. How are isotopes useful in biological experiments?

APPLICATION

5. Why do you think shellfish aquaculture is considered more sustainable than other forms of aquaculture, and other forms of animal farming?

ANALYSIS

6. What limitations do you think lab experiments face when trying to predict responses to future environmental conditions?
7. Susan's experiments found that ocean acidification indirectly affected shellfish growth through its impacts on micro-algae. What other indirect effects do you think climate change may have on shellfish?

EVALUATION

8. Do you think Susan's research has value outside of the aquaculture industry? Explain your answer.

CREATIVITY

9. Imagine you are a mussel farmer. How might you selectively breed mussels to prepare for changing environmental conditions?
10. Susan intends to investigate mussel shells' durability through the supply chain under different acidification conditions. What experimental designs might she use to do this?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

Imagine you work in the aquaculture industry and have heard about Susan's research. You want to communicate her findings to your company's board, so they can make changes to keep their business profitable. Design a presentation to fulfil this.

Think about:

- **Key messages** – should you focus on background, methodology, results or implications?
- **Target audience** – what could be new information for your audience, and what are they likely to know already?
- **Engagement** – how can you keep your audience engaged and interested?
- **Next steps** – what actions do you recommend your audience takes after your presentation?

Give your presentation to the class and gather feedback.

MORE RESOURCES

- This article by Susan in *The Conversation* explains more about how ocean acidification affects shellfish: **theconversation.com/the-worlds-shellfish-are-under-threat-as-our-oceans-become-more-acidic-103868**

- This video provides an insight into a day in Susan's life as a marine biologist: **www.youtube.com/watch?app=desktop&v=FmTVdN6U7GQ**

- This video from NASA provides a broader look into how climate change is affecting the ocean: **www.youtube.com/watch?v=BLR-DtxfHPY**