



national science week 2021

National Science Week 2021, Gladstone Fish Industry, Years 3-4

Overview Students design a water filter to assist in the removal of litter from water

Resources Barry and Jenny resource books; clear plastic cups; filtering materials: stocking, mesh, chux cloth, paper towel; rubber bands; sand; and water

Learning intentions

- "Select and use materials, components, tools, equipment and techniques and use safe work practices to make designed solutions." (ACTDEP016)
- "Living things depend on each other and the environment to survive." (ACSSU073)
- "With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment." (ACSIS054) & (ACSIS065)

Success criteria

For students to understand that humans can impact the marine environment with litter and that science experiments involve conducting fair tests.

Introduction

The ocean provides food sources such as fish, prawns, lobsters, and oysters. These creatures rely on a healthy habitat to survive. Read Barry and Jenny's expedition and discuss how litter can impact their environment.

<http://ghhp.org.au/assets/documents/education/Interactive%20PowerPoint.pptx>

https://youtu.be/X_rvia4AxJc George the farmer video Deep Blue

The Gladstone Ports Corporation's (GPC) Ports of Gladstone, Rockhampton and Bundaberg are home to many different types of animals, including fish: <https://www.gpcl.com.au/big6-fish>



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Introduction cont..

In Gladstone, a number of organisations joined together to create a Report Card for the health of the harbour. <http://ghhp.org.au/> Many different factors are considered and tested

Habitats:

<https://www.gpcl.com.au/habitats>

Lesson steps

- Set up four containers with the same amount of water and sand mixture in each
- Select four different pieces of filtering material (stocking, mesh, chux cloth, paper towel) of the same size
- Pour the sand and water mixture through each piece of material secured to the container with a rubber band.
- Measure or rank each material as an appropriate way to filter the water (how clean is the water? How easy was the material to use?)

Conclusion

Discuss with the students which pieces of material worked best to filter the mixture.



Explain that a fair test involves changing one thing (type of material), measuring one thing (cleanliness of the water), and keeping everything else the same (controls – same mixture, same size material).

Discuss human impacts of litter on the marine life in Gladstone Harbour and on the Great Barrier Reef.