Case Study: Plastics in our water ways

Activity Sheet 10. "Plastic not so fantastic"

Introduction

This activity sheet provides the opportunity for students to investigate the impacts of plastic on the marine environment.

The content of this activity sheet relates to the following Geographical Concepts and Skills and Geographical Knowledge:

Geographical Concepts and Skills

Place, Space and interconnection

- Identify, analyse and explain significant spatial distributions and patterns and identify and evaluate their implications, over time and at different scales.

Data and information

- Collect and record relevant geographical data and information, using ethical protocols, from reliable and useful primary and secondary sources.
- Select, organise and represent data and information in different forms, including by constructing special purpose maps that conform to cartographic conventions, using digital and spatial technologies as appropriate

Geographical knowledge

- Causes of an atmospheric or hydrological hazard and its impacts on places, and human responses to it to minimise harmful effects on places in the future

IMPORTANT TEACHER NOTES

There are a large range of images and clips showing the impacts that plastics can have on the marine environment. Whilst it is important that students are made aware of the impacts it is also equally important not to dwell to long on the issues and create a feeling of "doom and gloom".

Teacher note: Some of these clips and images are also quite graphic and may upset some students.

Consequently, we would suggest that all clips are carefully previewed and that careful consideration about how the students would react to them is undertaken when deciding whether they will be used.

Before students use clips and images in their research project it is highly recommended that they must show and get approval from their teacher to use these images.

Introductory Activity

As an overview to this issue watch and discuss a documentary/clip regarding the impact of plastics on the marine environment. There are a range of clips varying in length and content such as:

- Blue Planet 2 Episode 7
- YouTube- A Plastic Ocean (available for purchase on Youtube or on Netflix)
- Sky News- A Plastic Tide
- Catalyst- Microplastics
- Catalyst- Plastic Oceans
- Youtube- The Plastic Age

Research Report

Students are required to select a specific environmental impact of plastic pollution in our waterways and prepare a presentation showing the cause and extent of this problem.

Steps

1. Divide the students into groups. This task can also be done in pairs or individually.
2. Using the list below allocate or let students select the specific impact that they would like to research. Ideally all of the impacts listed below would be covered.

  Research topics include the impact of plastic pollution on:

- Whales and Dolphins
- Sea Turtles
- Seals
- Fish
- Birdlife
- Reef systems eg The Great Barrier Reef
- Humans (essential that this is covered)
- The condition of our oceans and beaches.

3. Outline the format of the presentation. The key points that should be covered are

- A introductory statement with images outlining the problem
- An explanation of how plastics are ingested by these species or for the Great Barrier Reef and beaches/oceans how plastics found their way to this environment.
- The extent of the problem
- The impacts of the problem
- An outline of what has been done in a bid to reduce this problem
- An outline of what could be done to further reduce this problem.

4. Brainstorm with students how they could present their findings. The aim is for students to get a balance of text and images. It is also important to choose a format that allows their presentations to be shared, such as a Powerpoint or Keynote, laminated posters, infographic, Pic Collage etc.

5. Students can use this research grid to help with their note taking and organisation. It can be adapted as needed.

6. Students present their finalised tasks to the class. If group work is used for this task an alternative method of presentation is a fishbowl conversation. The hyperlink explains how this could work. It is an efficient method of presenting student work and ideas.