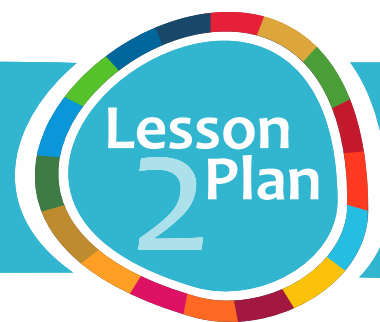


Create your Marine Pollution Fact File



INTRODUCTION

A fact sheet, or a fact file is a presentation of data in a format which emphasizes key points concisely, usually using tables, bullet points and/or headings, on a single printed page. Fact sheets often contain product information, technical data, lists, statistics, answers to common questions (e.g. FAQs), educational material, or how-to, "do-it-yourself" advice. This lesson plan introduces students to prioritise and present information or facts that they will collect as part of their work on this lesson plan. The fact file will also serve as a document to create awareness.

Objectives:

Students will be able to

- identify different problems associated with marine pollution.
- create their marine pollution fact file.

Eco-Schools Steps: Environmental review, Curriculum linkages, Inform and Involve, Eco-Code

Curriculum Linkage: Science/ Environmental Studies/Social Science



13-16
Years

Time required/ Duration:

- **Classroom session 1:** 45 minutes for the teacher to do a background introduction, reading time for students followed by classroom discussion.
- **Home Assignment:** One week for individual students to do an internet based research and create a fact file.
- **Classroom Session 2:** 45 minutes for students to ready the display of their individual fact sheets on the Eco-Schools bulletin board.

Resources Required:

- Resource 6 (List of synthetic polymers which may occur as synthetic microparticles in a product or process)
- Student stationery and other writing material
- Internet
- Eco-Schools notice/ bulletin board, board pins



Activity

Classroom session 1

- Initiate a discussion introducing students to marine pollution and its impacts.
- Ask students to read through Resource 1, Human Impacts - Fact Sheet.
- Facilitate a discussion on the perspective gathered by the students on the same.

Home Assignment 1

- Allocate one week time to students to do an internet based research and create personalised ocean pollution fact file.
- Ask students to create their individual Eco-code (which will demonstrate actions for preventing marine pollution) and the same should also be displayed on the bulletin board.
- The individual fact files should be put up for display on the Eco-Schools bulletin board.

Classroom session 2

- Guide students to ready the display of their individual fact sheets and Eco-code on the Eco-Schools bulletin board.
- One month display time should be provided.

Evaluation

Student Eco-Code will help to understand whether they were able to understand the problems associated with marine pollution and write their action statement in the form of an Eco-code.

Resource 6

Human Impacts - Fact Sheet

Litter is ugly and dirty, but tin cans, aluminium cans, plastic objects and other non-biodegradable garbage are more than just an eyesore. Plastic, glass and aluminium take a long time to degrade. The sea contains large amounts of garbage that originates from the land, even far from the seashore. Garbage is often mistaken by marine animals for food. Turtles often mistake plastic bags for squid or jellyfish and it chokes them. Seabirds, marine mammals and fish can get entangled in abandoned fishing lines, plastic bags and six-pack rings and die.

Facts and figures on marine pollution

- Land-based sources (such as agricultural runoff, discharge of nutrients and pesticides and untreated sewage including plastics) account for approximately 80% of marine pollution, globally.
- Agricultural practices, coastal tourism, port and harbour developments, damming of rivers, urban development and construction, mining, fisheries, aquaculture, and manufacturing, among others, are all sources of marine pollution threatening coastal and marine habitats.
- Excessive nutrients from sewage outfalls and agricultural runoff have contributed to the number of low oxygen (hypoxic) areas known as dead zones, where most marine life cannot survive, resulting in the collapse of some ecosystems.
- There are now close to 500 dead zones covering more than 245,000 km² globally, equivalent to the surface of the United Kingdom.
- Over 220 million tons of plastic are produced each year.
- Plastics can contribute to reduce our carbon footprint. They provide improved insulation, lighter packaging, are found in phones, computers, medical devices, etc. but appropriate disposal is often not addressed.
- Seven of the EU Member States plus Norway and Switzerland recover more than 80% of their used plastics. These countries adopt an integrated waste and resource management strategy to address each waste stream with the best options. However, waste and disposal remain an issue in most of the world.
- The United Nations Environment Programme estimated in 2006 that every square mile of ocean contains 46,000 pieces of floating plastic.
- Once discarded, plastics are weathered and eroded into very small fragments known as microplastics. These together with plastic pellets are already found in most beaches around the world.
- Plastic debris causes the deaths of more than a million seabirds every year, as well as more than 100,000 marine mammals.
- Plastic materials and other litter can become concentrated in certain areas called gyres as a result of marine pollution gathered by oceanic currents. There are now 5 gyres in our ocean.
- The North Pacific Gyre, known as the Great Pacific Garbage Patch, occupies a relatively stationary area that is twice the size of Texas. Waste material from across the North Pacific Ocean, including coastal waters off North America and Japan, are drawn together.
- The Blueprint for ocean and coastal sustainability includes proposals to green the nutrient economy and reduce ocean hypoxia.

Source: <http://www.unesco.org/new/en/natural-sciences/ioc-oceans/focus-areas/rio-20-ocean/blueprint-for-the-future-we-want/marine-pollution/facts-and-figures-on-marine-pollution/>