



ANIMAL TALES

In this activity learners simulate reactions of certain marine animals that come into contact with litter items. Learners listen to descriptions of each marine animal's characteristics and then try to identify the type of litter that may harm them.

SUBJECTS

Environmental Studies, Language, Arts

LEARNERS' AGE

10-15 yrs

DURATION

90 minutes

OBJECTIVES

- To be aware of the threats marine litter poses to marine life including ingestion, entanglement and alien species invasion.
- To understand why certain characteristics of marine animals can make them either more or less susceptible to the dangers of marine litter.
- To "experience" what a marine animal experiences when it comes into contact with marine litter items.
 - To encourage expressing emotion and ideas.

INTERNET SOURCES

Marine Species under Threat - National Geographic photo gallery:
<http://ocean.nationalgeographic.com/ocean/photos/marine-species-under-threat/>
Global Symposium: Entanglement in marine debris:
www.wspa-international.org/wspaswork/oceans/marinedebris/symposium/

SECTION C

EXPLORING
THE IMPACTS





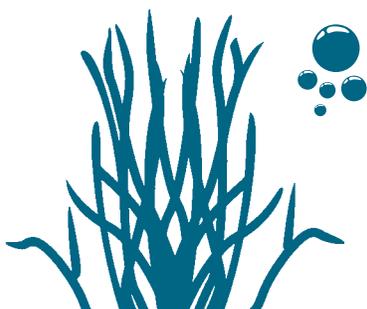
Animals may be attracted to litter items out of curiosity or while looking for food or shelter. Although entanglement and entrapment may not kill a marine animal, it can torment and cause serious pain, for example, when a litter item penetrates the animal's flesh and the animal continues to grow and develop around it. Often animals mistake litter items for food and eat them – this is known as ingestion, which can cause them to choke and/or starve. Ingestion can happen accidentally but also because litter sometimes resembles their food. When the stomach of animals fills with waste that cannot be digested, their digestive tract gets blocked, they feel full, stop eating and eventually die of starvation.

A recent literature review conducted in 2012, reports on the impact marine debris had on 663 species of organisms. Well over half the reviewed publications documented a 40% increase in incidents of entanglement and marine debris ingestion since the last most substantive review (of 1997), which reported on 247 species. The recent review also reveals that all known sea turtles species, about half of all marine mammals species and one-fifth of all seabirds species, have been affected by entanglement or ingestion of marine litter. Approximately 15% of these species are on the Red List of Threatened Species of the International Union for Conservation of Nature (IUCN).

Sea turtles and litter: Sea turtles may become entangled in different types of litter including fishing lines, nets and rope. Ingestion, however, is an even greater problem as these species are indiscriminate feeders. Sea turtles swallow plastic bags because they look like jellyfish, one of their favourite snacks. Cases of turtles swallowing balloons, tar balls and other debris that has become encrusted with algae and other marine forms have also been reported. Ingesting litter can block a sea turtle's digestive tract leading to starvation and a painful death.

Marine mammals and litter: Large, ocean-dwelling mammals are threatened by both entanglement and ingestion. Research over the last two decades reveals hundreds of cases where cetaceans, including species of whales and dolphins, have become seriously ill or killed by marine litter. Seals and sea lions are also severely affected given their natural tendency to investigate unusual objects in their environment.

Seabirds and litter: A large number of seabirds die from entanglement or ingestion every year. Since many seabirds feed on fish, they are often attracted to fish caught or entangled in nets and fishing lines. Sadly, when birds prey upon entangled fish, they too can become entangled. Seabirds are amongst the most frequent victims of abandoned nets. As many as 100 birds have been found trapped in a single abandoned net.





**KNOW
FEEL
ACT!**
to Stop Marine Litter



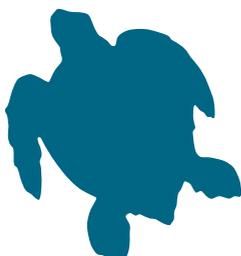
Ducks, geese, cormorants, terns, plovers, gulls, and even penguins have been found entangled in litter. The ingestion of resin pellets and other small, colourful plastic pieces are also a serious problem for wildlife. Many bird species have been found to ingest these pellets, most likely because they mistake them for fish eggs or other types of food.

Fish, crustaceans and litter: Fish and crustaceans such as lobsters and crabs are frequently caught in lost or discarded fishing nets and fishing lines that continue to ensnare whatever they come across – a phenomenon also known as ghost fishing. Lost traps also continue to attract fish and crustaceans which go into them in search of food or shelter. In addition to killing marine animals, ghost fishing is also dangerous for many aquatic habitats such as coral reefs, sea grass beds and shallow areas of estuaries.

Aquatic marine species invasion: Some species attach themselves or “ride” on litter items and “invade” waters they would normally never reach. Once they establish themselves in a new environment, their interaction with native species may pose a threat to the biota and ecosystems. The Mediterranean Sea is considered a “hotspot” of marine alien species originating from the Red Sea, the Black Sea and the Atlantic Ocean. The bulk of the alien species recorded in the Mediterranean Sea are animals that dwell on the seabed (zoobenthos) and plants (phytobenthos) including fish living in littoral and sub-littoral zones. These invade through the Suez Canal, aquaculture or by being carried by shipping vessels.

Damage to benthic habitats: Litter in the sea damages benthic habitats in many ways - abrasion of coral reefs from fishing gear, disturbance and disruption of colonies, decreased oxygenation in the sediment layer or ‘smothering’ of benthic communities, etc.

Damage to coastal habitats: Heavy machinery often used to remove litter items from beaches can damage shore habitats.





Materials and Equipment

For Task C a set of common marine litter items will be needed including foam or plastic utensils, fishing nets, fishing line or rope, plastic bottle lids, plastic bags, plastic bottle rings (from beneath the lid), a wooden box or crate, cigarette butts, balloons, lighters, paper cups, a ribbon, a metal or plastic pipe, a car tyre, etc.

Instructions step by step

TASK A

An essay on..... (latin name) or (common name)

In pairs, learners select an animal dependent on the marine environment. It could be a seabird, marine mammal, fish, sea turtle, etc. Learners may also chose a benthic organism such as shells, corals, sea grass, etc. They research the animal's eating habits (e.g. favourite snacks), its behaviour (e.g. is it social, curious, a fast swimmer, migratory, etc.), reproduction (when, where, how many eggs/babies does it have each time etc.), preferred habitats (e.g. likes the open sea or dwells in deep caves), and its threats (particularly those relating to marine litter).

They document their findings in the form of a brief essay which can be accompanied by photos, videos, etc.

TASK B

Make a role flash card

Based on their research findings, each group creates a short story or "underwater tale" taking on the role of their marine animal and preparing flash cards that describe their behaviours and characteristics - especially those that make them susceptible to marine litter threats such as entanglement, ingestion, etc. Learners tell their story in the first person ("I am...") as if the animal could speak.

TASK C

The role card game

The educator places the litter items on the floor with learners forming a circle around them. One learner randomly picks and reads a flash card. The other learners:

- guess the animal (optional);
- take turns and pick up a litter item which poses a threat to the animal, and explain how and why the specific animal might be affected by the specific item.

Repeat the procedure for all the animals in the flash cards.

