a4 KNOW FEEL ACT! to Stop Marine Litter

GUESSING THE TOP 10

In this activity, learners work in groups to guess litter types most commonly found on beaches. They compare their assumptions to published data from national or international research or to real data recorded through their own field research. They reflect on specific consumption habits that generate marine litter and think about how changes in these behaviours can prevent its generation.

SUBJECTS

Mathematics, Science, Social Studies

LEARNERS' AGE

12-15 yrs

DURATION

Group guessing activity: 60 minutes
Coastal cleanup and data recording: 1 day
Comparison and conclusion: 60 minutes

OBJECTIVES

- To set a hypothesis and then test it.
- To practise reading and comparing data and charts.
- To reflect on how shifts in behaviour can prevent waste generation.

INTERNET SOURCES

International Coastal Cleanup: www.oceanconservancy.org/our-work/international-coastal-cleanup
Take 3 Clean Beach Initiative: www.take3.org.au
Ducks on the go / Where did they go?
www.epa.gov/owow/oceans/debris/toolkit/files/DucksInTheFlow_sm[1]_merged508.pdf

Marine litter is usually recorded by number of items and less frequently by 'weight' or 'volume'. Counting individual items and grouping according to type of material, use, and source is considered as more helpful information when implementing measures at all levels (linking an item to its source and subsequent action) to best deal with marine litter.

Every year, the number of data collection projects such as clean ups and monitoring programmes increase. They are implemented globally either by volunteer groups or appropriate agencies to develop new insight on the amount, trend and distribution of marine litter. These efforts eventually lead to publishing results and figures that may vary considerably depending on location and duration of the clean up, prevailing weather conditions, methodology, time period between two consecutive clean ups, environmental area (beach, water column, seafloor, etc.), aggregation and statistical management of results, etc.

Results are published annually by various organizations such as the Ocean Conservancy International Coastal Cleanup and provide an overview of what is littering our oceans. These results are important in guiding our efforts towards preventing specific items from reaching the marine environment in the first place.

Every year, the International Coastal Cleanup coordinates a global cleanup and monitoring campaign. Annual global data reports are published at www.oceanconservancy.org.
Here are two diagrammes of the top 10 lists of litter items recorded on beaches worldwide during the International Coastal Clean Up of 2012 (left) and 2013 (right). Learners can compare these top 10 lists to those from 10-20 years earlier and discuss the differences.

2012

TOP 10 ITEMS FOUND

1. 2,117,931 cigarettes / cigarette filters
2. 1,140,222 food wrappers / containers
3. 1,065,171 beverage bottles (plastic)
4. 1,019,902 bags (plastic)
5. 958,893 caps, lids
6. 692,767 cups, plates, forks knives, spoons
7. 611,048 straws, stirrers
8. 521,730 beverage bottles (glass)
9. 339,875 bewerage cans
10. 298,332 bags (paper)

2013

TOP 10 ITEMS COLLECTED

1. 2,043,470 cigarette butts
2. 1,685,422 food wrappers (candy, chips, etc.)
3. 940,170 beverage bottles (plastic)
4. 847,972 bottle caps (plastic)
5. 555,007 straws, stirrers
6. 441,493 grocery bags
7. 394,796 beverage bottles (glass)
8. 389,088 other plastic bags
9. 368,746 paper bags
10. 339,170 beverage cans

Ocean Conservancy

Material and Equipment

Notebooks, gloves and bags for the clean up

Instructions step by step

1. Each learner guesses the top 3 litter items they think is most commonly found on a beach they know (in number of items). The learner then notes them in descending order.

2. In groups of 4, they discuss their guesses. Were there any items that the groups did not guess?

3. In groups, learners compose a list of the Top 10 litter items overall, in descending order (List A).

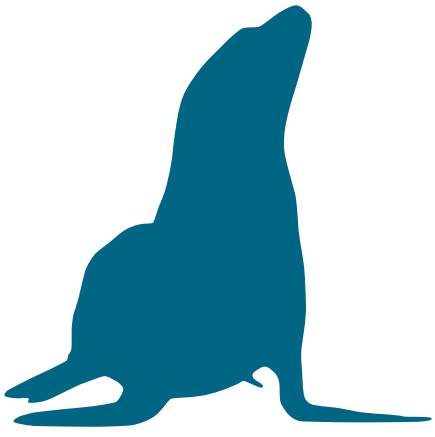
4. It is time to test their hypothesis. They browse through the given links and complete List B. After comparing this list with their list, how do they differ? Were there items that they did not think of?

5. In case of repeated clean ups, learners can compare their data with that of previous years (List C) and track the differences. Alternatively they can compare findings with published data from the literature.

6. Learners visit a beach with their peers and do a coastal clean-up, recording the litter items they find. They list the most commonly found items (List D). How does this list differ from the previous two?

Before visiting the beach check the safety precautions list in activity D4.

7. Learners discuss how the items in the Top 10 list could have been prevented from becoming marine litter. What can they personally do to generate less waste?



MARLISCO
Stopping Marine Litter Together