

KEEPING OUR WATERS, BEACHES AND COASTLINE ...



An environmentally focused unit addressing the causes, consequences, and prevention of marine and waterway litter

Learning Areas: English (all strands), Health, Social Sciences.

- Healthy Communities and Environments
- Place and Environment

Indicative Learning Outcomes

- Understanding the need for and developing and taking positive strategies to contribute to a healthier environment.
- Understanding how people interact with their environment and learning why we must improve the quality of this interaction.
- Becoming aware of the consequences that litter and plastic has for our sea birds, mammals and fish, and how this problem can be greatly reduced by taking small steps to improve this situation.
- Inspiring and promoting the local community to take environmental action that will improve this situation.

TUNE IN TO LITTER

- Pose the question: 'What is litter?' Can the students define it? Do they think that litter is a problem around the school? Is it a problem in their local district? Have students look for examples of district litter when biking to school, riding a bus and/or on the side of the road during a car journey. Report back. Is litter an environmental problem? Why is this?
- Did students know that about 94% of people in New Zealand regard litter as a major environmental problem? If so many people think this, then why do so many people litter? Challenge students to list at least 6 sources of litter, **eg**
 - pedestrians dropping litter in the street or gutter
 - motorists throwing litter out of windows
 - animals scavenging household rubbish bags on the street.
- Brainstorm the consequences of litter. Did these include:
 - it is unsightly for and degrades our image to tourists
 - a threat to health attracting rats (vermin); provides a breeding ground for bacteria; and glass is dangerous?
- Discuss the statement 'litter attracts litter'. What message does this send out to people?

MARINE AND WATERWAY LITTER

- Have students identify the closest waterway (lake, river, stream) or marine/coastal/beach environment to the school. Fly there on Google Earth. List any creatures that that live/are found in this environment. How important is this environment to the district? In what way and how?
- Can they identify any consequences for this environment that litter could bring? Did the students know that:
 - the plastic 6-pack rings cause the deaths of 6 million sea birds and over 100,000 marine mammals world-wide every year?
 - breaking down plastic is mistaken for



- food by sea animals/birds and poisons them or clogs stomachs
- polystyrene never decomposes and is mistaken for food by birds
- every year, thousands of our shore and sea birds, dolphins, whales, seals and fish die from eating or becoming entangled in marine debris.



- Did they know that most marine litter was once land litter? How can this happen? What types of litter can be found in and around beaches and streams? How would it get there? **eg** being washed down drains, rivers and streams; tossed overboard by ships and pleasure boats; left by beach users ...
- Share the information on the sea sac picture (above) with students. Are they surprised that litter can last this long?

A MAJOR WORLD-WIDE ENVIRONMENTAL PROBLEM

To enable students to become aware of the consequences of plastic and marine debris and the scale of the problem, data project and discuss the revealing short video clips at:

www.teachingonline.org/maritime.html

DO WE HAVE A LOCAL PROBLEM?

- Have any students taken part in a beach, stream or river clean-up in the past? What did they find? Share experiences. Did students know that hundreds of thousands of rubbish pieces are collected on New Zealand beaches every year by volunteers?
- Involve the students in planning and implementing a local clean-up at your nearest marine or fresh water site. Take lots of photos prior to the clean-up to establish the extent and type of litter that will need to be picked up. Before the clean-up, contact your local community paper to get positive publicity for the students and invite the community to support it by taking part. What animal, sea life, stream life and bird life is native to the area? How will the clean-up improve the environment for these creatures?
- Back at school, sort the litter into discrete categories. Have students speculate on where the litter came from and how it got there.
- Display the collected litter at school to raise awareness of the problem amongst other students and parents.

... CLEAN FOR FUTURE GENERATIONS TO ENJOY

STUDENTS CAN MAKE A REAL DIFFERENCE

- Remind students that over 80% of litter found on our beaches and in the sea is carried there by drains, rivers and creeks – especially after heavy rains. Have students consider who creates the litter and list any specific actions they could take, **eg**
 - run a community-wide survey to find out how aware the local community is of the problem and consequences
 - create a page for the class/school website and embed marine/beach litter videos from YouTube or their own videos they shoot to highlight the problem
 - plan and implement specific actions that involve the whole community in protecting our waterways, beach, and street/roadside litter (including the local media).



HAVE A GARBAGE PLAN

- Have students consider the packaging boaties take out on the water that could end up as ocean litter. Did their list include: *plastic drink bottles and bags, food, plastic and paper wrappers, plastic and polystyrene containers...*
- Can they think of any ways that boaties can reduce the amount of packaging they take out on the water?
- Introduce the idea that all packaging should be securely stowed in the boat. Why is this a very important message? **eg** *so it doesn't blow into the water.*
- What suggestions can students make to ensure that all packaging and used food is brought back home for disposal and/or recycling, **eg** *take a biodegradable rubbish bag on the boat and then carry ashore to 'bin' your waste.*
- Tell students that Maritime New Zealand asks boaties to carry portable toilets or buckets to dispose of human waste. What reason can students give for this suggestion?

MARITIME NEW ZEALAND CAMPAIGN

- Introduce students to the environmental slogan of 'think globally and act locally.' Discuss its meaning. How does it apply to what they are already doing to improve and raise awareness of the litter problem?
- Find out how many students have/will be boating on the ocean or a lake during the coming summer months. What do they like doing there? Did they know that thousands of New Zealanders will be pleasure boating this summer? Speculate on how this could affect/increase the amount of litter and debris found in the ocean, lakes and on our beaches.
- Visit: www.maritimenz.govt.nz > select *Recreational boating* to have students discover what Maritime New Zealand does. Have groups report back on one or more of the ways that Maritime New Zealand promotes safe and responsible recreational boating. As a class, check out the environmental section. In what ways do they help protect our oceans/lakes?
- Tell students that Maritime New Zealand is launching a special environmental campaign called '**Don't throw it – stow it**'. Project the pdf of the posters campaign at: www.teachingonline.org/maritimeposter.pdf
www.teachingonline.org/maritimeseasac.pdf
- Can students identify the messages that the posters are promoting to recreational boaties?
- How would just small changes made by every boatie make a real difference to the marine environment? **eg**
 - thousands fewer plastic bags and rings in the sea making it much safer for fish and sea birds.



- Do students think it is 'OK' to throw natural waste such as orange peel over the side? Did they know it takes 2 years to break down?
- Introduce the concept of all beach goers and boaties having a garbage plan. What should be included in the plan? Brainstorm.
- Revisit the idea of people making small changes. How would this plan help?

RUNNING A PUBLICITY CAMPAIGN

- Now students know the importance of changing our litter behaviour and that these small changes can make a difference, brainstorm publicity campaign ideas, **eg**
 - script and shoot promotional videos for a parents' evening
 - design posters and slogans for shopping mall displays
 - act out 'good litter' behaviour dramas at assembly
 - write letters to the local paper, talk on local radio
 - talk to junior classes about the harm litter can do
 - set a personal example by picking up litter
 - develop and carry out a family beach/boating litter plan
 - discover what drains in your local community discharge into the sea, a stream or a river and display a laminated poster nearby to remind people of the dangers of litter
 - design a web page to highlight the problem and solutions.
- As a class, plan to get other classes and school families involved in monthly clean-ups, both on land, on beaches and around local waterways. Keep running totals in graph or table form of both the amount and type of litter that is found. Can the source of the litter be identified. What action can we take?