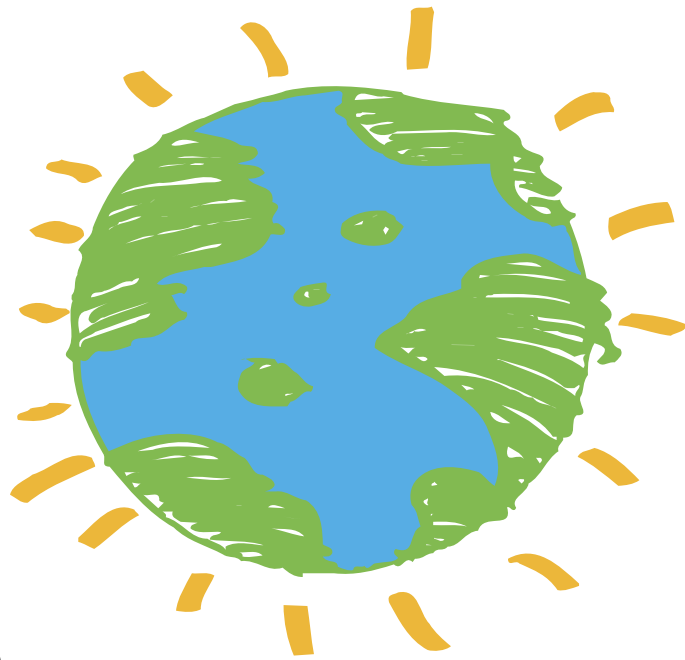


Clean up



the world



education kit

teacher's guide

thank you

Acknowledgments

The Clean Up the World Education Kit was prepared by Andreas Glanznig and Ian Milligan of Glanznig Consulting. Design by Sophie Verrecchia of Zebra Communication. The generous help and humor of Amparo Llanos, Doug Thompson and Amanda Steele of Clean Up the World are acknowledged.

Printed on 100% recycled paper.



Contents

- 2** Welcome
- 2** What is Clean Up the World
- 6** ■ Action Sheet 1 **Clean Up the World game**
- 7** ■ Action Sheet 2 **naming game**
- 8** ■ Action Sheet 3 **rubbish!**
- 9** ■ Action Sheet 4 **can it be recycled?**
- 10** ■ Action Sheet 5 **resource map**
- 11** ■ Action Sheet 6 **rubbish into resources**
- 12** ■ Action Sheet 7 **rubbish breakdown**
- 14** ■ Action Sheet 8 **rubbish makes you sick**
- 15** ■ Action Sheet 9 **what am I ?**
- 16** ■ Action Sheet 10 **plan your clean up**
- 16** ■ Action Sheet 11 **danger and safety**
- 17** ■ Action Sheet 12 **measure up rubbish**
- 18** ■ Action Sheet 13 **measure up changes**
- 19** ■ Action Sheet 14 **compare Clean Up site to home**
- 20** ■ Action Sheet 15 **then and now**
- 21** ■ Action Sheet 16 **composting**
- 22** ■ Action Sheet 17 **circle of life**
- 23** ■ Action Sheet 18 **fix up a site**
- 23** ■ Action Sheet 19 **what lives here?**
- 24** ■ Action Sheet 20 **imagine the future**
- 28** References
- 29** Key to icons



Welcome

Welcome to the Clean Up the World Education Kit. The Kit is part of Clean Up the World, one of the world's biggest "hands-on" environment programs.

The Kit will help teachers:

- teach students about the nature of rubbish and the resources needed to produce goods
- teach students about the environmental and health impacts of rubbish
- teach students that rubbish production can be reduced
- teach students that rubbish can be re-used and recycled
- get students ready for a Clean Up event in their school or community
- use the Clean Up as a way to get students to take long term action to fix up their local environment.

What is Clean Up the World?

Clean Up the World is an international community and environment project that unites communities around the world in a massive global Clean Up, in September each year. Clean Up the World involves tens of thousands of people in 120 countries, and gets bigger each year.

Clean Up the World aims to:

- bring together citizens from every corner of the globe in a simple activity that will positively help their local environments
- share with all nations and cultures the information and practical experience Clean Up Australia and other Clean Up organizations have developed
- create an international media focus for Clean Up activities to raise the awareness of governments, industries and communities about local environmental issues, particularly waste minimization, recycling and waste management.

The kit contains:

- a brochure on Clean Up the World
- 20 student "Action Sheets"
- a Teachers' Guide that explains the aim, outline and possible extension actions for each Action Sheet
- a large size colour poster
- 8 sheets of 6 icons cards
- 6 colouring-in sheets
- a feedback form.

Aims of the Teachers' Guide

The Clean Up the World education kit

Teachers' Guide gives teachers:

- the background on the Kit
- Action Sheet aims, curriculum areas, activity outline and extension activities
- further information.

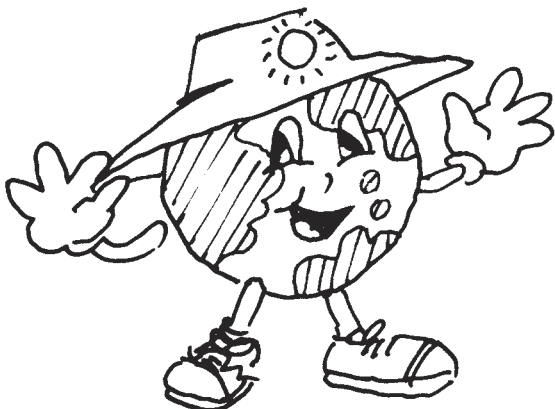
Idea behind the Kit

The Kit is aimed at teachers and students whose first or second language is English.

The Kit uses pictures instead of words for major rubbish objects and groups, and animals and is written in plain language.

Therefore, teachers and students do not need fluent English to understand the ideas behind the Action Sheets.

The Kit can be used by both by primary and secondary school teachers. The Action Sheets are aimed at the primary to lower secondary, but the Teachers' Guide includes extension activities for secondary school students.



How does the Kit work ?

Poster

The Kit uses a large, fun poster to give teachers a focus to teach about Clean Up the World, rubbish and the environment.

The poster uses global rubbish facts and local Clean Up stories to get students to **Think Globally - Act Locally**. The poster also highlights the global scope of Clean Up the World and how it unites communities from all corners of the planet.

Action Sheets

The Action Sheets are ordered so that students learn about:

- the problems of rubbish and how it can be **Reduced, Re-used** and **Recycled**
- how to plan and promote a Clean Up
- how their Clean Up can lead to long term change.

The Action Sheets are aimed at primary and secondary students. There are also extension activities listed for each Action Sheet, which in many cases are more difficult than the Action Sheets. These extension activities often cater to the higher level language and conceptual skills of secondary students and mean that the activities are still challenging and enjoyable for older students. Secondary teachers may be particularly interested in these. All Action Sheets may be photocopied where possible, copied by hand or modified by teachers to suit their students' needs. They can be used in English or translated into the classroom language. Teachers without access to photocopiers can use the Action Sheet helpers (for example, the icon cards) or adapt the activities by drawing and writing on boards.

Teachers can also use their own resources, such as newspaper articles, or add their own activities to the teaching order so that they are based more on local language, grammar and comprehension methods of teaching. This would be of further benefit to students.

Before you begin using the Kit, make sure you contact your local CUW Organizing Committee well before your Clean Up. They will be able to help further.

Key Learning Outcomes

The 20 activities on the "Action Sheets" provide students with the opportunity to learn about:

- how Clean Up the World helps make a better world environment
- the environmental problems that rubbish causes
- the need to apply the 3Rs: Reduce, Re-use and Recycle
- how all rubbish is not the same
- how rubbish can cause disease and injury to people
- the natural world
- how rubbish can be harmful to animals
- the need for long term environmental care
- their local environment and how to improve it
- composting
- graphing, percentages and area.

The 60 suggested extension activities provide the possibility of:

- exploring concepts in greater depth and at a greater level of difficulty
- Undertaking relevant reading and writing tasks on related topics
- Doing some hands-on creative arts projects and science experiments.

Key

- Blank spaces have been left in grids to allow teachers to put in pictures for specific local rubbish.
- 1 = most/highest to 9/10/11 = least
- Spaces in boxes are included to write in own language.

■ All Icons are defined on page 29

Note: Rubbish Icons have been divided into broad Rubbish Groups (such as plastic, glass, paper), and specific Rubbish Type (such as plastic bags, battery, cigarette butt).

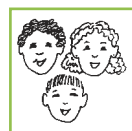
■ The left hand column of each Action Sheet in the Teachers' Guide includes one of the following icons that show how many students do an activity:



1 child



2 children



3 children



4 children



group or whole class







clean up the world game

actionsheet

Aims

To introduce the aims and scope of the Clean Up the World Program, and how the Class/School can take part.

Curriculum Areas

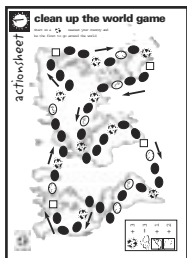
Geography, Language, Science

Activity Outline

Ask the students general questions about any pollution or rubbish problems in their local area, followed by questions to find out, and what, if they know about the Clean Up the World program.

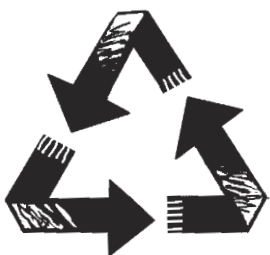


See if students know the aims of Clean Up the World, which countries and how many people take part, the location of certain countries and so on.



Then display the poster and talk about the case studies and 'hot facts' (marked by a !) on the poster. Relate local problems and solutions to the global 'hot facts' to get students to **Think Globally – Act Locally**, and see how a local Clean Up event can be part of a global solution to a global problem.

Finally, make the students aware of the 3Rs symbol and the need to Reduce, Re-use and Recycle waste where possible.



reduce
re-use
recycle
dispose

The Waste Management Order

- Reduce
- Re-use
- Recycle
- Dispose

When talking about waste, stress that to recycle waste is good, but to re-use or reduce waste is even better.

Clean Up the World Game

instructions

Using counters and a dice, students play in groups of 4 to 6 and progress clock wise around the board. When player lands on a:



player moves ahead 1




player moves back 3




player moves ahead 2



player moves ahead 3

The winner is first player to go around the world. Starting point is the  symbol on your continent.

Extension Activities

■ When players land on a  they can earn bonus points by answering questions about rubbish correctly. These can be taken from the poster. Questions can also be about waste statistics produced by your national or local government. Teachers can translate these questions onto separate cards if necessary.



naming game

actionsheet

Aims

To get the students to understand the different icon pictures used in the Kit.

Curriculum Areas

Language

Activity Outline

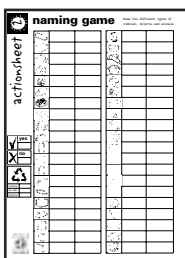
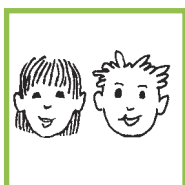
This is a vocabulary learning activity

1. Ask students to brainstorm all the different rubbish items they know of.
2. Then introduce the icons and ask students to name them in their first language and/or English.
3. Play "find your partner" in an open space outside or in the classroom. You can do this with the whole class or divide the class into groups (of at least 16). Give half the students in the class or group the rubbish icons and the other half the matching words. Then get the students to move around and, by asking questions, find the person that matches the icon with the word.
4. Then get students to work in pairs at their desks to match all the icons to the words using either the icon and word cards or copies of Action Sheet 2.
5. After this done, you can also get students to sort the rubbish types (such as plastic bottle) into their rubbish groups (such as plastics).

If you do not have access to a photocopier, cut out the bigger symbols in the Kit (6 to a sheet) and place on the board.

Extension Activity

- Variation of the *Find your Partner* game. Using just the icons, get students to find their partners by describing but not showing their icon pictures.





rubbish!

actionsheet

Aims

To activate students' background knowledge on the rubbish in their local area and get students to predict what rubbish they will find locally.

To get students to think about and predict in what ways different types of rubbish have an impact on people, the visual environment, and wildlife.

Curriculum Areas

Language, Science

Activity Outline



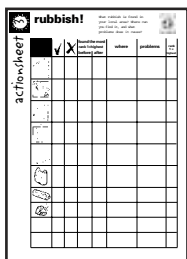
1. Before doing this activity, ask students to name the types of rubbish and rubbish problems that exist in the local environment. This could be done as a brainstorm activity.



2. Refer to Action Sheet. In the column showing different groups and types of rubbish, get students to place a tick (yes) in the column if they think they will find this sort of rubbish locally. If not, they should place a cross (no) in the next column.



3. In the "before" column, get students to indicate, with a number, which sorts of rubbish they think they will find most and least of in the local environment. In the "where" column students should indicate where they think they will find these sorts of rubbish and also what problems they cause.



4. In the right-hand column students rank the types of rubbish (1 to 10) according to how big a problem they think they are locally.

Note: At this stage, students will be making judgements based on the extent of their own background knowledge on the topic. This is likely to be limited, particularly in primary school, to how much rubbish there is of a specific type. Action Sheets 3 to 8 build on this knowledge and educate children about the different properties of each group and type of rubbish. It is recommended that students repeat this ranking exercise after Action Sheet 7 when they will be better educated.

Important: After the Clean Up, you should return to this sheet and get students to fill in the "After" column by ranking the groups and types of rubbish they collected from most to least. Get them to see how accurate their predictions were.

Extension Activity

In order for students to better understand how rubbish ends up where it does, choose a wet and/or windy day and select different types of rubbish to show how they are moved by water and/or wind. Get students to predict which ones will move the most and where they might end up. What are they basing their predictions on (weight, surface area, material type)? Put them together (in a circle for a windy day) or where rain water is running and, in a given time, measure how far different types of rubbish travel and where they go. Students can then graph the results plotting the amount of distance travelled over time.

If you have access to the Internet, visit: www.ecorecycle.vic.gov.au for a wealth of information on recycling.



can it be recycled?

actionsheet

Aims

To get students to see that not everything that is thrown away is rubbish.

To get students to understand that the amount of rubbish can be reduced and re-used and recycled.

Curriculum Areas

Language, Science, Art

Activity Outline

This is a simple classifying activity where students sort rubbish symbols into one of two bins. *Before* the activity ask students what we should do with rubbish. If necessary, introduce the concept and symbol of "Reduce, Re-use, Recycle" shown on the poster, then explain that in the next activity students need to decide which throwaways can and cannot be recycled.

Note: It is possible to recycle all the objects shown except the two piles of rubbish. The answers will depend on the what recycling facilities exist in your local area.

Extension Activity

- Students can make large pictures or models of rubbish bins and recycling bins and display different types of rubbish appropriately.
- Get students to design their own "3Rs" posters with illustrations of local resources.
- Investigate how the process of recycling nutrients (such as nitrogen) occurs in the natural world. Link to Action Sheet 16 (composting) and Action Sheet 17 (the circle of life). Talk and write about this process.
- Students can research, discuss, collate and report on the properties that make these types of rubbish recyclable or non-recyclable. (eg, price, access to materials, facilities etc.)





resource map

actionsheet

Aim

To get students to understand the resources needed to produce different objects.

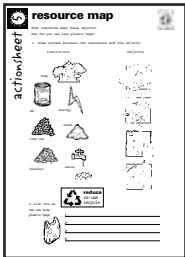
To get students to understand that resource use can be reduced.

Curriculum Area

Science, Language, Geography

Activity Outline 5.1

This is a matching activity where students try to connect the resources to the objects they produce.



Paper

- Trees
- Water
- Energy

Glass

- Sand
- Water
- Energy

Steel

- Iron ore
- Water
- Energy

Plastic

- Oil
- Energy

Aluminium

- Bauxite
- Energy
- Water

Activity Outline 5.2

Before the activity, ask students to think of different ways to the problem rubbish, and how to avoid lots of packaging. Then get students to work together or by themselves to list ways to use less plastic bags, such as:

- taking a cloth bag or trolley shopping
- when you have only one or a few items, ask for no plastic bag
- buying items in bulk or by the case load
- storing and re-using plastic bags

!Hot Fact

In Australia, 6 billion plastic bags are used every year. This is a huge litter and waste problem, and harms countless animals (see Action Sheet 7).



Extension Activities

- Make flow-charts (in pictures or writing) to explain the process of turning raw materials into resources. You could extend these to show the impacts of these on the environment (link with Action Sheet 7).
- Write to manufacturers of aluminum, glass, paper, plastic and steel asking for information
- Investigate what is produced in your country and what is produced in other Clean Up the World countries around the world.
- Make a world resource map on your classroom wall. The World Resources Institute produces yearly reports that show the energy and mineral production and consumption rate of each country. Their *World Resources, 1998-99 Report* is available on the web at: www.wri.org/wr-98-99/index.html



rubbish into resources

actionsheet

Aims

To get students to understand how specific types of rubbish can be re-used and recycled.

Curriculum Areas

Language, Science, Maths, Art

Activity Outline

This is a "pair-matrix" activity, which gives students the opportunity to predict answers, ask questions, share information, be the "expert" and think of original ideas.

The Action Sheet is made up of two separate grids are used, which together have all the information needed to complete a recycling picture. Students should cut these out and take one of the grids. Students should then work in pairs, each with a different grid.

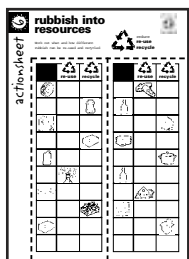
1. Before the activity students should look at their own incomplete grids by themselves and attempt to predict the answers.

2. Students then work in pairs (student 1 with the grid starting with a tyre and student 2 with the grid starting with tyre sandals) and student 2 asks student 1 *'How can tyres be re-used or recycled?'* and so on...

Encourage them to come up with extra answers that suit local conditions (i.e. : if local governments or recycling companies are available to recycle resources. If they are not, what is the best way to re-use and recycle?)

Extension Activities

- Design posters that encourage recycling at the school.
- Set up a recycling system where school resources or resources brought from home can be recycled through the school and/or local recycling agencies. Investigate the processes that are used to recycle resources in your local community.
- Construct flow-charts explaining the process of turning raw materials into products
- Discuss the advantages and disadvantages of certain types of recycling.
- Visit a recycling depot if there is one near your school.
- Investigate whether it is possible that some of your recycling could earn money to buy books etc. for your school.





rubbish breakdown

actionsheet

Aims

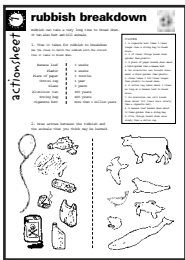
To get students to understand the time it takes for rubbish to break down in the environment and the impacts of rubbish on wildlife.

Curriculum Areas

Language, Science, Maths, Art

Activity Outline 7.1

This activity may need to be translated onto cards in the classroom language as the English language demands will be too high for many students. Cleaning Up the World is solving a problem and Action Sheet 7 is a problem-solving activity.



1. Before the activity ask students what happens to rubbish if it stays in the environment. Drop some fruit peel, paper and plastic on the ground and ask the students if they will all remain rubbish for an equal amount of time.

2. Without the figures, ask them to sequence the rubbish in this problem in order of how long they take to break down, from 1 to 8.

3. Without the clues, give them the figures and see if they can match them to the rubbish items.

4. Give them the clues and allow them to work in pairs or threes to read the clues and match the numbers to the rubbish items.

Note: Teachers can change the clues to make them as difficult as they wish by using percentages, fractions or other means of comparison. Teachers can make them easier for primary students by making all the clues like clue # 2 and 9.

Note: These times are average estimates. Actual times will vary according to local environmental conditions (heat, wind, rain etc.)

Extension Activities

■ This activity could easily be done as a "co-operative logic problem-solving activity". This is a very enjoyable learning activity and would require only a small amount of preparation. To do this, the teacher would need to put the clues onto 3 separate cards. Students work in groups of 3, each with three clues. The students take turns reading the information to each other but they do not show the other students their information. While one person is reading their card, the other three are listening and working out the logical consequences of that information. All students work together to combine the information from different cards to solve the problem.

The correct answers are:

object	average time taken to breakdown in the Environment
Piece of paper	3 weeks (2 to 4 weeks)
Banana leaf	4 weeks (3 to 5 weeks)
Cotton rag	3 months (1 to 5 months)
String bag	1 year
Cigarette butt	3 years (2 to 5 years)
Aluminum can	300 years (200 to 400 years)
Plastic	400 years
Glass	more than one million years

Clues

1. A cigarette butt takes 3 times longer than a string bag to break down.
2. Six of these things break down quicker than plastic.
3. A piece of paper breaks down about a third quicker than a banana leaf.
4. An aluminium can breaks down about a third quicker than plastic.
5. Glass takes 2 500 times longer than plastic to break down.
6. A cotton rag takes about 3 times as long as a banana leaf to break down.
7. An aluminium can will break down about 100 times more slowly than a cigarette butt.
8. A banana leaf breaks down about twelve times quicker than a string bag.
9. Five things break down more slowly than a cotton rag.

Activity Outline 7.2

This is a simple matching activity, where there is more than one correct answer. Before the activity ask students what they know about the impacts of rubbish on wildlife and ask them to think about what problems could be caused by certain types of rubbish. For example, ask "How could a cigarette butt harm an animal?" You also need to make sure your students know the animals in the activity or change it to include local and/or better-known animals. Highlight the Poster !Hot Fact on the whale that died in Spain because it ate plastic and other rubbish, which blocked its stomach and caused the whale to starve to death.

Note: A lot of rubbish thrown onto land ends up in rivers and the sea where it harms marine animals. Refer to extension activity in "Action Sheet 3"

Note: Plastic, with a life span of 400 years, can kill many times over. A sea bird that dies after eating plastic will be eaten by other animals but not the plastic bag which will then re-enter the environment where it can kill again.

Answers

Fishing line Tangles birds and fish causing them to get snared, or stopping them from eating leading to starvation and death.

Plastic bags Floating on the surface of the water, whales, sea turtles and other animals eat them thinking they are jelly fish. Swallowed plastic bags get stuck in the stomachs of these animals leading to starvation and death.

Batteries Chemicals can leak into the environment where they can harm water living animals, such as frogs. Frogs are very sensitive to chemicals.

Cigarette butts Eaten by marine turtles because they look like the food that they normally eat. The butts clog the stomach of the turtle leading to starvation and death.

Leaking pesticides or poisons Chemicals can leak into the environment where they can harm water living animals, such as frogs and fish.

Balloons When the balloons deflate and fall into the ocean they are mistaken by sea creatures like turtles, dolphins and whales for jellyfish. Swallowed balloons get stuck in the stomachs of these animals leading to starvation and death. (See Hot Fact on right).

Plastic beads and pellets Eaten by birds and marine turtles who think they are fish eggs. They get stuck in the animals stomach leading to starvation and death. Plastic is also mistakenly eaten by cows and other animals.

Extension Activities

- Get the students to make an artistic display, for example, of all the types of rubbish that can harm animals.
- Get the students to develop a story, flow chart, or picture sequence of a piece of plastic that is dropped on the ground as rubbish, then washed into a drain or creek, flows into a river and ends up in the sea, where it kills animals over and over before it breaks down after 400 years, or is picked up in a Clean Up the World event. Get students to think about the other alternative; putting the rubbish in a bin before it becomes a problem.

More information

Plastics in Our Oceans On-line Fact Sheet. available at: www.umassd.edu/Public/People/Kamaral/thesis/plasticsarticle.html

!Hot Fact



A sick pygmy sperm whale was found to have one of its three stomachs partially blocked by:

- a piece of balloon
- a small shredded piece of dark plastic garbage bag
- a clear plastic wrapper the size of a cigarette pack. Once removed, the whale got better and could be released back into the wild. The whale found in Spain was not so lucky (see Hot Fact on poster).



rubbish makes you sick

actionsheet

Aims

To get students to understand some of the links between rubbish, disease and health

Curriculum Areas

Language, Science, Maths, Geography

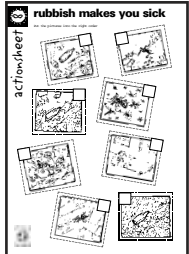
Activity Outline

This is a picture-sequencing activity, which is best done by students manipulating the cards, or could be done by numbering the squares. After discussion, have students write captions for the pictures to describe the process.



Extension Activities

- Investigate mosquitoes, including their life-cycle etc.
- Look at the statistics and percentages involved in mosquito-transmitted diseases.
- Investigate which diseases mosquitoes spread. Research how different societies are trying to deal with this problem. What advantages and disadvantages are there to the methods being employed? (eg. draining natural wetlands might remove mosquitoes but also has many disadvantages including increasing chances of flooding, and increased pollution problems since wetlands filter and break down pollution)
- Investigate how rubbish can make sewage-disposal a disease problem.
- Read and write about the other ways that humans cause/allow diseases to spread.
- Write some health instructions to prevent disease.



!Hot Fact:

Some Facts on Rubbish and Health for higher level students

- Almost 4 million children die each year of acute respiratory infections, linked with indoor air pollution (especially smoky cooking fuels) and outdoor air pollution (especially from industrialization). *Malaria, a mosquito-borne disease closely tied to environmental conditions, alone claims 1 to 3 million lives a year, most of them children.*

- Another 2.5 million children die each year of diarrheal diseases, related to environmental conditions. Cholera, long vanquished from Latin America, resurged in 1991 due to a combination of environmental and social factors, claiming some 11,000 lives and causing an economic impact of an estimated \$US200 million in Peru alone. In developing nations, there may be as many as 3.5 million to 5 million acute pesticide poisonings per year due to lack of protection during application, with millions more exposed to lower but still dangerous levels.

Source: World Resources Institute. 1998. "Environmental Change and Human Health," World Resources 1998-99

More information

World Health Organization Health Topics Fact Sheets on a wide range of diseases, including malaria, available at: www.who.int/



what am I ?

actionsheet

Aims

To give students the opportunity to review the properties of rubbish

Curriculum Areas

Language, Science, Maths

Activity Outline

This is an inquiry and elimination activity. One student selects one of the rubbish icons. This can be done by choosing, or at random. The other students take turns asking yes/no questions about the properties of types of rubbish to determine the identity of the mystery type of rubbish.

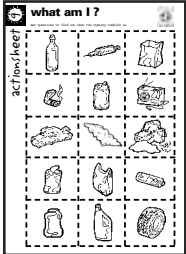
Here are some examples of yes/no questions that could be asked:

- "Is it harmful to fish?"
- "Is it dangerous to pick up?"
- "Does it take a lot of resources to produce?"
- "Does it take iron ore to produce?"
- "Does it take a long time to break down in the environment?"
- "Is it made from paper?"

If a student thinks they know which rubbish item is the secret one, they can ask "Is it a broken bottle?" etc. If the answer is "yes" they win and it is their turn. If the answer is "no" they are out and may not ask any more questions until the next round.

Extension Activity

- Make a matrix chart covering many different properties of different types of rubbish.





plan your clean up

actionsheet

Aims

To get students to plan for the Clean Up the World event

Curriculum Areas

Language, Science, Maths

Activity Outline

This activity gets students to think about and discuss how to plan and promote a Clean Up event.

- In the first part of the Action Sheet, get the students to identify local places that need a Clean Up, list reasons why it needs a Clean Up, and then rank them. Get each student to give 4 points to the highest rank, 3 points to the next highest rank and so on. Once completed, get the students to read out their results to the class. Collate this information in a table to work out the high priority Clean Up areas chosen by the class as a whole. Use this result to choose your Clean Up site.

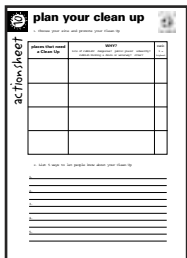
- In the second part of the Action Sheet, get students to divide into groups of 3 and have them discuss the best way to promote a Clean Up event and then list 5 ways to promote your Clean Up to your local community. Encourage them to think about how they could ask your local media, and local community groups to help promote the Clean Up.

Extension Activities

- Design posters encouraging people to join in/take part.
- Write letters requesting assistance /sponsorship with the Clean Up.

Note: You may need to do this several weeks before the actual Clean Up to give for people to respond.

- Develop a publicity plan for the action.



danger and safety

actionsheet

Aims

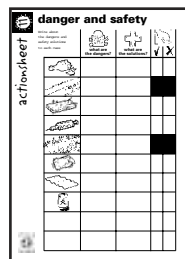
To get students to understand the dangers and safety needed for the Clean Up event.

Curriculum Areas

Language

Activity Outline

Before the activity, ask students to think of the safety problems there could be on the Clean Up. Then get students to work together to fill in the table. Most safety solutions will involve avoidance, asking adults to take charge or keeping a safe distance (from roadsides and rivers).



Extension Activities

- Write a set of safety instructions.
- Learn some basic first aid including resuscitation.
- Investigate the different types of infectious diseases that can be caused by cuts etc.
- Talk, read and write about the process of infection caused by a cut from broken glass or some other type of rubbish.



measure up changes

actionsheet

Aims

To get students to measure, compare and record the amount of rubbish collected during the Clean Up the World event.

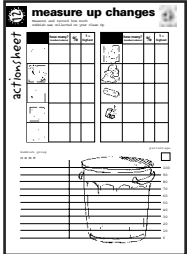
Curriculum Areas

Language, Science, Maths

Activity Outline

Depending on the size of the Clean Up, the type of rubbish collected and the materials available, students will either count their clean up in bags, by individual items of rubbish or both. Students fill in the two tables and then complete the rubbish graph (in %).
Note: The graph should focus on rubbish groups rather than types of rubbish. Previous activities have focused on types of rubbish. You will need to introduce the graph before the Clean Up and make sure students understand. Practise sorting different rubbish types into rubbish groups before hand.

After the students have ranked the 9 or 10 rubbish groups/types from 'found the most' to 'found the least', refer them back to Action Sheet 3, and get them to use this information to fill in the "After" column. Did their "Before" predictions match with the actual rank of rubbish found? If not, get the students to talk and think about why there was a difference between their "Before" and "After" rank. For example, certain rubbish may not highly visible or noticed, such as cigarette butts buried in sand, or rubbish build up in out of the way places.



Extension Activities

- Change the percentages into fractions.
- Make different types of graphs to represent your collection, for example pie graphs or bar charts.
- Make a graph on your classroom wall using some of the (clean) bits of rubbish you collected (or substitutes).
- Make a world map on your classroom wall using (clean) rubbish items. Plastic and paper are good flexible materials for this.
- Draw a map of your Clean Up site with rubbish details filled in.
- Write the story of your Clean Up.
- Give students some or all of the following questions plus make up some more:
 1. What % could be reduced or recycled?
 2. Estimate or measure the size of the site you cleaned up in square meter.
 3. How many pieces of rubbish would there be if there were 100 sites like this in your country?
How many pieces would there be if there were 1000 sites like this in your country?
 4. How many pieces of rubbish were found per sq. m?
 5. Choose a long and common item from your Clean Up and measure its length. If you laid all of these end-to-end, how far would they stretch? Would they be as long or wide as your clean up site? How many would you need to cover the length or width of your village, town or country? Do you think there might actually be so many of these items of rubbish in your village, town or country that if they were laid end-to-end they would cover the length or width of it? (Remember the rate at which this item was found in your Clean Up site and estimate how many there are likely to be in a larger area.)



measure up rubbish

actionsheet

Aims

To get students to compare the amount of rubbish collected from year to year and to see the long term goal of a cleaner environment

Curriculum Areas

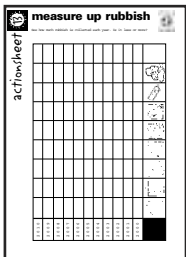
Language, Science, Maths

Activity Outline

This activity is self-explanatory. A graph should be put up next to the Clean Up the World poster so that students can always see the yearly changes in amount of rubbish collected.



Note: If you have not already referred back to "Action Sheet 2", do so now to complete the "After" column.



Extension Activities

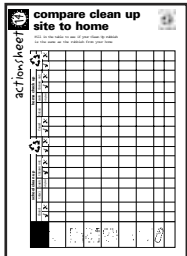
- Calculate and compare rates of increase/decrease of different types of rubbish. How can this be explained?
- Make projections for the future based on current data and taking into account different/changing circumstances.





compare clean up site to home

actionsheet



Aims

To get students to compare the types of rubbish collected in the Clean Up with their homes. To get students to start making links with other environments.

Curriculum Areas

Language, Science, Maths

Activity Outline

In this activity, students will observe and record what is being thrown away at home. They can also interview their parents. Important: Students should not rummage through their home rubbish, only observe and record what goes into the bin. They then compare this with the information from your Clean Up site recorded on Action Sheet 12.

Note: Get students to take account of the different time period that is being compared. For example the rubbish in your Clean Up site might have collected over 1 year and the rubbish at home is likely to be a day or a week. Get students to multiply their home rate to see how much they will produce over a year. They might be surprised! Calculate how much the whole class uses in a year. Graph the whole class. Graph the different rubbish groups. What differences are there? How can they be explained?

Extension Activities

- Calculate and compare rates of different groups or types of rubbish appearing in different environments. How can this be explained?
- Develop a model reduce, re-use, recycle "Household Action Plan" for students to take home and use to develop a Plan that is agreed to by their families.



then and now

actionsheet

Aims

To get students to learn about the past state of the environment in their local area, and how it can change over time.

Curriculum Areas

Language, Science, Maths

Activity Outline

Students interview an older person from the community (Parent, grandparent, teacher etc.). Adapt the type of questions for local/different circumstances.

It is best if a number of different people are interviewed so that students can get a broader range of opinions and answers.

How do responses vary for each question? Calculate percentages for responses to different questions and graph the results.

Extension Activities

- Allow students to publish their interviews.
- How do responses vary for each question? Calculate percentages for responses to different questions and graph the results.





composting

actionsheet

Aims

To get students to learn how to compost, and its benefits.

Curriculum Areas

Language, Science, Maths

Activity Outline

This is most enjoyable if students can do the activity in small groups.

1. Students make compost in a plastic bottle or any similar container, which can be opened and closed.
2. The top will need to be cut off.
3. To allow air to get into the compost (which is very important) punch some holes in the side of the bottle.
4. The ingredients must be added in layers.
5. Start with a thick layer of soil then add a thick layer of organic matter (grass and leaves, or shredded newspaper), a thin layer of fertiliser, a thin layer of soil, a thick layer of organic matter, a thin layer of fertiliser, a thin layer of soil, a thick layer of organic matter, and so on until the bottle is full.
6. Look at the bottles every week for five weeks and record the changes using the Action Sheet.

Note: Composting is becoming more important as populations around the world become more urbanized. In rural areas this activity may not be as useful as there may already be different forms of composting or recycling of food waste well-established.

Note: Be careful to wash hands after working with compost. Keep it moist and covered to prevent mould and spores flying around and possibly causing infection.

Note: Do not use food scraps in this compost experiment as they are likely to rot and smell.

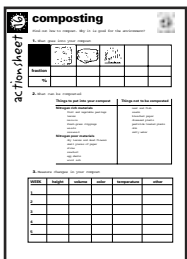
Draw a scaled model of your compost container and show percentages and fractions of different ingredients.

Extension Activities

- Draw a scaled model of your compost container and show percentages and fractions of different ingredients.
- Write a series of composting instructions and publish them.
- Plant quick-growing seeds in two different containers, one with compost and the other with ordinary soil. Which one grows quickest? What is the % difference? Graph the results.
- Insulate one bottle (by wrapping in old clothes) and compare the internal temperature to an uninsulated bottle.
- Start adding compost to the soil in an area of the schoolyard. What happens?
- Investigate how the process of recycling nutrients occurs in the natural world. Read and write about this process.
- Talk, read and write about the process of how organic matter turns into compost.

More information

A useful on-line school composting guide is available at: www.edf.org/heap/





circle of life

actionsheet

Aims

To get students to appreciate their total environment by learning about the links between different plants and animals.

Curriculum Areas

Language, Science, Maths

Activity Outline

Get the students to name the different animals and plants. The listed animals and plants are:

- Humans
- Bird
- Frog
- Chicken
- Seal
- Fruit
- Beetle
- Fish
- Cow
- Grass
- Leopard
- Worm



Then, get the students to work out food links by drawing arrows from what eats to what is eaten, eg:

- grass is eaten by insects,
- insects are eaten by birds,
- birds are eaten by small mammals,
- small mammals are eaten by bigger mammals.

Other similar connections can be made, for example by pointing out the way that dung beetles bury cow dung which enables grass to receive more nutrients, which the cows then eat and so on.

Or point out that when top order predators die, they are eaten by insects and the circle of life continues.

Extension Activities

- Discuss the consequences of one member of a food chain disappearing or becoming scarce.
- Write about the food webs
- Classify the animals according to carnivore/herbivore, mammal, bird, insect etc.
- Read and write more about some of the animals on the Action Sheet or local animals (habitat, classification, appearance, behaviour, life cycles etc.)





fix up a site

actionsheet

Aims

To encourage students to make a long term commitment to maintain a site.

Curriculum Areas

Language, Science, Maths

Activity Outline

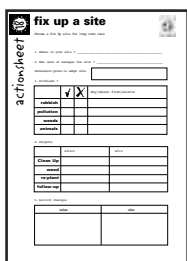
Students may adopt a site at school or another local site with the permission of local authorities. Get students to think of who else can help them maintain their site and in what ways. Draw a scaled grid and design plans for the site after 1 month, 1 year, 2 years, etc.

Extension Activities

■ Develop an inventory of all plants and animals that live in, or visit the site (see Action Sheet 19)

■ Take photographs or draw the site at the start of the project, after one month, 1 year, 2 years, etc. Develop a folder that document change over time.

■ When the site has been fixed up, submit before and after photographs and the students story of how they maintained the site to your local newspaper.



what lives here?

actionsheet

Aims

To get students to appreciate their total environment by finding out what plants and animals live in their adopted site or local area.

Curriculum Areas

Language, Science, Maths

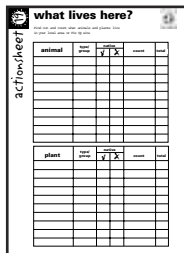
Activity Outline

Choose a site which you think may have a reasonable number of plants and animals. This may or may not be in your school. Generally speaking, the more natural the better. Get students to predict which animals and plants they might find.

If your Fix Up site has plants and animals living on it (for example, if it is a park), choose it as a site as this is an ideal way to link this Action Sheet with Action Sheet 18.

Extension Activities

Research about native and non-native plants and animals, particularly the harm that certain non-native species cause, such as weeds or feral animals.





imagine the future

actionsheet

Aims

To get students to see what local actions are being taken around the world and discuss the future they would like to have.

Curriculum Areas

Language, Science, Maths

Activity Outline

In this activity students read the case studies on the poster and fill in the information on the accompanying grid. This will get them to develop a "Mind Map" about Clean Up the World across the world.

The case studies may need to be translated depending on the English level of the students. This could also be done as a "Jigsaw Reading" activity with different students reading different case studies and then reporting back to the other members of their group.

Additional case studies may be included with this kit, or could be obtained from the Clean Up the World Annual Report

Extension Activities

- Teachers can construct additional comprehension, vocabulary and language/grammar activities as desired, based on the texts.
- The information can be displayed on the board in the form of a matrix or other type of display.
- Discuss news stories in local newspapers or television and radio broadcasts that relate to protecting the environment, and examine how local news stories relate to global problems.

Questions on Action Sheet 20

Country: _____

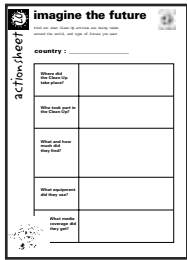
Where did the Clean Up take place?

Who took part in the Clean Up?

What and how much did they find?

What equipment did they use?

What media coverage did they get?



Case Studies from the Poster

IRELAND

"Our Lady of Victories" boys' school in Ballymun, Dublin, produced a beautiful colourful map of the world- all out of plastic bags! This school now has an environmental programme as a regular feature of their curriculum. All of the boys take turns at monitoring the rubbish and have made a concerted effort to reduce their school's waste levels.

NEW CALEDONIA

School children helped to create a huge pyramid of 1,300 bags of rubbish! 8,100 volunteers cleaned up 70 sites including streets, schools and beaches.

MALI

The first prize winning drawing in the poster competition held for all the schools in Ségou. One hundred of the t-shirts with the design were distributed to the hardest working children, the best 'cleaners' in each group chosen by their adult leaders. The first six winners received a cloth carry bag, which was made by Bonnie Black, the organising committee coordinator. The bag included a CUW poster, a T-Shirt, a box of coloured pencils, a pencil sharpener, three school notebooks and pencils and ball point pens.

MALTA

To enhance greater environmental awareness, some schools planted trees in areas that were part of the clean up campaign including nearby beaches, valleys, historical sites and other public areas.

MEXICO

The Clean Up the World campaign has created awareness on caring for the local environment. Ecological groups have been formed within schools to care for specific areas, and recycling programs have been started.

PERU

Tierra Vida is working on building the "Casa Vida Verde" (Green Living House), this project will strengthen the development of the organization and will provide children, youth, adults and entire community, an environmental education service, including library, video library, environmental workshops and campaign procedures, etc) all this aiming to protect the natural environment.

THAILAND

The Meala Refugee camp is located on the border of Thailand and Burma and has a population of 30,485 with one third of this population being school aged children. Their poster competition was a great opportunity for the students to demonstrate their amazing artistic abilities! The students collected all of the rubbish in charcoal bags and fishpaste tins and were treated to some refreshing limejuice after their hard work.



colour up the world 6 sheets

Aims

Fun, creativity, relaxation.

Curriculum Areas

Art, Language

Activity Outline

This activity is self-explanatory.

Extension Activities

■ To make this exercise a little bit more challenging, your students could do it as a "directed drawing" exercise. This is a "barrier activity". It involves one student hiding their sheet and drawing, for example different types of rubbish and/or different plant and animal life in different places on their sheet. They then direct the other student(s) to draw the same things in the same places. At the end they should have identical pictures. The exercise involves questioning communicating concepts like shape, location, space, direction and scale. It also uses language functions like confirming, correcting, comparing, elaborating etc.





References

■ Abramovitz, J.N. and Mattoon, A.T. 1999. **Paper Cuts: Recovering the Paper Landscape.** Worldwatch Paper 149. Worldwatch Institute, Washington DC. ISBN 1-878071-51-3. www.worldwatch.org/pubs/paper/149.html [Reports how global consumption of wood fibre for papermaking can be cut by more than 50%]

■ United Nations Environment Programme. 1999. **Global Environment Outlook 2,** Earthscan, London.

■ World Resources Institute, United Nations Environment Programme, United Nations Development Programme and the World Bank. 1998. **1998-99 World Resources: Environmental Change and Human Health,** Oxford University Press, London. ISBN 0-19521408-0. www.wri.org/wr-98-99/index.html [Examines several critical trends that are changing the physical environment such as the intensification of agriculture, industrialisation, and rising energy use, and that have the potential to influence human health]

■ World Resources Institute. no date. **Facts and Figures: Environmental Data Tables** www.wri.org/trends/index.html

■ World Resources Institute. no date. **Wasting the Material World: The Impact of Industrial Economies.** Sustainable Development Information Service. www.wri.org/trends/wasting.html

■ World Resources Institute. no date. **No End to Paperwork.** Sustainable Development Information Service. www.wri.org/trends/paperwk.html

■ Worldwatch Institute. 2000. **State of the World 2000.** Worldwatch Institute, Washington DC.

World Wide Web Sites

Clean Up the World
www.cleanuptheworld.org

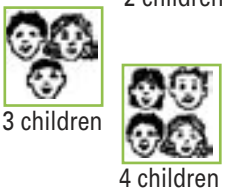
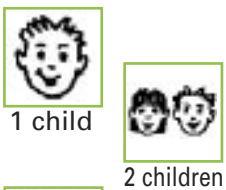
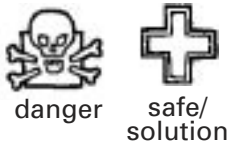
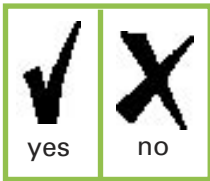
United Nations Environment Programme
www.unep.org

World Resources Institute
www.wri.org

Worldwatch Institute
www.worldwatch.org



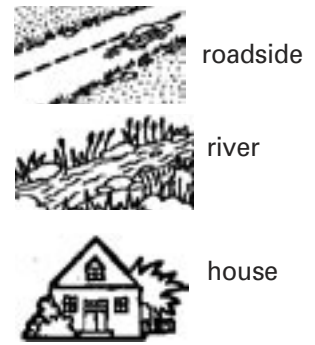
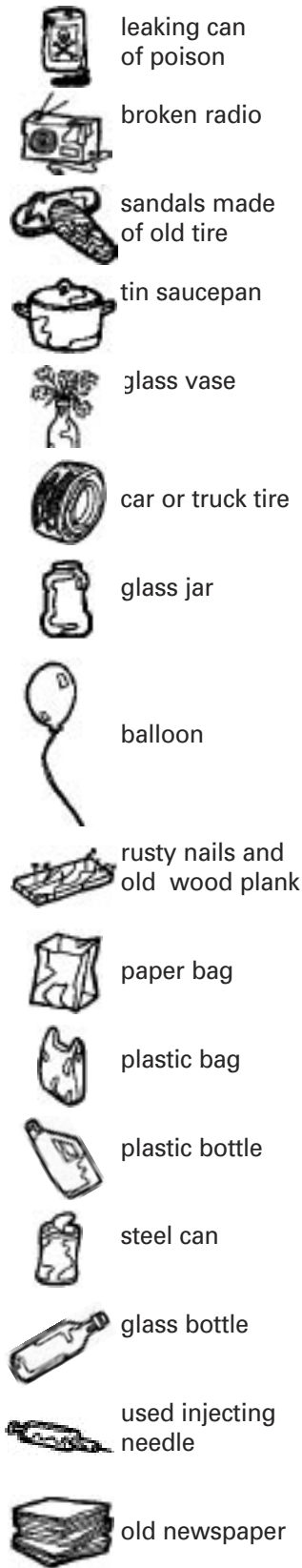
Key to icons used throughout kit



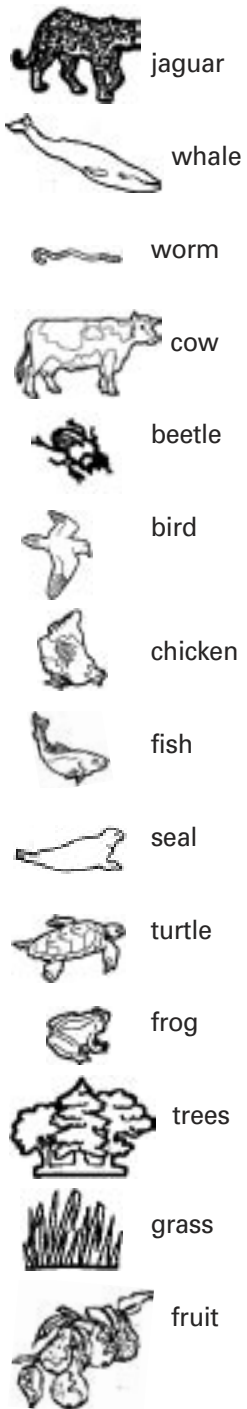
Groups of rubbish

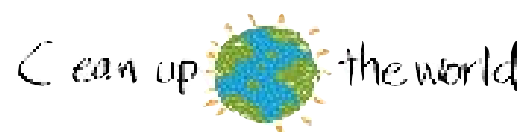


Types of rubbish



Animals and plants





Clean Up the World

18 Bridge Road

Glebe NSW 2037

Australia

tel:

612 . 9692 0700

fax:

612 . 9692 0761

email:

world@cleanup.com.au

website:

www.cleanuptheworld.org