

ECOLOGY

All Levels

Purpose

To learn how to care about and for the world God made for us. To help us to be stewards of God's world rather than careless exploiters of it.

Exploring

God created the world as a perfect place but man soon fell into sin and with this came many problems. The term eco-system is used to describe how the natural world should work with different sections relying on each other.

Food Chain



1. Through man's interference this system is often broken down. Pollution of various kinds can effect different sections in different ways.

There are five main types of pollution:

- a. **Air** Through a variety of combustion (burning) processes, man releases millions of tons of gasses and solid particles into the atmosphere every year. These turn clear, odourless air into hazy, smelly air that harms health, kills plants and damages property.
 - b. **Water** Through treated and untreated sewage, agricultural drainage and industrial wastes, man reduces the supply of pure water by upsetting the natural cycles that work to keep water clean. These pollutants harm the animals and plants that live in the water.
 - c. **Soil** Through careless farming methods, construction projects etc. man damages the soil and often causes erosion. This results from removing trees, grass and other plants that hold the soil in place. Man also uses fertilisers and pesticides to excess that harm bacteria and other organisms in the soil that help natural decay and produce nutrients naturally. This destroys the soil's ability to grow anything.
 - d. **Solids** Man throws away billions of tons of solid material each year. This material ends up in lakes, streams, on the roadsides and dumping areas. Not only does this look ugly, but it often pollutes the area where the material has been dumped and provides homes for disease-carrying animals and insects.
 - e. **Noise** Loud noise disturbs people and in some cases, harms peoples' hearing. Any sound above 100 decibels is considered annoying, and this includes many items that we use every day.
2. There are also very long-term problems created by nuclear pollutions and toxic waste disposal, For example: bomb testing.

As Christians we have a responsibility to care for God’s world. We can do this by:

a. Recycling: This means to re-use items either in its present form or by turning it into another product.

Here are some examples that you can be involved in:

- Collect newspapers and give them to an organization that will re-use them.
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- Take your grocery bags back to the supermarket and re-use them.
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- Make a compost pile with grass clippings and vegetable waste and put this back in your garden instead of using artificial fertilizers.
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- Collect aluminium cans and cash them in for recycling.

(Perhaps donate the money.)

b. Avoiding polluting our environment.

This can be done by:

- Not burning anything unnecessarily and never burning plastics and polystyrene which emit toxic fumes.
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- Avoiding the use of chemical sprays in the garden, instead of using organic methods of pest control.
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- On Cadet camps make sure all garbage is taken back home with you and all dishes are washed in a camp sink and the water is then tipped into a soak pit away from streams.
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3. Answer the following questions.

a. Why is it important to use ‘biodegradable’ detergents and household cleaners? (Check your cupboards.)

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b. How can your efforts save trees?

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c. What alternative to chemical sprays and fertilisers are available?

(See your local shop or supermarket.)

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Doing

Complete three of the following projects:

1. Write to the following authorities responsible for water supply in your area and find out what steps are taken to maintain the quality of your drinking water.

List these.....

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2. Write to the authority responsible for forests in your State and find out how they maintain a balance between logging and other forest uses. If possible visit a forest and get this information directly from a forester or have him/her visit your club.

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3. If this badge is done as a group, select a section of highway (1-4 km) nearby and carry out a *roadside garbage clean-up*. In your project book write:

- a. Area selected.

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- b. Quantity and main types of garbage collected.

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4. Using milk cartons, margarine and ice cream containers, cut out soft drink bottles or cans and grow some native trees and shrubs from seed. These could either be grown or donated to a group that could put them to good use. Most seed pods will drop their seeds if placed in a **paper** bag for a few days.

5. Arrange with your local Council to assist in a tree-planting project or organize your own planting project with your club or group.

Ask your Counsellor to sign below and arrange for the presentation of your badge.

..... date