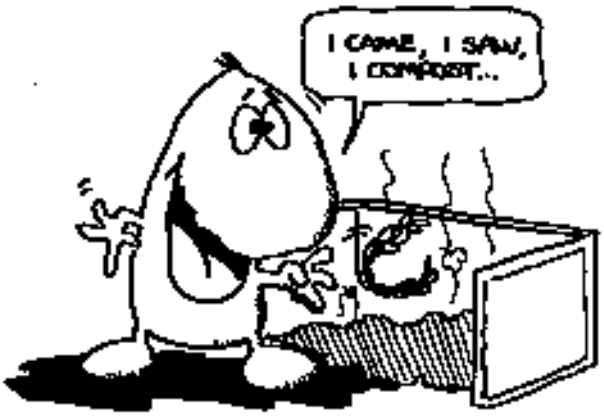
Organic recycling or composting has been used for hundreds of years as a way of replenishing nutrients in the soil. Growing plants use up the minerals and chemicals that occur naturally in the earth and which form the vitamins and minerals in fruit and vegetables, needed for the healthy development of all living creatures.

The vegetables you eat and the grass or grains that animals eat are only as good as the earth they have been grown in.



WHEN WAS COMPOST FIRST USED?

Possibly the first recorded formula for compost was about 2,000 years ago. A Roman Citizen, scientist and farmer, Marcus Cato, introduced composting as a means of increasing soil fertility throughout the Roman Empire. He believed that compost was important for building and maintaining soil health. Cato encouraged the composting of all animal manures and organic waste before it was added to the earth.[1]

WHAT IS COMPOST?

"Compost" is a natural, nutrient rich soil conditioner made from organic wastes.

NATURAL COMPOST

In nature, composting has occurred for as long as the world has been developing. Thousands of years ago when there was little vegetation, new organisms developed and eventually died, gradually building up layers of soil deep enough to sustain more vigorous growth with larger plants and eventually, trees.

1. Backyard Composting, Harmonious Press, California

Information
sheet 18

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As forests developed, trees shed their leaves annually, or died and the decomposing material on the forest floors made compost which in turn re-fertilised the trees. The same cycle occurred in natural savanna lands (grasslands).

THE EFFECTS OF CIVILISATION

Very early groups of people were hunter gatherers and led a nomadic existence, following the herds they depended on for food, clothing and shelter, across the continents during the summer months of the year.

As early communities discovered the benefits of growing grain, they no longer needed to travel to find their food. They settled down in groups and became farmers. However growing grain both for flour and for the animals they now domesticated like sheep, cows, goats and chickens required large areas of land and led to clearing forests and bush. The cleared land was planted with grain or grazed. This happened all over the world. The Sahara Desert was once a forest and countries that we see as being arid desert, were once covered in trees.

When the Maoris came to New Zealand they began the process here, continued later by European settlers. This has led to erosion of the soil, by the action of wind and rain, on the hills and rivers banks.

Civilisation has depleted the soil over time. It needs to be built up again. This can be done by organic recycling or composting.

WHY ORGANIC RECYCLING?

Composting follows the 3 Rs of:

Reduce - By composting you reduce the amount of your rubbish.

Reuse - Re-use the kitchen and garden waste as compost, in the garden.

Recycle - Recycles nutrients back into the soil, restoring the health and beauty of our environment.

BENEFITS TO THE ENVIRONMENT

1. Saves landfill space and reduces the amount of leachate created from organic matter in the landfill. Leachate, a toxic liquid, can contaminate the surrounding ground water.

2. Improves soil structure and texture. Compost loosens heavy clay soils allowing moisture and air to enter and gives sandy soils more density, helping to retain water.

3. Helps prevent soil erosion.

4. Improves aeration of the soil.

5. Promotes soil fertility, stimulating healthy root development and increasing plant growth.

6. Reduces the need for chemical fertilisers and pesticides.

7. Attracts and feeds earthworms.

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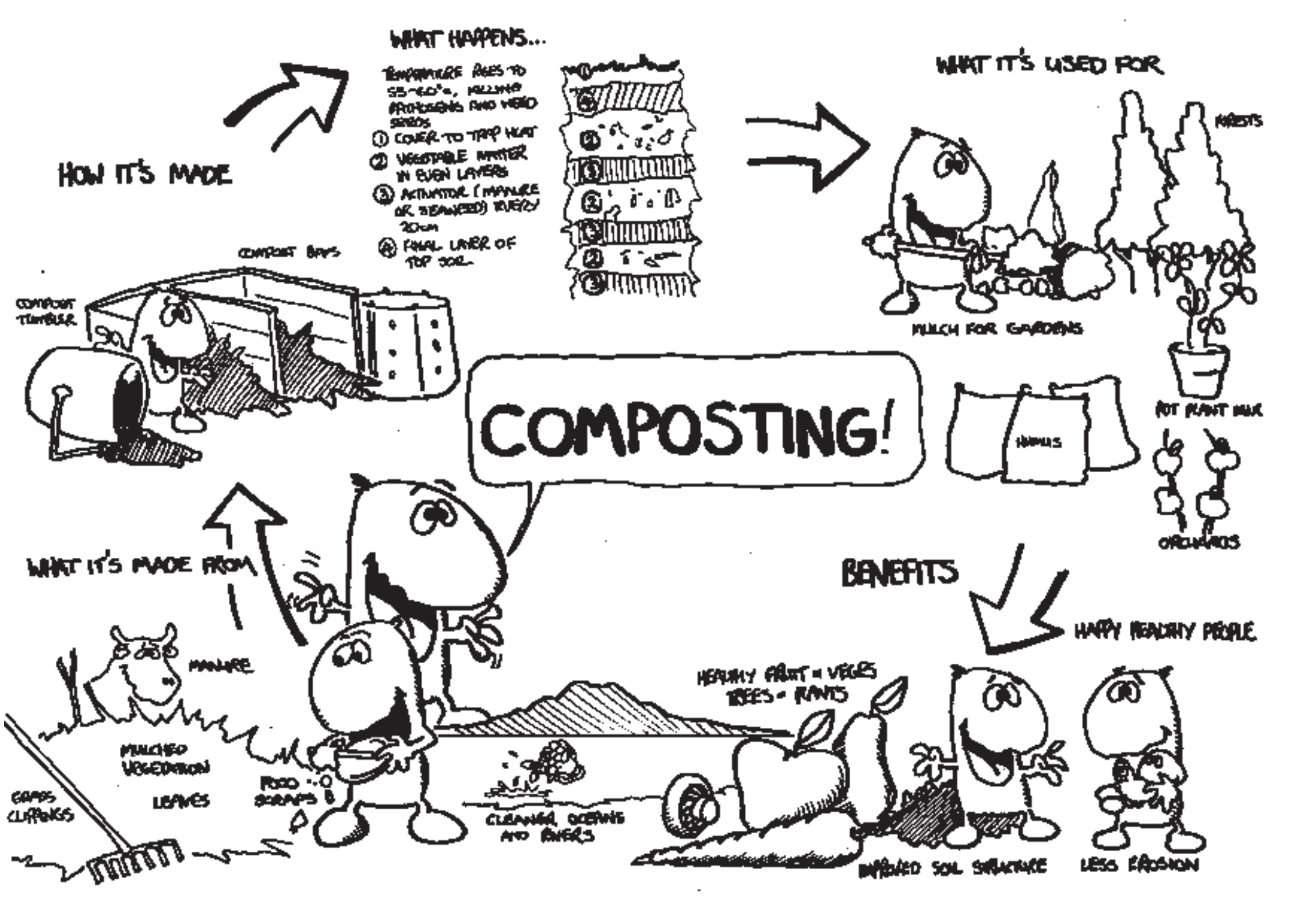

WHAT HAPPENS...
BACTERIA RISES TO 55-60°C, KILLING PATHOGENS AND WEED SEEDS
① COVER TO TRAP HEAT
② VEGETABLE MATTER IN EVEN LAYERS
③ ACTIVATOR (MANURE OR SEAWEED) EVERY 20cm
④ FINAL LAYER OF TOP SOIL
HOW IT'S MADE
COMPOST BINS
COMPOST TUMBLER
WHAT IT'S USED FOR
MULCH FOR GARDENS
POT PLANT MIX
ORCHARDS
COMPOSTING!
WHAT IT'S MADE FROM
MANURE
MULCHED VEGETATION
LEAVES
GRASS CLIPPINGS
FOOD SCRAPS
CLEANING OCEANS AND RIVERS
BENEFITS
HAPPY HEALTHY PEOPLE
HEALTHY FRUIT + VEGES TREES + PLANTS
IMPROVED SOIL STRUCTURE
LESS EROSION

HOW DOES COMPOST WORK?

The organic waste is broken down by organisms that live in the compost.

Natures Helpers:

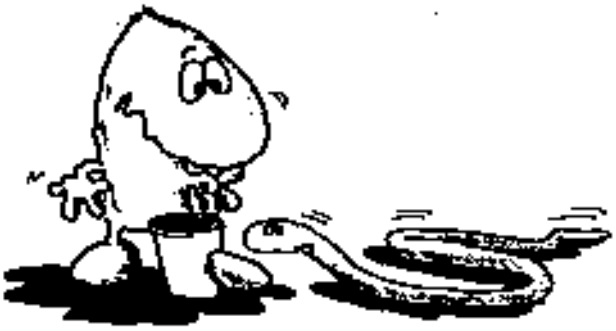
1. ***Bacteria*** - micro organisms that cannot be seen with the naked eye. These secrete enzymes that digest the food you give them.

2. ***Fungi and Enzymes*** - help to break down the cellulose and lignin inside woody matter.

These organisms like to eat the contents of your compost bin and are helped by:

Insects, Mites and Nematodes - macro organisms, the ones you can see.

Earthworms - great recyclers of decomposing matter. Their castings are nutrient rich and improve soil fertility and structure.



All of these need oxygen, water and food to live. Keeping the compost moist will provide a friendly and safe environment for the bacteria and fungi which assist in the process of decomposition. Turning or stirring the compost will allow air to move through the compost which will hurry up the process.

The action of all these combined with the type of organic waste in your compost, produces high temperatures which break down the material turning it into a nutrient rich, soil additive.

WHAT YOU CAN DO?
Compost feeds the soil and the soil feeds us.

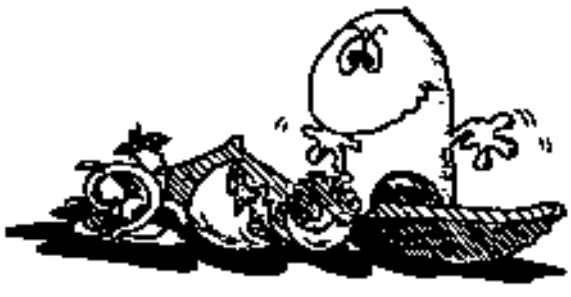
You can compost at home or at school. Your compost may be made in a commercial bin, or a home made one of chicken wire or wooden planks or may even be just a compost heap

WHAT GOES INTO YOUR COMPOST BIN?

The micro organisms in your bin love to eat the following:

The Greens: FULL OF NITROGEN
leaves, grass, chicken manure, food scraps, coffee grounds, tea bags, paper towels, hair from your brush and comb, fur, fish bones, blood and bone, seaweed.

The Browns: FULL OF CARBON
dried leaves, sawdust, wood shavings, hay, vacuum cleaner dust, shredded paper, newspaper, egg shells and wood ash.



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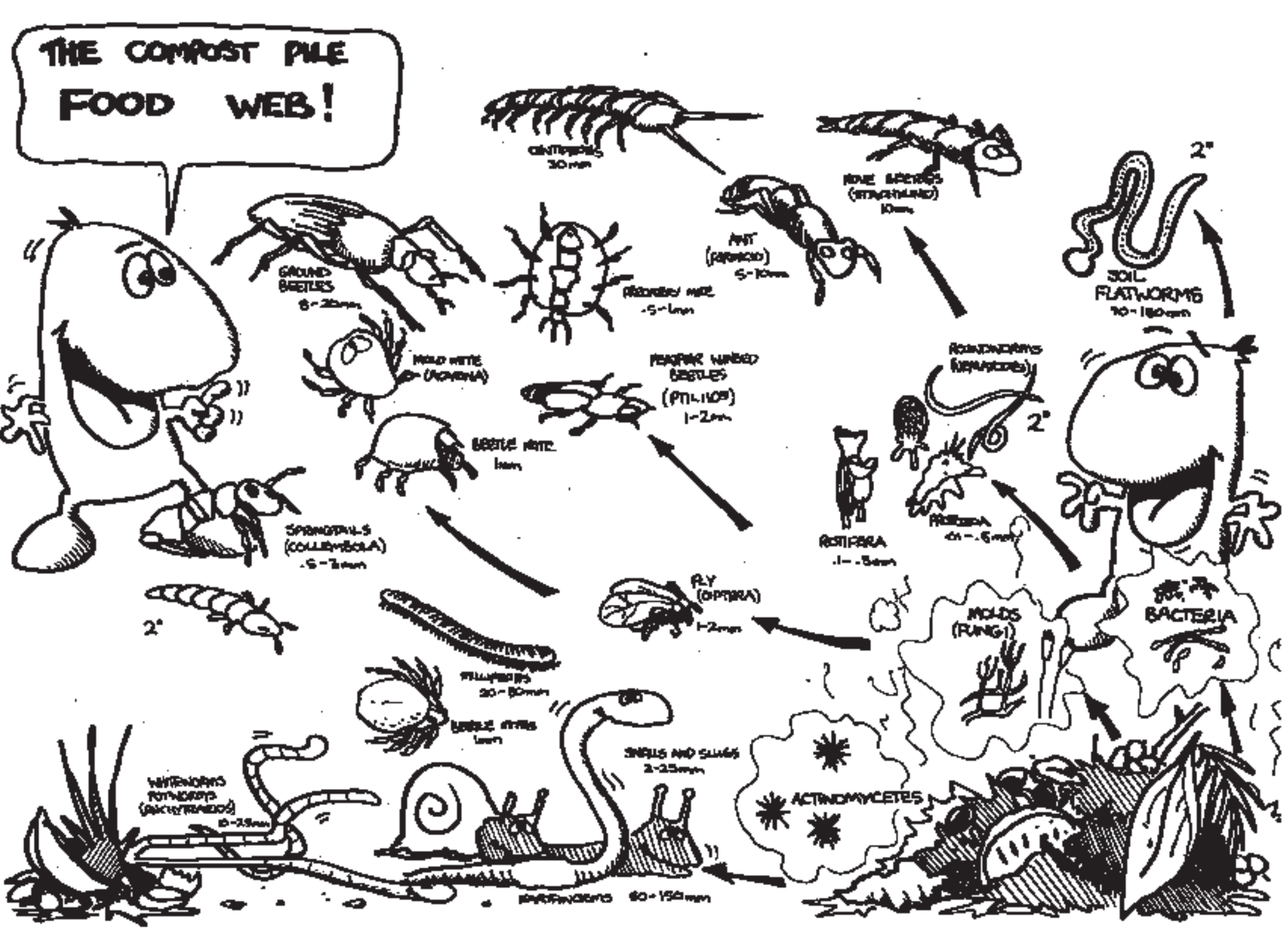

THE COMPOST PILE
FOOD WEB!
CENTIPEDES
30mm
ANT
(FORMICID)
5-10mm
GROUND
BEETLES
6-20mm
MITE
.5-1mm
MOLD MITE
(NOTHRA)
FEEDING WINGED
BEETLES
(PTILIIDS)
1-2mm
BEETLE MITE
1mm
SPRINGTAILS
(COLLEMBOLA)
.5-2mm
2"
2"
2"
SOIL
FLATWORMS
10-150mm
ROTIFERA
.1-.5mm
FLY
(DIPTERA)
1-2mm
MOLDS
(FUNGI)
BACTERIA
ACTINOMYCETES
SNAILS AND SLUGS
2-25mm
EARTHWORMS 60-150mm

What NOT to put in your compost bin!

Fat, meat bones or meat and cooking oil, and cat and dog faeces.

These can encourage vermin such as rats. Also, treated wood ash, coal ash, noxious weeds and diseased garden clippings, food packaging and plastics.

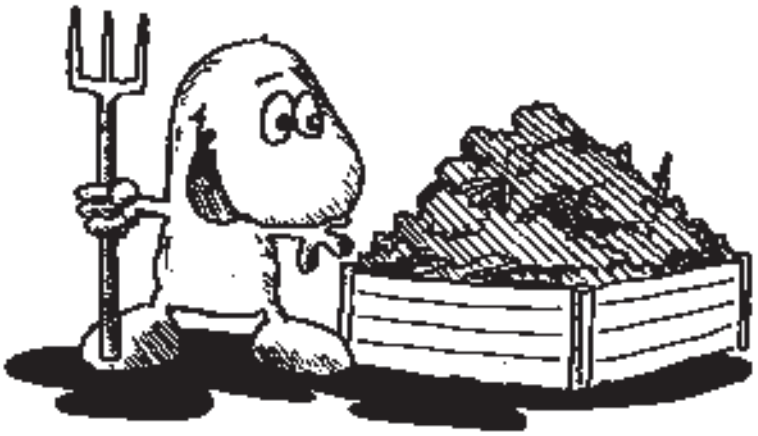
Chemical Fertilisers:
Often some essential minerals are not present depending on the area that you live in and then various chemical fertilisers are sometimes added to the soil to make up the deficiencies.

Compost is just as efficient as synthetic fertilisers and recycles some of our waste at the same time, instead of creating more waste from the manufacture of chemical fertilisers.

GO FOR IT!

The most practical thing you can do is to care for the patch of soil around your school or house.

- Set up compost bins and enjoy the benefits of organic recycling.
- Support your nearest commercial composting facility for bulk garden waste
- Help to do your part to beautify and restore our environment
- Help to save landfill space.
- Save fertiliser and water costs.
- Help conserve water.



REMEMBER!

Compost is the soil bank for the future

Auckland *Regional* Council

For further information
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ARC Wasteline (09) 366-2070
February 1999

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