

Interesting Garbage Facts

1. One-third of the water used in most homes is flushed down the toilet.
2. Recycling one aluminum can saves enough energy to run a TV for three hours -- or the equivalent of a half a gallon of gasoline
3. On average, it costs \$30 per ton to recycle trash, \$50 to send it to the landfill, and \$65 to \$75 to incinerate it.
4. About one-third of an average dump is made up of packaging material!
5. The energy saved from recycling one glass bottle can run a 100-watt light bulb for four hours. It also causes 20% less air pollution and 50% less water pollution than when a new bottle is made from raw materials.
6. A modern glass bottle would take 4000 years or more to decompose — and even longer if it's in the landfill.
7. Each ton (2000 pounds) of recycled paper can save 17 trees, 380 gallons of oil, three cubic yards of landfill space, 4000 kilowatts of energy, and 7000 gallons of water. This represents a 64% energy savings, a 58% water savings, and 60 pounds less of air pollution!
8. The 17 trees saved (above) can absorb a total of 250 pounds of carbon dioxide from the air each year. Burning that same ton of paper would create 1500 pounds of carbon dioxide.
9. The amount of wood and paper we throw away each year is enough to heat 50,000,000 homes for 20 years.
10. During the time it takes you to read this sentence, 50,000 12-ounce aluminum cans are made.
11. An aluminum can that is thrown away will still be a can 500 years from now!
12. There is no limit to the amount of times an aluminum can can be recycled.
13. If all our newspaper was recycled, we could save about 250,000,000 trees each year!



How A Landfill Is Made

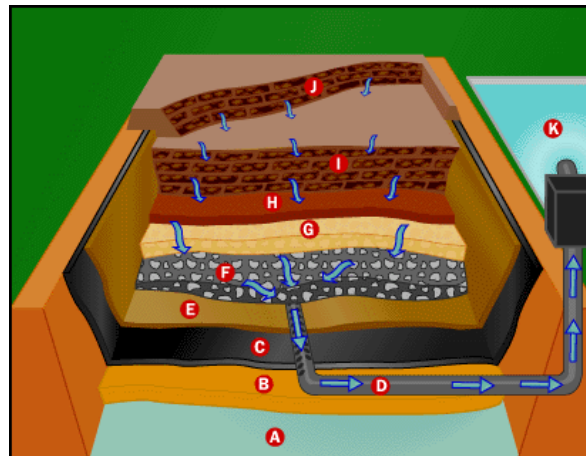


Work on a landfill site begins only after the site passes strict legal, environmental, and engineering tests. It is not a quick procedure; it can take five years before the landfill is ready to use, at a cost of \$2 to \$4 million.

Today, landfills are made up of many different cells (I and J). Each cell is sloped so the contaminated water can be collected. The base of the landfill is covered with clay (B). The clay is one metre thick. The clay is compacted so water cannot move through it easily. Ground water (A) is located under the clay layer.

Next, a layer of plastic, 2mm thick, is laid over the clay (C). A thick protective underlay called a geo-textile is placed on top of the plastic liner to protect it from being punctured (E). A geo-textile is made of sand with a layer of fiberglass and cloth on the top and on the bottom. Then they put in leachate collection pipes on top of the geo-textile. Leachate is the water that seeps down through the landfill and contains poisons. They pump this leachate through pipes (D) and into the leachate collection pond (K) to be treated. This is followed by a layer of rocks, about the size of those used in railway lines (F) and another geo-textile (G) to filter out silt in the leachate and keep the rock clean.

Finally, they put a layer of soil to separate the drainage layer from the old cells of the garbage. They also put soil between the cells and use it to cover the top layer of garbage.



Pollution In Landfills



1. As rain water seeps through a landfill it absorbs many of the poisons from the garbage. This leachate, or water collecting at the bottom of the landfill, is normally high in heavy metals, ammonia, toxic organic compounds and pathogens and if it escapes into the groundwater serious contamination results.

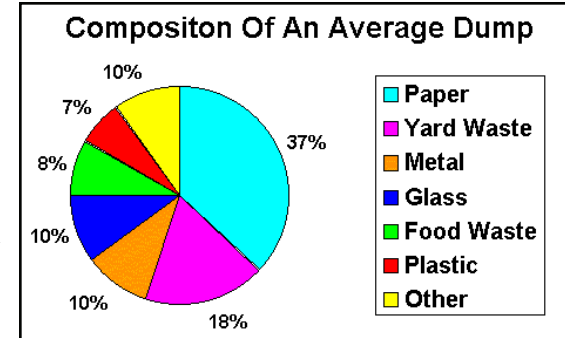
2. At the top of the landfill, gas is produced as the organic material in the landfill breaks down. Carbon Dioxide (CO₂) and Methane (CH₄) are released. Both are greenhouse gases and are contributing to the greenhouse effect.

3. Landfill sites are very unpopular with local residents: traffic, smell, noise, vermin, seagulls, blown litter, and disease can all spoil the neighbourhood and lower property prices.

4. When the landfill is full, it's covered with dirt, tightly packed. That's why even food garbage doesn't decompose quickly in landfills. Air, water, heat, and microbes are needed for decay. This is why you can sometimes still read a newspaper found in a landfill after 20 years!

5. The bottom layer of clay is often fractured and cracked resulting in leachate leakage. Organic chemicals can begin to leak through the clay landfill liner in as little as five years.

6. Reports show that all plastic liners will have some leaks. Additional leakage results from defects such as cracks, holes, and faulty seams. Studies show that a 10-acre landfill will have a leak rate somewhere between 0.2 and 10 gallons per day.



What Can You Recycle?

- MISCELLANEOUS HOUSEHOLD PLASTICS
- ELECTRONIC E-WASTE ITEMS
- NEWSPAPERS, FLYERS, PAPER PACKAGING
- CORRUGATED CARDBOARD
- OFFICE PAPER
- MIXED PAPER
- SCRAP METAL & APPLIANCES
- TIN CANS
- USED MOTOR OIL & FILTERS
- VEHICLE BATTERIES
- TIRES & PROPANE TANKS
- GLASS
- BATTERIES & CELL PHONES
- PLASTIC MILK CONTAINERS
- CARDBOARD MILK CONTAINERS
- GRASS, LEAVES, GARDEN WASTE, TREE BRANCHES
- CLOTHING
- HOUSEHOLD HAZARDOUS WASTE



The Benefits of Recycling

☺ Recycling Saves Energy ☺

- Plastic bags made from recycled polythene rather than virgin materials save two thirds of the energy required for production and reduce the water used by almost 90%.
- It takes 95% less energy to make aluminium from recycled aluminium than to make it from raw materials.
- Recycling a single glass bottle can save enough energy to light a 100-watt light bulb for 4 hours!

☺ Recycling Reduces Pollution ☺

- Batteries contain heavy metals such as mercury, nickel, lead and cadmium, which can leak into the ground and contaminate the environment if improperly disposed of.
- Making a glass container from a recycled container creates about 20% less air pollution, 50% less water pollution and uses only about half the energy of making it from virgin materials.
- Making cars from recycling aluminum decreases related air pollution by 95 percent.
- Making recycled paper generates 74 percent less air pollution and 35 percent less water pollution, and uses 64 percent less energy than making paper from virgin timber.

☺ Recycling is Good For The Environment ☺

- Composting enriches and regenerates poor soils which can also provide many other environmental benefits such as helping to suppress plant diseases, reducing or eliminating the need for chemical fertilizers, promoting higher crop yields, and facilitating the restoration of forests, wetlands and other important habitats.

☺ Recycling Helps Landfills Last Longer ☺

- We can save more space in our landfills by recycling paper products than any other materials and each piece of paper can be recycled up to five times before the fibres become too weak.

☺ Recycling Creates Jobs ☺

- Recycling is important because there are many items that can be made from recycled plastics. These items include garbage cans, picnic tables, fibre-fill for vests and jackets, traffic cones and many others. Purchasing items such as these that are made from recycled materials will help to further support this industry.

☺ Recycling Saves Natural Resources ☺

- In one year, recycling allows aluminum companies to save the equivalent of more than 19 million barrels of oil — enough energy to supply electricity to about 18 million households for a year.

Strathmore Recycling Depot



Hours of Operation

Summer Hours

April 1st – September 30th

Tuesday, Wednesday & Thursday – 11:00 a.m. to 7:00 p.m.

Friday & Saturday – 9:00 a.m. – 5:00 p.m.

Winter Hours

October 1st – March 31st

Tuesday, Wednesday, Thursday, Friday & Saturday

9:00 a.m. to 5:00 p.m.

For any further information, contact Ken
Prepchuk at the Strathmore Recycle Facility:
934-0087 e-mail at - kenp@strathmore.ca



How You Can Help The Environment

- ★ -Use your own ceramic mugs or cups instead of plastic, paper or Styrofoam cups.
- ★ -Car pool or try walking or using a bike when going to the corner store.
- ★ -Pack your own lunch using cloth napkins and reusable containers.
- ★ -Set up a back yard composter to take care of yard and non-meat kitchen scraps.
- ★ -Install a low flush toilet or dams or bags in high-volume toilets to save water.
- ★ -Use less water in your bath or better yet, have a short shower instead.
- ★ -Set up a recycling system in your home if you don't already have one.
- ★ -Recycle supermarket bags and take your own when you go shopping.
- ★ -Take used motor oil, paint and other poisons to the recycle facility.
- ★ -Cut down on wrapping paper by reusing gift bags or buying recycled gift wrap.
- ★ -Save on paper. Print, draw or colour on the back of scrap paper.
- ★ -Make sure you recycle all your electronics (tvs, computers, cell phones, vcrs etc.). Never throw them into a landfill.
- ★ -Use rechargeable batteries. Each rechargeable battery may substitute for hundreds of single use batteries.



Why Landfills Don't Work



This brochure is produced by
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Grade 4 Challenge Program students