

Name: \_\_\_\_\_, # \_\_\_\_\_

### Waste - Matter Study Guide

Students investigate the management of waste and dangerous materials and describe environmental impacts.

There are several ways of getting rid of waste. Describe what occurs in each method and how it impacts the environment.

Method	Description	Environmental Impact
Landfill	Garbage is sent to the landfill where it is compacted into cells and then covered with dirt on a daily basis. Safe garbage is kept here and is finally covered with a layer of dirt. Landfills have been converted into parks or golf courses.	Burying garbage in the ground pollutes the land. It takes up a great amount of space. Liquids from the garbage can get into the ground water and pollute it.
Burning	Items are placed in an incinerator and are burned. Usually, all that is left over are the ashes. Some items burn well.	Burning releases pollutants like smoke and carbon dioxide which may be hazardous or toxic. Not everything is safe to burn.
Recycling	Taking items that have been used before and reusing them or sending them to centers where they can be broken down and used for other things.	Not all items can be recycled. Some items can be partially recycled but waste is still created that goes to a landfill.

We are stewards of the earth. How can you help take care of our earth? Here are a few of many ideas:

- a. Pick up litter
- b. Clean up animal wastes
- c. Avoid chemicals
- d. Donate or re-sell items you are no longer using

Mold is an example of a decomposer. You should be able to give a definition of a decomposer and at least one more example of what a decomposer is.

- a. A decomposer is an organism that causes the breakdown and decay of dead plant and animal matter.
- b. Ants, earthworms, fungi, lichen, wireworms, beetles, mushrooms, millipedes, centipedes, carpenter ants, isopods, and red wigglers are examples of other decomposers.
- c. You should be able to describe how we watched mold grow on the pieces of bread that we touched with clean and dirty hands.

Some things are biodegradable. Other things are not biodegradable.

- a. If something is biodegradable it can decompose in nature. It can break down or decay.
- b. If something takes many years to biodegrade, we say that it is not really biodegradable.
- c. Items that biodegrade easily include fruit peels, Kleenex, and paper towel.
- d. Items that are not biodegradable include glass, rubber boots, and aluminum cans.

We dug through our classroom garbage. We discovered the types of items that we through out on a daily basis. Food items, Kleenex, juice boxes, paper towels are among some of the things that appear in our garbage. We discussed ways to reduce the amount of garbage we create. Garbageless lunches was a way we considered using to reduce the amount of waste we produce.

Our community does a good job of getting rid of waste in an ECO-friendly way. Our community has had a big push to adapt to the Green Routine. Your child should be able to list some of the ways garbage is handled in Sherwood Park and Strathcona County and tell advantages and disadvantages of each method. Some ways may include:

- a. Green Bin - the compost bin. Items like Kleenex, fruit peels and paper towels can be composted.
- b. Black Bin - the garbage bin. Items like chip bags, q-tips, fruit clamshells, among others go in the black bin.
- c. Blue Bag - recycling. Recyclable items include: tin cans, paper, newspapers, cardboard among others can be recycled.
- d. Landfill - items from the black bin end up in the landfill.
- e. Enviroservice events or the ECO-Station for hazardous materials - paint, batteries, used oil, among others get disposed of at the ECO-Station.

- f. Other examples like a bottle depot
- g. Hodge Podge Lodge - a place that diverts items from the landfill. The community can take items from the Hodge Podge Lodge that they need. Books, toys, puzzles, lawn furniture among other things can be found at the Hodge Podge Lodge.

For an item to be recycled, it must go through several processes before a new product is created. A item made of plastic would go through the following processes:

- a. Collecting - the items to be recycled must be collected from homes, schools and businesses.
- b. Sorting - the items must be sorted into like kinds. Plastics together, paper together etc.
- c. Cleaning - the items must be cleaned so that they can go to the next stage.
- d. Shredding - items then get shredded or broken down into small parts so they can be prepared to be made into something new.
- e. Melting - plastic items get melted down so that the large pieces of plastic become smaller.
- f. Forming pellets - the small bits of plastic are formed into pellets so that they can become a new item.
- g. Remolding - the pellets get formed into new items that can then be used by people.

There are many symbols on packages which tell us the really dangerous things that they may be capable of. You should know where to take something with these pictures when it is "garbage." Consult your notes for the pictures.

Corrosive - means that the substance is capable of dissolving things, acid

Flammable - a substance that burns or catches fire easily

Poisonous - a substance that is toxic to the body and should not be swallowed.

Explosive - a substance that may blow up if heated.

If an item has one of these pictures on it, when it is "garbage" it needs to be taken to an ECO Station. The ECO Station in Sherwood Park is the Broadview Enviroservice Station.

Some of the items that have these symbols on them are ones that are used regularly. Canned whip cream, hairspray, batteries, paint, and oven cleaners would be items that should be taken to the ECO Station.