

May 2007



# Green Schools Network

ACTIVITY SHEET

## Why talk about batteries?

Because batteries are essential to our portable lifestyle. Cars, phones, music, cameras and even our daily planners make our lives convenient and instant because of power supplied by batteries. As we continue to enhance our lives with portable amenities, battery disposal is becoming an environmental challenge. A number of resources are available to reduce battery waste.

### Remember

You can find the type of battery from the information given on its pack.

Name.....

School Name .....

Class..... Date.....

### Gobar Gyan:

Some batteries are hazardous to the environment because of the amount of mercury, lead, cadmium, or silver they contain; others are not hazardous because they do not contain any of these toxic metals, or they contain such tiny amounts that they do not pose a significant environmental concern. Some batteries are single use, while others are rechargeable and can be used many times; some batteries can be recycled, some can not.

Table 1 on page 2 compares different kinds of batteries.

**Activity:** In the table given below Identify ten colleagues who are willing to share information related to their battery use. Refer to tables and insets on page 2 & 3. Ask them the following questions:

*How many types of batteries do you use?*

*How many numbers of each type of batteries do you use in a year?*

*Where do you dispose them?*

Fill the table given below on the basis of answers given by your colleagues:

Name	Types	Numbers	Disposal



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**Table 1: Battery Hazards and Characteristics**

Batteries identified as hazardous in this table must be managed as hazardous waste.

Type of battery	Hazardous Non-hazardous	Recyclable Non-recyclable	Rechargeable or Non rechargeable	Notes
Alkaline	Non-hazardous	Non-recyclable Limited recyclable	Non-rechargeable	Most commonly used and recognized Battery
Carbon Zinc	Non-hazardous	Non-recyclable Limited recyclable	Non-rechargeable	Often labeled General purpose, Heavy duty or Classic
Nickel-Cadmium	Hazardous for Cadmium (Cd) Waste code D006	Recyclable	Rechargeable	Labeled Ni-Cd
Nickel Metal Hydride	Non-hazardous	Recyclable	Rechargeable	Labeled NiMH
Sealed Lead-Acid	Hazardous for Lead (Pb) Waste code D008	Recyclable	Non-rechargeable	Pb-acid
Mercuric Oxide	Hazardous for Mercury (Hg) Waste code D009	Recyclable	Non-rechargeable	Marked with +
Silver Oxide	Hazardous for Silver (Ag) Waste Code D011	Recyclable	Non-rechargeable	
Lithium ion	Non-hazardous	Recyclable	Rechargeable	Labeled Li-ion
Lithium small	Non-hazardous	Recyclable	Non-rechargeable	Labeled Li or CR
Lithium large	Potentially Hazardous	Recyclable	Non-rechargeable	If hazardous waste code: D 003
Zinc Air	Non-hazardous	Non-recyclable	Non-rechargeable	Usually button size

- Based solely on toxicity characteristic leaching procedure test results.
- Applies to discharged Lithium batteries of no more than 9 volts.

See table 1 to find out how the batteries should be handled after use. Categorise and enumerate batteries used by your colleagues in the school in the table given below:

Recyclable batteries	Non – Recyclable batteries	Total numbers

Start a battery bank in your school to collect used, recyclable / non-recyclable / partly recyclable batteries. Collect them at least for a month. Count the number of batteries collected of different types to fill the table given below:

Type	Number	Notes

**Caution!**

**Do not handle / collect crushed or leaking batteries.**

India and China have a huge battery recycling market. Follow the web url given below and try to send the batteries to one of the recycling companies, visit at:

<http://asia.recycle.net/a/0108.html>

**Convert this learning into usual practice at school by running a full time battery bank.**

Interesting websites:

**Google keywords:** dry battery recycling in India

<http://asia.recycle.net/a/0108.html>

<http://www.pca.state.mn.us/publications/w-hw4-05.pdf>

<http://www.ehso.com/ehshome/batteries.php>

<http://www.ehso.com/ehshome/batteries.php#Summary>

**Remember!**

There are many different types of batteries, each with its own chemistry and characteristics:

- alkaline,
- carbon zinc,
- nickel-cadmium,
- nickel metal hydride,
- sealed lead-acid,
- mercury or mercuric oxide,
- silver or silver oxide,
- lithium ion,
- lithium, and
- zinc air.

In the table given below list down the batteries used at your home

Recyclable batteries	Non – Recyclable batteries	Total numbers



If you found the activity sheet interesting, E-mail us at [eeu@cseindia.org](mailto:eeu@cseindia.org) or write to:  
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