



**POST-CONSUMER:** IN POST-CONSUMER WASTE, REFERS TO WASTE FROM MUNICIPAL (RESIDENTIAL/CITY OR TOWN) SOURCES, NOT INDUSTRIAL WASTE.

## Lesson 3 — Disposal

### Options for Used Six-pack Carriers (*Venn and the Art of Six-pack Carrier Disposal*)

**Subject Area:** *Language Arts, Math, Science*

#### Objectives:

Students will gain a basic understanding of three disposal options available for disposing of post-consumer six-pack carriers.

#### Methods:

Students will construct Venn diagrams illustrating the similarities and differences among post-consumer, six-pack carrier disposal options: recycling, landfilling, and littering.

#### Materials:

Classroom dictionaries, chalkboard and chalk, overhead projector or chart paper and markers or crayons.

#### Vocabulary:

Landfilling, littering, post-consumer, recycling

#### Procedure:

1. Instruct students to find the definitions for recycling (recycle), landfilling (landfill disposal), and littering (litter) in their dictionaries or through another source (i.e.: the Internet).
2. Discuss the definitions of recycling (recycle), landfilling (landfill disposal), and littering (litter).
3. Draw a Venn diagram (a large rectangle containing two large overlapping circles) on the chalkboard, overhead, or chart paper. A Venn diagram is a graphical means of depicting sets and subsets. Label one circle recycling and the other landfill. Label the rectangle "Disposal Choices For Six-pack Carriers." (See Illustration A.) Ask students to list characteristics of these two waste management choices, paying special attention to how they apply to six-pack carriers. If the characteristic is specific to either recycling or landfill, write it in the appropriate circle. For example, six-pack carriers that are recycled have not reached the end of their life. Six-pack carriers that are landfilled can no longer be reused. Any characteristics which are true of both recycling and landfill are listed in the overlapping part of the circles. For example, both recycling and landfill disposal require collection. As an alternative activity, students familiar with Venn diagrams can work in cooperative groups to complete the diagrams before sharing with the entire class.



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## Lesson 3 Disposal (cont.)

4. Discuss the behavior of littering. When is it a choice? Can it occur accidentally? Is it a disposal option?
5. Now draw a Venn diagram using three interlocking circles within a large rectangle. Label the rectangle "Disposal Choices For Six-pack Carriers," as before. Label one circle "Recycling", one "Landfill," and the third "Littering." (See Illustration B.) Using the list of characteristics developed earlier, add characteristics that apply to littering. Label all three circles with appropriate characteristics, noting where two or three overlap.
6. This activity should generate some good discussion about these waste handling options. Students may wonder about the specific processes involved in the collection, sorting, cleaning, reprocessing, and new use of recycled materials. How are six-pack carriers reprocessed? How can we decrease six-pack carrier littering? They may question the costs involved in waste collection and landfilling. These questions can be used to direct further research on the topic.

### Extensions:

Have students copy the diagram generated by the class onto art paper and illustrate with drawings or photos of landfilling, recycling, and litter/littering.

Have students complete a chart individually or as a class, which lists the similarities and differences of the three six-pack carrier disposal options from this lesson.

### Use the following facts to discuss the behavior of littering\*:

#### Seven Sources of Litter:

1. Household refuse
2. Commercial refuse
3. Construction/demolition sites
4. Uncovered vehicles
5. Loading docks
6. Motorists
7. Pedestrians

#### The three main reasons why people feel it is acceptable to litter are:

1. Where they feel no sense of ownership of the property.
2. Where someone else will clean up after them.
3. Where trash has already accumulated.

### Vocabulary:

**Landfill:** (Sanitary Landfill), A method of disposing of refuse on land without creating nuisances or hazards to public health or safety; careful preparation of the fill area, including the use of clay and/or synthetic liners and control of water drainage are required to assure proper landfilling; to confine the refuse to the smallest practical area and reduce it to the smallest practical volume, heavy equipment is used to spread, compact, and cover the waste daily



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## Lesson 3 Disposal (cont.)

with at least six inches of compacted dirt; after the area has been completely filled and covered with a final two or three foot layer of dirt and seeded with grass, the reclaimed land may be turned into a recreational area; sanitary landfills have leachate collection systems, methane gas controls, and environmental monitoring systems.

**Recycle/recycling:** A resource recovery method involving the collection and treatment of a waste product for use as a raw material in the manufacture of the same or another product (e.g. ground glass used in the manufacture of new glass).

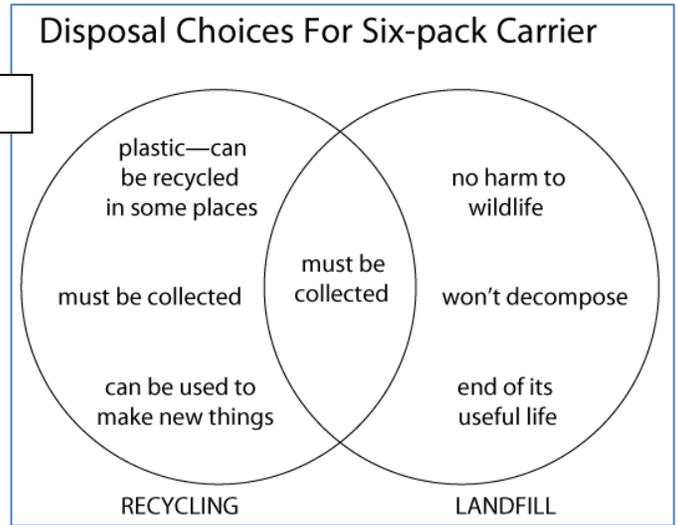
**Litter:** Human generated solid waste that is discarded in an inappropriate place (e.g. streets, playgrounds, streams, etc.), or improperly stored waste which has escaped from its container.

**Littering:** The act of discarding solid waste in an inappropriate place (any place other than a proper trash receptacle); mishandling waste.

**Post-consumer:** In post-consumer waste, refers to waste from municipal (residential/city or town), sources not industrial waste.

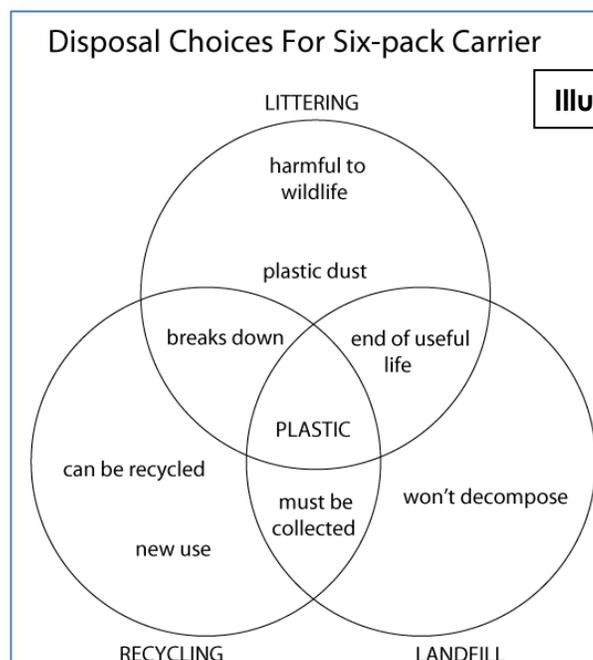
\*Source: Waste In Place, Keep America Beautiful, Inc.

Illustration A



Disposal Choices For Six-pack Carrier

Illustration B



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