

Plastic Recycling: Lesson 17



Objectives

- ◆ Students will complete a chart containing the characteristics of different plastics.
- ◆ Students will answer questions about plastics based on their completed chart.



Standards

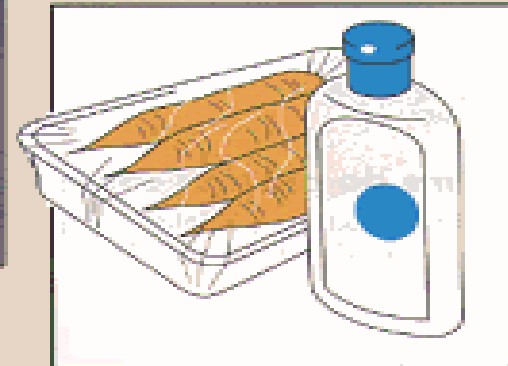
- ◆ E.12.C.4 Students know processes of obtaining, using, and recycling of renewable and nonrenewable sources. E/S
- ◆ N.12.A.1 Students know table, charts, illustrations and graphs can be used in making arguments and claims in oral and written presentations. E/S
- ◆ N.12.B.4 Students know scientific knowledge builds on previous information. E/S
- ◆ N.12.B Students understand the impacts of science and technology in terms of costs and benefits to society.



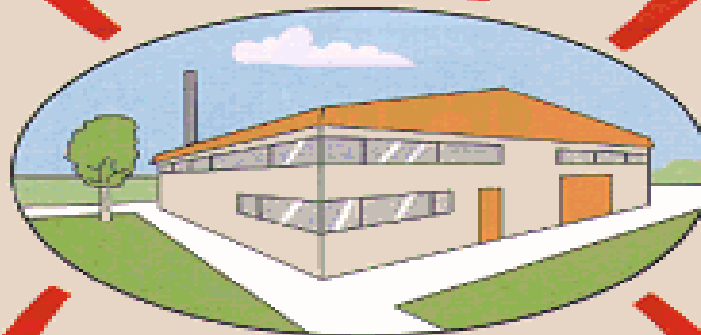
HDPE
Bottles for detergents, milk and fruit juice. Bottle caps and closures. Carrier bags.



LDPE
Bags, sacks, binliners, squeezable bottles. Bread bags. Frozen food.



PVC
Food trays, bottles for fruit squash and shampoo, blister packs for DIY.



PP
Margarine tubs, squeezable bottles for ketchup, sauces. Bottle caps and closures. Film packs for crisps, biscuits.



PET
Fizzy drink bottles, ovenable ready-meal containers, roasting bags.



PS
Egg cartons, yoghurt pots. Bottle caps and closures. Food trays.



Plastics 1 & 2 (recyclable in Nevada!)

◆ 1- PETE Polyethylene Terephthalate

◆ Examples:

- Water and soda bottles
- Food jars
- Clothes, carpet

◆ Properties:

- Clear
- Shatter resistant
- Moisture barrier properties

◆ 2- HDPE High Density Polyethylene

◆ Examples:

- Milk bottles
- Laundry detergent bottles
- Cereal box liners
- Grocery bags

◆ Properties:

- Relatively stiff
- Translucent
- Moisture barrier properties

Plastics 3 & 4 (not recyclable in Nevada)

◆ 3- PVC Polyvinyl Chloride

◆ Examples:

- Food packaging
- Shrink wrap
- Pipe
- Blood bags
- Medical tubing

◆ Properties:

- High impact strength
- Brilliant clarity
- Rigid and flexible

◆ 4- LDPE Low Density Polyethylene

◆ Examples:

- Bread bags
- Produce bags
- Shrink wrap
- Coating for milk cartons

◆ Properties:

- Relatively tough
- Flexible
- Relative transparency

Plastics 5 & 6 (not recyclable in Nevada)

◆ 5- PP Polypropylene

◆ Examples:

- Margarine and yogurt containers
- Medicine bottles
- Bottle caps

◆ Properties:

- Good clarity
- Strong
- Moisture barrier properties

◆ 6- PS Polystyrene

◆ Examples:

- Insulated cups
- Protective packaging
- Packing peanuts
- Some toys

◆ Properties:

- Stiff
- Hard
- Brittle
- Good moisture barrier

Plastic 7 (not recyclable in Nevada)

- ◆ 7- Other Multilayered Plastic
- ◆ Examples:
 - Reusable water bottles
 - Oven baking bags
 - Custom packaging
- ◆ Properties:
 - Depends on resins used



Questions to Answer

- ◆ There are two types of plastic that are picked up by the curbside recycling program in Nevada. What are they (both the resin code and the scientific name)?
- ◆ There is another location, besides curbside, to take these two plastics for recycling. What is it called or where is it?
- ◆ Plastic 2, HDPE, is commonly used to make grocery bags. Where can you take grocery bags for recycling?
- ◆ What type of plastic is used to make ice scrapers?
- ◆ Is this plastic recyclable in Nevada?
- ◆ Which plastic is recycled into insulation?
- ◆ List one of the products made with recycled plastic 7.
- ◆ List 3 properties of plastic 4, LDPE.

Plastics!



Additional Links

- ◆ “The day in the life of a recycled bottle”
 - <http://www.youtube.com/watch?v=D34LS9Hacxk>
- ◆ “How Plastic Gets Recycled”
 - <http://earth911.com/plastic/video-how-plastic-gets-recycled/>
- ◆ “What Plastics Should I Avoid Buying”
 - <http://search.live.com/video/results.aspx?q=plastic+recycling+video&docid=799227904112&FORM=VIRE4#docid=509905010743>