



The Life Cycle of a Plastic Water Bottle

Lesson Plan





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What are the
types of plastic?



PLASTIC RESIN IDENTIFICATION CODES



PETE
Polyethylene
Terephthalate

HDPE
High Density
Polyethylene

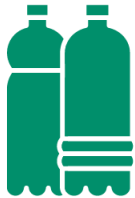
PVC
Polyvinyl
Chloride

LDPE
Low Density
Polyethylene

PP
Polypropylene

PS
Polystyrene

Other



COMMON PRODUCTS

Water Bottles
Soda Bottles
Peanut Butter Jars

COMMON PRODUCTS

Milk Jugs
5 Gallon Buckets
Shampoo Bottles
Laundry Detergent Bottles

COMMON PRODUCTS

Vinyl
Tubing/Pipe
Siding
Auto Product Bottles

COMMON PRODUCTS

Laundry Baskets
Bread Bags
Squeeze Bottles

COMMON PRODUCTS

Yogurt Containers
Amber-Colored Pill Bottles
Coffee Cups Lids
Straws
Kitty Litter Buckets

COMMON PRODUCTS

Styrofoam Cups
Solo Cups
Egg Cartons
To-Go Containers

COMMON PRODUCTS

Toys
Sippy Cups
CDs/DVDs
Lenses



100,000,000,000

In the United States in 2014,
100.7 billion plastic beverage
bottles were sold.

How are plastic bottles made?



How a Plastic Bottle is Made



The main ingredient in PETE is crude oil

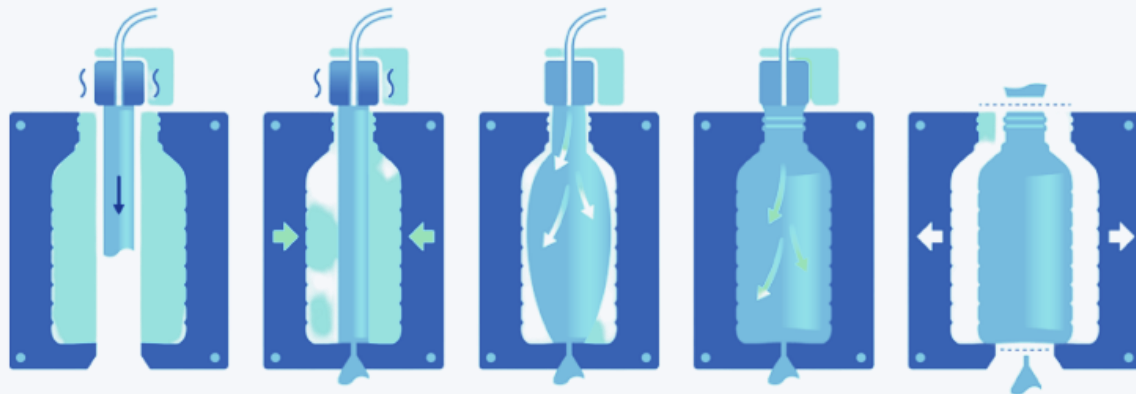
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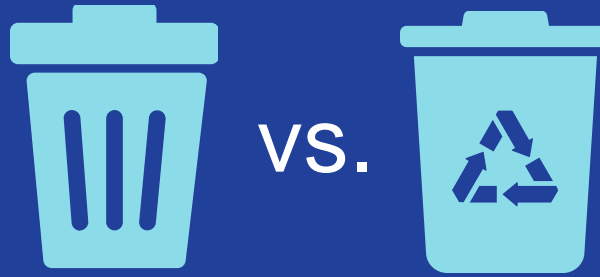
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4



1. Crude oil is extracted by mining, drilling, and fracking the Earth
2. Mining, drilling, and fracking can negatively impact the environment by disrupting and killing wildlife, polluting the air, and contributing to climate change
3. Oil is separated into usable parts and melted to the shape of a water bottle
4. Bottles are filled with water, sealed, and ready to be shipped



What happens when a plastic bottle is thrown in the trash vs. recycling?



When a plastic bottle is thrown
in the trash...



The plastic bottle is taken to a **landfill**.





At the landfill, the bottle
takes **1000 years** to
decompose.





Landfills are made to store
trash forever, so materials
don't break down well.



60,000,000

More than 60 million plastic bottles
end up in landfills **every day.**



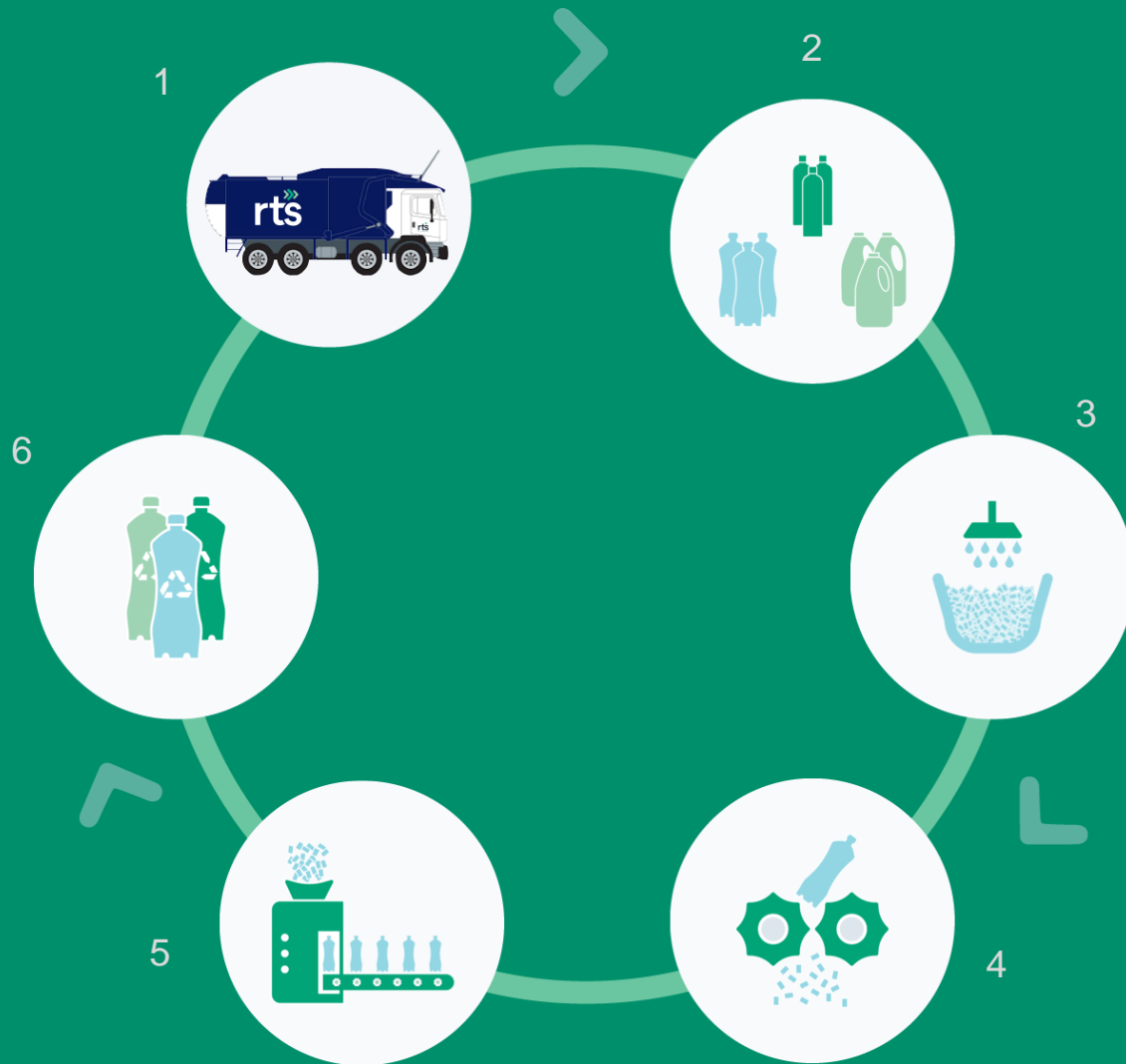
Landfills can harm
the environment.



Let's reduce the
amount of waste put
in them.

What happens when a plastic bottle is thrown in the recycling?





When a plastic bottle is thrown in the recycling

1. Recycling is taken to a **materials recovery facility** to be sorted
2. Materials are **sorted into categories** based on what they're made from
- 3-6. Plastics are shredded into tiny pieces and washed to be **made into new items**



PETE can't be remade into new plastic bottles but is often made into items like **plastic benches and clothes** made from recycled bottles

How can **you** make
a difference?



We can make
decisions that
have a positive
impact on the
planet



Reduce, Reuse, then Recycle



Best thing you can do is **reduce** your use of plastic water bottles by purchasing a **reusable water bottle**



First try to **reduce**, then **reuse**, and if it comes to it, remember to **recycle**

If you have to purchase a plastic water bottle, **reuse** it as many times as possible and then **recycle** it

Activities



Word Search

Life Cycle of a Water Bottle

- REDUCE
- WILDLIFE
- REUSE
- REUSABLE
- LANDFILL
- DRILLING
- CLIMATE CHANGE
- POLLUTION

L	I	R	L	A	N	D	F	I	L	L	O	E	L
R	E	D	U	C	E	N	R	U	R	E	U	S	E
C	I	E	L	C	Y	C	E	R	N	N	N	Y	T
C	L	I	M	A	T	E	C	H	A	N	G	E	S
G	E	T	O	C	A	N	F	E	G	F	R	C	D
C	D	G	R	N	C	B	T	T	R	G	E	R	R
S	E	E	I	N	D	M	C	A	G	U	U	U	I
I	C	L	I	S	E	L	C	N	M	A	S	D	L
M	O	N	D	E	E	K	I	T	U	U	A	E	L
P	M	C	R	T	I	N	E	I	A	L	B	O	I
A	P	G	L	N	I	P	N	N	C	C	L	I	N
C	O	R	G	M	L	E	D	T	L	R	E	L	G
T	S	S	C	O	W	I	L	D	L	I	F	E	I
I	E	L	P	O	L	L	U	T	I	O	N	M	L

Reuse Activity: Build a Bird Feeder

What you'll need:



used plastic bottle



scissors



1/4" dowel, 8-10 inches
(or a used wooden spoon)



metal screwhook



super glue



bird seed





Directions

1. Remove the label and **clean the inside and outside of the bottle** with soap and water. Allow the bottle to air dry to make sure no more moisture remains.
2. **Screw the hook into the center of the bottle cap.** To ensure a tight fit, apply a few drops of super glue around the hook.
3. Cut a hole about 1.5" from the bottom. Cut a similar sized hole directly across from it. **The hole should large enough to fit the dowel/spoon through** but not too big that it isn't a snug fit. Insert the perch.
4. **Cut the holes for feeding** about 1 to 2 inches above the perch. Use smaller holes for small seeds and bigger holes for bigger seeds. **Oval-shaped holes that are taller than wide are the best** shape for ease of eating for the birds.
5. **Fill the feed with seed.** Be sure to fill it slowly and if necessary, cover the holes with clear tape until completely full.
6. **Hang up your feeder!** Put it on a tree branch outside of a window so you can watch to see what birds come for a snack.



Questions about this presentation or want to talk about
your waste management needs? Let's talk.

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