

THE TRUTH BEHIND BOTTLED WATER

40

glass bottles is made possible because glass is inert so it doesn't absorb beverage particles like PET does. Glass also holds up well under the high heat needed for the sterilization of the bottle, while PET would just begin to melt. Before the widespread use of PET plastic bottles, beverage containers were thought of as multi-use containers except where cans were concerned. Now we've been convinced to think of most beverage containers as single use and ready for the trash after our last sip.

(7) The problem with this disposable attitude is that all the PET eventually ends up in the landfill or in our oceans. PET doesn't biodegrade, but it can photodegrade. This means it needs to be exposed to the Sun to break down. Most plastics in landfills are

buried so they'll never be exposed to the Sun. PET that ends up in the oceans is a different matter. Since PET floats, it will be exposed to the Sun, but this causes the PET to break down into toxins and into small pellets that are ingested by marine life. Turtles and other sea creatures are found with bellies full of plastic.

8) Some parts of the world are beginning to realize that the huge environmental impact of bottled water isn't acceptable. In 2009, Bundanoon, a small town in New South Wales, Australia, decided that it would be the first town in the world to ban the sale of bottled water. Local governments in San Francisco, Toronto, and over 70 cities around the world have also instituted municipal bans on purchasing bottled water for their employees.

Article Questions

- 1) What did bottled water companies do to convince us to buy bottled water?
They made marketing campaigns that made us think that tap water wasn't safe and that bottled water was the safer choice. They also led us to believe that most bottled water came from safer natural sources when 30%-40% come from the tap. (2)
- 2) What is PET and what are some of its properties?
PET is short for polyethylene terephthalate and it is a type of plastic that is recyclable, waterproof, lightweight, impact resistant and can be made transparent. (4)
- 3) What is down-cycling and why is PET down-cycled?
Down-cycling is when something is recycled into a lower quality material. PET is down-cycled because it is difficult for it to be reused as plastic beverage bottles because: 1) the PET doesn't stand up well to the high heat needed for sterilization and 2) beverage particles get embedded into the plastic and are hard to remove. (5) & (6)
- 4) When PET photodegrades in ocean ecosystems, why is this harmful?
When PET photodegrades, it releases toxins and breaks down into plastic pellets that get into the bodies of sea creatures and harms them. Turtles for example end up with bellies full of plastic. (7)
- 5) What are some things governments have done to help decrease the harmful impact of PET?
Some towns, like Bundanoon in Australia, have banned the sale of plastic water bottles and some municipal governments have prohibited the purchase of bottled water for their employees. (8)
- 6) What are two things you can do to decrease the number of PET bottles you contribute to landfills? (various answers)
Various answers. Common ones might include: convince parents that tap water is safe, starting using refillable water containers, start campaigning to have your school ban the sale of bottled water, get refillable water bottle stations in your school etc. © Tangstar Science