

In nature there is natural recycling

This week our fourth study article for the 2018 Thrive EnviroQuiz competition, written by sustainability advocate **ANNABEL RYDER**, explores waste and resource utilisation. Included are 10 questions that may be asked during the inter-schools quiz on Friday September 7. The final study article will be published on August 24, and all five articles can be accessed on www.thrive.org.za. The previous article explored how water usage behaviours need to change and this week's article explores waste more broadly, within our homes, schools and offices.



efforts to reduce waste, #breakfreefrom plastic demanded the elimination of single-use plastics such as straws and take-out cups.

In the UK, the 2018 Plastic Pact was signed among some 40 companies throughout the plastic value chain, to commit to significant plastic reduction targets by 2025 by creating a circular economy for plastics.

The June issue of National Geographic launches its global Plastic or Planet campaign, with detailed facts about plastic available on its website at <https://news.national-geographic.com/2018/05/plastics-facts-infographics-ocean-pollution/>.

Single-use anything is no longer acceptable, especially if it is plastic or water.

The term "recycling" has become increasingly adopted as a means to repair this existing human system of waste creation.

In nature there is no waste: there is "natural" recycling within circular cycles and then there is "industrial" recycling within linear cycles.

A leaf falling from a tree, for example, becomes food for a host of micro-organisms and insects, which then benefit others. The leaf is broken down into the very building blocks that another tree will use to grow again and sprout new leaves.

In other words, 100% of the leaf's nutrients are being locally cycled into the infinite circles of life.

This all happens with seamless efficiency, within a few metres of the tree.

Now think how different the journey of a plastic bottle is, for it to be cleaned, collected and "recycled" and made into some lower grade plastic item.

Think how much more effort and energy goes into that process compared to nature's leaf.

Recycling can be illusionary if not coupled with efforts to reduce the creation of ever increasing amounts of new waste.

Typically, the municipality collects "waste" from our homes and neighbourhoods, out of the black rubbish bins, and takes it to either

In nature, there is no waste – nature's systems and circular cycles are designed to utilise everything, restoring balance, without any waste.

Take trees for example, the "lungs of the earth" that take in the carbon dioxide we breathe out and release oxygen we need to live.

Waste is man-made: household waste is either biological, such as vegetable and fruit peelings, tea-bags and coffee grinds, cooked food leftovers and bones, all of which can be composted; or non-biological, man-made items that cannot be restored back to balance in nature's circular cycles, simply because man has intervened and disrupted them.

Unfortunately, society is producing far more waste than it can handle. More effort is needed to Reduce, Reuse, Recycle.

Globally, in recent times, there have been significant shifts in community awareness and understanding, as local landfill sites are filling up, images of plastic islands in our oceans are commonplace, and exporting waste is no longer an option as countries like China refuse to accept such shipments.

To find out how we all "make waste", take a few minutes to watch <https://storyofstuff.org/movies/story-of-stuff/>. The biggest waste culprit by far is plastic, so prevalent in delivering packaging and convenience for today's lifestyles, and yet the single, biggest item so negatively polluting our home, planet Earth.

On Earth Day, April 20, in

1 PETE	2 HDPE	3 PVC	4 LDPE	5 PP	6 PS	7 OTHER
Polyethylene Terephthalate	High-Density Polyethylene	Polyvinyl Chloride	Low-Density Polyethylene	Polypropylene	Polystyrene	Other
Common products: soda & water bottles; cups, jars, trays, clamshells	Common products: milk jugs, detergent & shampoo bottles, flower pots, grocery bags	Common products: cleaning supply jugs, pool liners, twine, sheeting, automotive product bottles, sheeting	Common products: bread bags, paper towels & tissue overwrap, squeeze bottles, trash bags, six-pack rings	Common products: yogurt tubs, cups, juice bottles, straws, hangers, sand & shipping bags	Common products: to-go containers & flatware, hot cups, razors, CD cases, shipping cushion, cartons, trays	Common types & products: polycarbonate, nylon, ABS, acrylic, PLA; bottles, safety glasses, CDs, headlight lenses
Recycled products: clothing, carpet, clamshells, soda & water bottles	Recycled products: detergent bottles, flower pots, crates, pipe, decking	Recycled products: pipe, wall siding, binders, carpet backing, flooring	Recycled products: trash bags, plastic lumber, furniture, shipping envelopes, compost bins	Recycled products: paint cans, speed bumps, auto parts, food containers, hangers, plant pots, razor handles	Recycled products: picture frames, crown molding, rulers, flower pots, hangers, toys, tape dispensers	Recycled products: electronic housings, auto parts,

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a transfer station, or to a material recovery facility or to a landfill site, where rubbish is buried in a scientifically designed, engineered and managed location.

The total volume of waste can be reduced by separating different waste types and treating each differently, at source in your home or school – not all of it needs to go into this industrial waste system if it can be reused or recycled.

Ideally, recyclables are separated out of the waste at source, that is, in your home.

For example, in Hout Bay, paper, aluminium tins and cans, glass and some plastics are collected weekly by WastePlan, thereby reducing total waste to landfill.

There are two types of biological compostables, uncooked and cooked, which can be recycled at home: uncooked waste such as fruit and vegetable peelings can be used to make compost to enrich the soil, using either a worm bin or a composting bin/heap; and cooked food leftovers including meat and dairy are fermented with inoculated bran and broken down anaerobically (without air) in a sealed bokashi bin to make a safe soil builder and a probiotic, nutrient-rich tea, good for cleaning drains or as liquid fertiliser for the garden.

Waste that cannot be recycled or composted is residual waste, and this includes special hazard-

ous waste that cannot go in the black rubbish bins to landfill and requires special treatment, for example batteries, energy efficient CFL lightbulbs, motor and cooking oil, old paint, medical and electronic waste.

Locally, most of these can be dealt with at Hout Bay Recycling near the Hout Bay police station.

So what can you do? Start by doing a waste audit. What types of waste does your home/school produce? Thinking about Reduce, Reuse, Recycle. Can any of it be re-used or re-purposed? Can you make other choices to stop buying this waste, to reduce?

Start collecting veggie peels and compost. Rather than buying something new, try to borrow it from a neighbour or share with a friend. Join the library. Set up a waste-separation system at home. Ban all straws and other single-use plastics immediately. Make a list of products and brands that your home regularly buys, and see which are more or less waste-friendly and try to replace them with better, less waste-generating alternatives. Explore www.ecobricks.org as a means to pack your plastics away in an old PET bottle and make an "ecobrick" that can be used to construct a bench or a raised bed to grow veggies in, along with your new compost.

Separate your plastic waste

by plastic grade or number (see graphic below). So, as well as becoming a Water Warrior (not a Worrier), add Waste Warrior to your armour.

Remember, no single use of anything (especially water or plastic) and try to Reduce, Reuse, Recycle, wherever you are.

In the next article, we will look at how the sustainability pillars of water and waste are interconnected, and how various community initiatives are making inroads to address these issues.

Questions

1. How are nature's systems and cycles "circular"?
2. What are the two main types of waste?
3. "Residual waste" equals "Total waste" minus what?
4. To better manage waste, which of the 3R's is the most important?
5. What are the two systems of waste management?
6. Name two ways of dealing with biological waste.
7. Name three types of everyday recyclables.
8. What cannot be disposed of in the usual "black bin"?
9. Where is rubbish thrown away to?
10. How many grades of plastic are there?

See answers on page 10

City spends millions on by-law enforcement

STAFF REPORTER

The City of Cape Town has budgeted an extra R2 million this year to help its law enforcement officers bring by-law breakers to justice.

Law enforcement issues thousands of notices each quarter for by-law transgressions, including illegal dumping, illegal trading, traffic violations, noise nuisances, among others.

Where Section 56 notices are issued – for example, when an offence is witnessed by an officer – the accused has the option to pay an admission of guilt fine or to appear in court to plead their case.

Where an accused fails to appear, a warrant is generated by the municipal courts and exe-

cuted by law enforcement.

According to JP Smith, the City's Mayo member for safety and security and social services, the three by-laws that generate the highest number of Section 56 notices are the traffic; streets, public places and prevention of noise nuisances; and informal trading by-laws.

In the first quarter of 2018, these three by-laws had accounted for three quarters of all notices issued. He said his department's area-based staff executed warrants on behalf of the court section, but that took time away from their primary duties.

With the R2 million budget injection, the City would bulk up the resources in the court section so it could execute its own warrants.

The City would also look at better ways to confirm the identity of those caught for by-law transgressions.

"You can't arrest an individual for a by-law transgression, so, when issuing the fine, officers have very little means to confirm whether the details they're given are correct," said Mr Smith.

"That then becomes a challenge when we reach warrant stage in a case and we can't find the accused, because the particulars provided were false.

"So, we're starting to look at using smart technology to assist us. This includes taking photographs of the accused, checking address details via Google Maps and so forth. Fortunately, all is not lost, particularly in cases of illegal dumping, where

we are able to check details using a vehicle's licence plate.

"Also, traffic by-law offences and those that happen at a fixed address, like flouting building regulations and noise and other nuisances, are also far easier to monitor and track the accused, in the event that they do not abide by the Section 56 notice."

Mr Smith said the streets and public places by-law covered offences such as unbecoming conduct in public, and street people were most likely to be fined under that by-law.

"But because they were transient, it was hard to execute warrants and get them to court.

"Which means that we're basically caught in a vicious cycle, because no matter the level of

enforcement, there are no real consequences," said Mr Smith.

"It is frustrating, and we are working very hard to see if there is any way to address this challenge.

"The recently launched Safe Space for street people is one way that we're hoping to reduce the number of by-law transgressions in the CBD, because the space provides a spot to sleep, access to ablution facilities and other health and social services.

"While this space is still in its infancy, if it works as a concept, we could well be introducing safe spaces across the metropole in the coming years.

"By doing so, we'll reduce by-law transgressions but also offer street people a step up into possible reintegration."