

MANZI'S NEWS

A Newsletter for Manzi's Friends



July 2020



Impacts of Technology on the Environment

Hi Friends,

We are always using technology in our everyday lives, such as cell phones for communicating, motor vehicles for travelling and even technology in our kitchens to cook our food. But long ago, before all of this technology, people could only use the materials that they found in the *natural environment*. This means all the materials they used were from the natural things that are around us, such as the air, water, soil, plants and animals. Some examples of natural materials include grasses, wood and leather. The waste from these materials was able to go back to the natural environment, without causing permanent damage. This is called *biodegradable*. A material is called biodegradable if natural processes can break down the material into small harmless pieces.



Rotting leaves on the ground are biodegradable

Today people mostly use materials that are made in factories and these are called *synthetic materials*. Synthetic materials are often made from oil or coal that is found underground. This includes materials like plastic, certain paints and certain fabrics used to make clothes. You may know of polyester clothes, PVA paint and even neoprene rubber. These synthetic materials have both advantages and disadvantages to human beings and the natural environment.

Synthetic polyester material



THE ADVANTAGES AND DISADVANTAGES OF TECHNOLOGY

Synthetic materials have an advantage of lasting longer (durable). They are also lighter and are low-cost when compared to natural materials. They can also be reused again and again. Because synthetic materials are low-cost, people can afford to buy more of them.

There are also disadvantages to synthetic materials as waste from the material lasts for a long time when thrown away. It is therefore better to use synthetic materials over and over again. The low cost of the material, and people being able to buy more than what they need, creates more waste which ends up polluting the environment. One of the easiest ways to reduce the disadvantages of synthetic materials is to buy fewer things. This is called *reducing consumption*. Friends, before you buy something new, ask yourself if you really need it or if you can reuse what you already have.

Examples of the Advantages and Disadvantages of some Products

Products	Advantages	Disadvantages
Plastic bags	They are cheap and easily available from the shops.	Have a negative impact on the natural environment and contribute to littering and pollution.
Cell phones	Instant communication wherever you are.	Can be used by criminals for activities such as heists. Can also invade into personal free time as well as family time.
Gas canister	Gas is a clean and cheap type of fuel.	If the gas escapes it can be dangerous to human health and can also cause an explosion.
Bicycles	They are cheap and an easily available form of transport.	They are a slow form of transport.
Food preservatives	Preserves the freshness of food for longer.	Have negative effects on health.

Check out this You Tube video for more examples:
<https://www.youtube.com/watch?v=psT87WvTgwg>

As technology advances let us remember to be Water Wise. We need innovations that will benefit the current generation, and generations to come, without causing irreversible damage to human health and the natural environment. The company Majik Water is currently running a pilot programme in the water scarce areas of Kenya that provides 50 litres of safe drinking water per day which is generated from the atmosphere. This innovation is affordable, does not destroy the natural environment and has the advantage of providing water to areas that do not have good sources of water.



The Majik Water technological device that can assist with the water shortage problem.

Friends, we must not forget to apply the 6 meanings of being Water Wise to our technological advancements:

Respect Water, Respect Life: As we use more and more technology, we need to make sure that we respect water and all life on Earth. This means the new technological improvements should consider, and have respect for, all life on Earth and not just human beings.

Don't Waste Water: A lot of technological creations require water to manufacture. It is therefore important to reduce or reuse the water that is used during the manufacturing process of any item. This also includes simple things such as sweeping the floor instead of using a hose pipe to clean the floor.

Don't Pollute Water: It is important to follow the proper procedure to dispose of the waste that is produced during the manufacturing process in a responsible manner that does not have current or future negative impacts to both the natural environment and human beings alike. It is good for the environment if you put different kinds of waste in different garbage bags or boxes. This is called *waste separation*. For example, if you put all your glass waste into a box, then that glass can be taken by a waste collector to a factory that makes new glass bottles out of old glass. This is much better than if the old glass lies on a rubbish heap. We say that glass can be *recycled*.

Pay for Water Services: Reusing and reducing the water being used during the manufacturing process will help reduce the water bill. Also companies must not have any illegal connections to reduce their water bill.

Take Environmental Action: If you know of a company that is releasing any form of waste in a manner that is harmful to the environment, do not sit and do nothing about it but rather take action. Make that anonymous phone call to the relevant authorities. Be an environmental activist and do not support their criminal deeds.

Conserving Water, Conserving the Environment: South Africa is a semi-arid country and does not have enough water resources for its ever increasing population. Before one creates a technological innovation the advantages and disadvantages to the natural environment (including water) and human health, must be considered for current and future generations. Scientists and engineers around the world have started creating innovative technologies that mimic the natural environment and how these things are done in nature, without causing irreversible damage to the environment. This is called *Biomimicry*, which is learning from nature for the way humans make or do things.

Some examples of Biomimicry are;

- Hooks and loop material (called *Velcro*) was inspired by plants such as the *Dombeya* leaf that sticks to clothes.
- The water purification stations were inspired by natural wetlands.
- Solar cells on *solar panels* were inspired by green plant leaves which use the energy from the sun for photosynthesis.

Biomimicry means that we find out how nature would solve this problem. What do we see in nature that we can copy and do in our daily lives? If it works in nature, it will probably work for human beings with regards to technology.

Technology has its advantages and disadvantages but we need to create a balance where technology has a positive impact without it having a negative impact on the natural environment and human health. By thinking in a Water Wise way new technological innovations can be useful to all life on Earth.

Love
Manzi



For more information on being Water Wise please contact 0860 10 10 60 or log onto www.randwater.co.za and click on the Water Wise logo



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References for Newsletter:

- Photos: www.unsplash.com
- www.majikwater.co
- www.biomimicrysa.co.za
- www.ukugonda.org.za
- <https://www.youtube.com/watch?v=psT87WvTgwg>

Impacts of Technology Activity

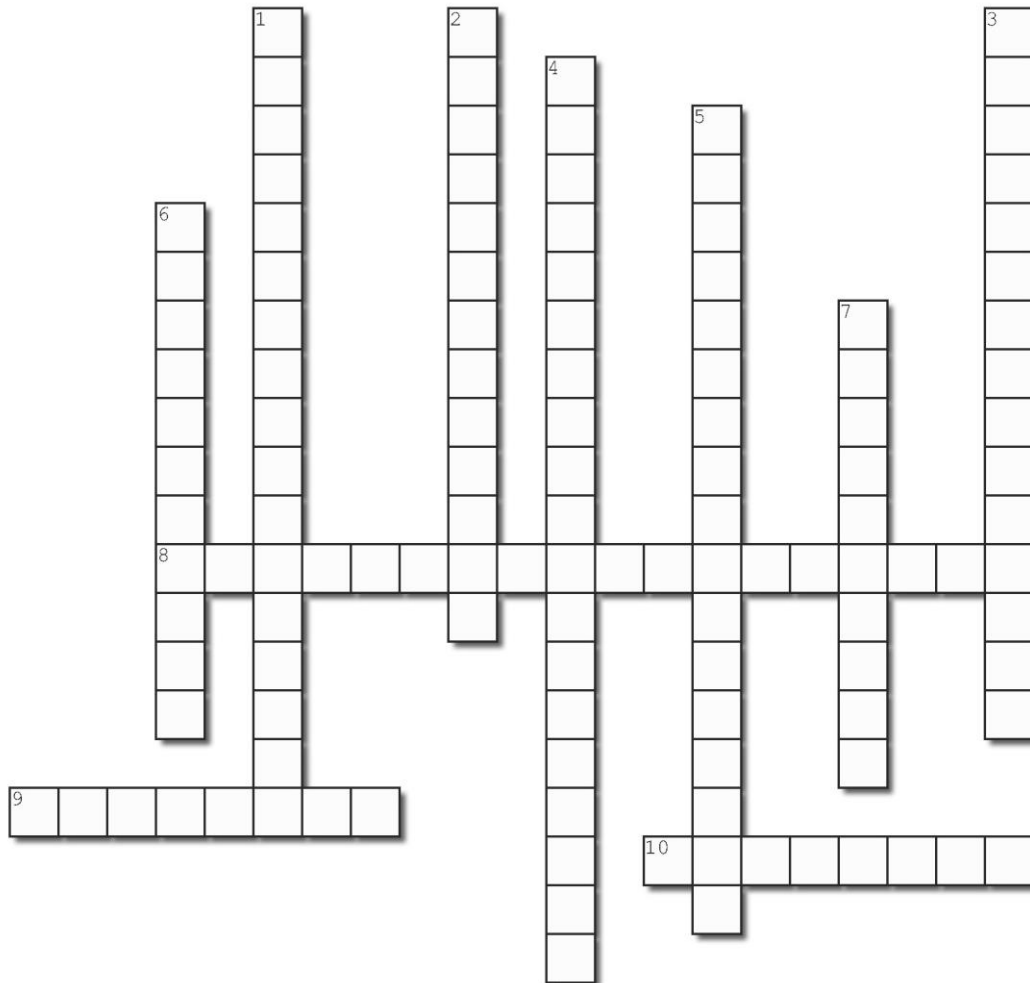
Using the clues complete this crossword puzzle. The words are written down and across.

DOWN

1. PVA paint is an example of which factory made material (two words)?
2. The word for material that can break down naturally into harmless substances (one word).
3. Placing different kinds of waste in different garbage boxes/bags (two words).
4. One of the easiest ways to reduce the disadvantages of synthetic materials (two words).
5. These substances can be a disadvantage to human health (two words).
6. Technology inspired by green plant leaves to produce energy (two words).
7. Technological advances that borrow ideas from nature (one word).

ACROSS

8. Where did people get material from before technology (two words)?
9. A cheap and easily available form of transportation (one word).
10. When something is used and is taken to a factory and made into something new it is _____ (one word).



Crossword created using the Crossword Maker on TheTeachersCorner.net



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References for Newsletter:
• www.worksheets.theteacherscorner.net/make-your-own/crossword