young nation

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Prabhdeep Lochab making a presentation on how plastics can be recycled. PHOTOS/COURTESY

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As the country braces for the plastic bag ban that takes effect from tomorrow, a Mombasa teenage has developed a concept that will help save the environment from the choking hazard further.

Eighteen-year-old Prabhdeep Lochab, an environmental enthusiast believes since plastic is non-biodegradable, it should be recycled and turned into useful objects.

The ambitious student at the Aga Khan Academy won a gold award at an environmental fair in a competition with his peers from all over the world.

In the project, plastic is used in a concrete-mix for construction of infrastructure that does not require heavy weight bearing like walking paths in parks, homes and other institutions as well as driveways.

"This will help in using up the large quantity of plastics in our environment and therefore saving the lives of millions of animals, both land and aquatic being poisoned by the non-biodegradable waste as well as reducing the effects of global warming caused by burning the plastics," he added.

The plastic-concrete mix is made by mixing cement, shredded plastic, sand and ballast in the ratio of 1: 1.7: 1: 1.3. The ratio will ensure the strength of the mix is not compromised.

Finally a solution to that nagging plastics menace

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Plastic-concrete mix to save the world

The youth obtained these results by carrying out the experiments on four different slabs that validated his experiment.

The strength of the concrete mix decreases as the amount of plastic added to replace sand or ballast increases. However, the decrease in strength is small which means that the mix can still be used where there is no heavy weight-bearing needed.

Lochab, whose ambition is to become an engineer, based his research and findings on Chemistry, Biology and Physics.

Lochab narrated to *Young Nation* how, after classes, he used to mix cement, shredded plastic, sand and ballast in different ratios in order to ensure that the strength of the combination was not affected.

The project was presented before several judges at a competition planned by Golden Climate International Environmental Project Olympiad in conjunction with National Environment Management Authority (Nema).

He emerged the winner among 108 finalists from all categories with regards to environment.

Although he emerged top, his journey to making the project a reality was marred with challenges ranging from rejection to meeting deadlines.

He says were it not for his parents, he would have lost hope at the initial stages.

"I had written several proposals to my supervisor Mr. Godfrey Kokeyo which were rejected. The idea was later approved when I was revising for my examinations and I almost gave up the whole project," he says.

Growing up in Mombasa where disposal of plastic waste is a big problem due to its extremely low biodegradability and presence in large quantities, he wanted to find a solution to the problem.

Lochab says dumping of plastics continues to take its toll on the environment especially on the island.

"All the plastics end up at a dumping site near Makupa course way which has become an environmental hazard. When plastics are burned, they release harmful and poisonous gases which contribute to global warming and are dangerous for our health. I hope the government will use my project to deal with plastic waste," he added.

As for the award, Lochab says he did not expect to win. "I was very surprised and extremely happy when I heard my name called out for the gold award," he recalls. "I did not expect to be in the top ten let alone get silver or bronze. There were many wonderful projects at the venue."

To top it off, he scooped Nema's special award which came along with a Sh15,000 reward.
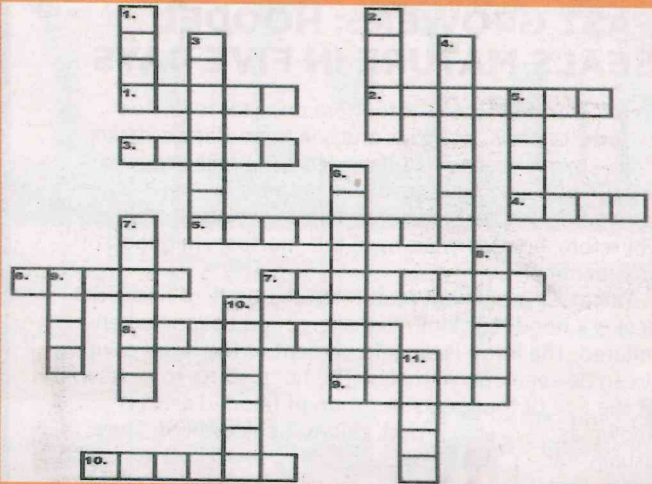
Lochab just hopes the plastics ban will be followed with solutions that will see the environment prosper.

Top: Prabhdeep Lochab with his certificate.
Bottom: Lochab holds a Kenyan flag and his gold awards he won at an international envronmental competition at Light Academy in Nairobi.

PHOTOS/COURTESY

Crossword

ACROSS:

1. A bundle of hay.
2. _____ is to church building while tower is to castle.
3. A small amount of sand.
4. 'To throw _____ in the eyes.' The idiom that means to deceive.
5. Letters that are added to the end of a word to change the meaning of the word.
6. _____ is to pipe while electricity is to wires.
7. The simile, 'as _____ as a swan.'
8. A person whose profession is to repair and fit motor vehicles.
9. A person whose profession is to assist a doctor.
10. The simile, 'as smooth as _____.'

DOWN:

1. The sound made by a snake.
2. A deer-like animal with antlers.
3. The rulers of ancient Egypt who were like kings.
4. Letters added in front of a word to change the meaning of the word.
5. The proverb, 'in for a penny, in for a _____.'
6. The proverb, '_____ is the sincerest form of flattery.'
7. A small amount of light.
8. The sound made by the movement leaves.
9. 'To draw the _____.' The idiom that means to refuse to exceed a point.
10. A large cup or goblet used for drinking wine.
11. A collective term for a large number of cattle.

ORIGIN OF WORDS

PART

Part is a piece of a whole, something that isn't complete. In verb form, the word to part means to divide or remove something. This word comes from the Latin partire or partiri, which means to divide or share among others.

Find your way through the maze

Find the missing piece

A   B   C   D

Easy Sudoku

The rules of Sudoku are quite simple. You are presented with a 6x6 grid of boxes, some empty, and some filled with numbers in the range of 1 to 6. That gives you 2 rows, 3 columns and also 2 larger squares of 2x3 boxes.

The idea of Sudoku is to completely fill the empty grid squares with numbers in such a way that the following conditions hold true:

1) Every row should contain the numbers 1 to 6 but should not repeat the numbers 1 to 6 at any point within that row.

2) Every column should contain the numbers 1 to 6 but should not repeat the numbers 1 to 6 at any point within that column.

3) Every 2x3 square should contain the numbers 1 to 6 but should not repeat the numbers 1 to 6 at any point within that square.