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'Home of the future' is green from top to bottom

Florida couple nails house benefits to the environment

By Elizabeth Caldwell

A Florida couple is building what they say will be the home of the future, one strong enough to withstand hurricanes yet gentle enough to blend in with the environment.

Nonnie Chrystal and her husband, Mark Baker, are calling the house in Indialantic, near Melbourne, "Florida's Showcase Green Envirohome."

It will be outfitted from top to bottom with "green" technology donated by about 40 companies. The couple has spent $200,000 of their own money so far.

"It's quite a unique project," says Pete DeMarco, director of compliance engineering at American Standard, which will furnish EPA WaterSense-certified low-flow toilets and shower heads.

The couple plans to open their home to the public in January in hopes builders will use their work as a template for other such structures. They also will live in the home to "test-drive" the technologies.

One of those technologies is gray water recycling. Gray water is any water in a home that is not used in a toilet. And the structure's metal roof is designed to capture more rainwater than conventional construction. Rain and gray water will be collected and used in lawn maintenance and toilet flushing.

"It's a great project to demonstrate conservation of water," says Marty Wanielista, director of the University of Central Florida's Storm Water Management Academy, which designed the system.

Parts of the roof will be covered with soil and planted with native plants, such as heliotrope and lemon bacopa, to provide natural temperature control, Chrystal says.

Solar-powered air conditioning and recycled pavement made from used tires, allowing water to drip through, also will be used.

The six-bedroom, five-bath home was designed and contracted by Baker, a construction industry veteran.

He will use spray foam and structural insulated panels that lock together and are reinforced with steel. He plans to make the home resistant to 175-mph winds. Winds 155 mph and higher are characteristic of a Category 5 hurricane.

The idea for the house was born in 2004 when Baker's mother lost her home to water damage from Hurricane Frances.

When Baker and Chrystal decided to replace the destroyed house, the resources they tapped included consumer information provided by the Department of Energy and the Environmental Protection Agency.

To help defray costs, Chrystal and Baker have taken advantage of programs such as Florida Water Star and Florida Power and Light's Build Smart project. These programs offer incentives to homebuilders who follow environmental guidelines designed to conserve water and power.

Their ultimate goal is to show people they can save money and the environment. "Missouri is the Show Me state, so when someone from Missouri comes through and says show me, we can," Chrystal says. "It's our passion."

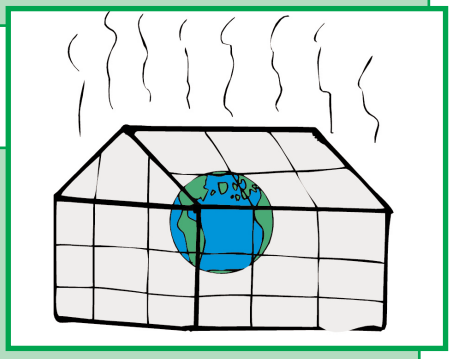
'Green' features include...

1. Soil-covered roof garden will cool the home in the summer, warm it in winter.
2. Solar panels will power the air conditioning and water heater.
3. The driveway will be made from recycled tire rubber through which water can flow.
4. Structural panels reinforced with steel will provide resistance to high winds.
5. Interior features include low-flow toilets and shower heads.
6. Interior paint is fire retardant and incorporates insulation and heat reflectivity.

For more information: www.fsge.net.

DISCUSSION

- How would you describe "green" technology in your own words?
- Why is "green" technology getting more attention these days?
- Is the cost of "green" technology cited in the article worth the money? If so, how would you convince more people to use the technology when building new houses or other structures? If not, what is the downside of not going "green"?
- How are local, state, and federal governments responsible for supporting or not supporting "green" technology?
- In what other ways can people go "green"?
- How is the "green" technology referenced in this article related to what you have been hearing about global warming?



ACTIVITY

- With a partner, go to the "Florida's Showcase Green Envirohome" website at www.fsge.net. Review the website for details about Mark Baker and Nonnie Chrystal.
- Discover what three events in their lives led them to explore building with "green" technology. Write them down.
- Then, decide if you would have come to the same conclusions if you had experienced the same events. Why or why not?
- Return to the website and find three pieces of information about building "green." Write them down.
- Discuss and research the meaning of the phrase "taking responsibility for their footprint." Then, write a paragraph that explains what it means and how the two of you can take responsibility for your footprints.
- Share your notes and paragraph with the class.

Introduction: Identifying main ideas can be easier if you think of them as different "categories" of information, and finding important details is simpler if you focus on specific examples for each main idea category. This graphic organizer will help you organize information you discover in the USA TODAY article "Home of the future is green from top to bottom." The first column identifies three "main idea" categories from the article. The fourth "main idea" category is for you to identify. In each "Main Idea" category box add important information that you discover about it as you read the article. Then, in the second column, write down two examples for each category. Organizing your reading in this way will help you better understand the "green" technology the article discusses.

"Main Idea" Categories	Specific Examples from the Article
Water usage	1. 2.
Temperature control	1. 2.
Weather resistant features	1. 2.
Other: _____	1. 2.

Reflect and apply: How might this graphic organizer be useful as you read texts in other classes or on standardized tests?