# Directions Read this article. Then answer questions 41 through 43.

This article is about a proposed Swedish law to lower the cost of repairing appliances. The article asks whether repairs are the best solution to appliance problems.

## Don't Fix Your Fridge, Just Buy a New One

by Michael Le Page

- In general, if running a machine uses a lot more energy over the years than it takes to manufacture it, replacing it regularly may reduce energy consumption. Fridges, air conditioners, televisions and, yes, washing machines typically take far more energy to run than to make.
- Why is it better to replace these machines rather than repair them? Two reasons. Firstly, stricter regulations and improving technology mean newer appliances are usually more energy efficient than older ones.
- 3 The second, less appreciated reason is that as components wear out, energy consumption can rise by 50 percent or more. That means even replacing a fridge, say, with an identical but brand new model can be better than hanging on to the old one.
- In other words, after a certain number of years replacing a machine will mean lower emissions<sup>1</sup> than continuing to use it. How long is too long? A 2006 study concluded that the "optimum replacement cycle" for a fridge ranged from 11 years to as little as two years. Two years!
- Of course, much depends on the make of machine, how you use it and what you replace it with. Clearly, replacing a 20-inch television with a 40-inch one won't reduce emissions even if the new one is far more efficient. Whether your appliance ends up in a landfill or is recycled also matters. And to complicate matters further, the low energy consumption levels claimed by some manufacturers may be misleading.
- People are also inclined to replace non-power tools such as rakes and hand saws with leaf blowers and power saws. That's obviously going to increase emissions. I've tried to go in the opposite direction, swapping an electric lawnmower for a muscle-powered push mower, and found it far more convenient—plus I get a free workout.

- It should also be stressed that many machines, from bicycles to kitchen mixers and power drills, are indeed worth repairing, because it takes far more energy to make them than to run them. So if Sweden does manage to boost repair rates, it's hard to predict the overall impact on emissions.
- What is clear is that instead of the proposed blanket reduction on taxes on repairs, it would be better to exclude certain appliances like fridges. Yes, this would make the legislation more complex and harder to explain to the public. But that's just how it is.

<sup>&</sup>lt;sup>1</sup>emissions: gases that machines send into the air

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types of machines? U	se <b>two</b> details fror	n the article to s	upport your resp	onse.
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## **Shapes in the Sand**

1 If you've ever gone to the seaside, you may have walked through hills of sand to reach the water. But even if you've never visited the shore, you still might notice large mounds of sand in movies or television programs about beaches or deserts. These hills are sand dunes, and they are more interesting and varied than most people realize.

#### **How Sand Dunes Form**

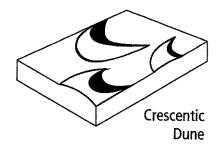
- 2 Sand dunes vary considerably in size and shape. They may be just several feet across or several miles long. A beach or desert may contain many sand dunes or merely one. Dunes form in different shapes and in various places because they are composed of different types of sand particles and affected by varying wind and weather conditions.
- 3 Dunes are formed by wind blowing grains of sand. Sometimes the wind lifts and carries the sand, transporting it by suspension. At other times, the wind makes the sand "hop" or "skip" close to the ground. This skipping movement is called saltation. Particles too heavy to be lifted by the wind may creep or tumble across the surface. Often, vegetation will catch and hold the sand, and the grains will accumulate around the grass or shrub, quickly forming a sand dune.
- 4 Dunes have two principal surfaces: the upwind side and the slipface, the loose side that faces away from the wind. Movement occurs on the upwind side when the particles of sand pile up and trickle over the top, forming the slipface and advancing the dune. Dunes may have multiple slipfaces, which are usually steeper than the windward side of the dune. Landslides or avalanches of the slipface, which occur as more sand is piled on the summit, cause the dune to move slowly in the direction the wind is traveling.

#### **Sand Dune Shapes**

- 5 Geologists, scientists who study the physical formation of the earth, categorize sand dunes into five fundamental shapes: crescentic, linear, star, dome, and parabolic.
- 6 Crescentic dunes are the most common variety found on Earth. These dunes, which are formed by wind traveling in one direction, are wider than they are long. Crescents are curves.

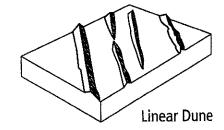
#### **Residents of Sand Dunes**

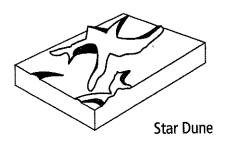
- 13 Though sand dunes may seem dry and barren, many diverse life-forms thrive in these habitats. Drought-resistant plants have adapted to store and conserve water, and others grow very long roots that tap into moisture far below the ground. Small rodents dig connecting burrows in the sand, and many varieties of snakes, lizards, and insects find shelter in the sand dunes.
- 14 In 2009, scientists discovered a new species of spider living in dunes in the Sands of Samar in Israel. The biologists were concerned because sand quarrying and agricultural developments were reducing the size of the desert environment in which the spider lives. Though scientists had just begun to study this nocturnal spider, they already had discovered that the resourceful arachnid, named *Cerbalus aravensis*, burrows in the dunes and glues together sand to form a door to camouflage its den. This just shows that you never know if something amazing might be lurking just below the sand's surface.

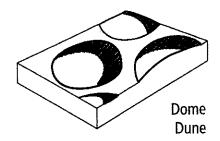


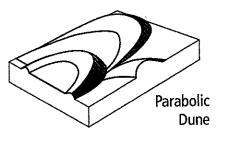
like the letter *C*. The concave, or inside curve, is the slipface. Scientists have found that some crescentic dunes in China and Egypt move more than the length of a football field annually. Some of these dunes in China are extremely large—almost two miles from crest to crest. Not only is this type of dune the most common on our planet, but it is also the most common sand formation on the planet Mars!

- 7 Other times, the wind creates dunes of straight or slightly wavy ridges. These linear dunes, which might be nearly a hundred miles long, may form as a single ridge or as parallel ridges miles apart. The dunes, which may join and become *y*-shaped, are often formed where the wind moves in opposite directions.
- 8 Star dunes, also called *radially symmetrical* dunes, resemble pyramids at their center. When viewed from above, they resemble starfish, with several arms stretching away from the mound in the center. Star dunes—which are usually found where the wind moves in many directions, such as the Sahara Desert—tend to grow higher rather than wider. Some star dunes, such as those in the Badain Jaran Desert in China, may be more than 1,500 feet high.
- 9 The dome dune is an uncommon type of sand dune. These round or oval dunes usually don't have slipfaces. Dome dunes, which are frequently located in wide valleys, have been found in the northern Sahara Desert, parts of China, and the Arabian Peninsula. Researchers believe these dunes have not moved much because human settlements between the domes frequently remain in place for long periods. Because they are generally broad, they often are close together and may interconnect, with shallow trenches forming between the domes.
- 10 Parabolic dunes are severely curved, U-shaped mounds. They are often found in coastal deserts and are also called blowout, hairpin, or U-shaped dunes. The long "arms" of the dune are usually caused by vegetation that holds onto the sand; as wind pushes the main part of the dune forward, some sand lags behind, making the arms become progressively narrower and lower. In time, these arms dwindle to nothing. Scientists have measured the trailing arms and discovered some more than seven miles long.









#### **Other Variations**

- 11 Not all dunes fit clearly into one of the above categories; in fact, some dunes are much more difficult to classify. Sometimes one dune will form on top of another, or a dune will consist of two or more shapes. These unusual variations are often caused when wind intensity and direction vary.
- 12 Now, the next time you visit the seashore or see pictures of a beach or desert, you may be able to recognize some of the sand formations you see and better appreciate the natural processes that created them.

- How do the illustrations help the reader understand the article?
  - A They show how winds create variations of common sand dunes.
  - B They show what the most common types of sand dunes look like.
  - They explain how sand dunes move from one location to another.
  - ① They explain why different types of sand dunes form in certain areas.
- How does the author help the reader understand the idea that sand dunes move?
  - A by describing areas where dunes form
  - B by explaining how the wind carries the sand
  - © by showing which weather conditions shift the sands
  - (D) by comparing the distance some dunes travel to a football field
- Read this sentence from paragraph 6:

Not only is this type of dune the most common on our planet, but it is also the most common sand formation on the planet Mars!

Based on the information in the article, what could the reader conclude about Mars?

- A There is a lot of vegetation on Mars.
- B There are many wide valleys on Mars.
- The winds on Mars move in one direction.
- ① The winds on Mars move in opposite directions.

- 18
- Which sentence **best** supports the idea that sand dunes are an important part of the environment?
- (A) "These hills are sand dunes, and they are more interesting and varied than most people realize." (paragraph 1)
- (B) "Often, vegetation will catch and hold the sand, and the grains will accumulate around the grass or shrub, quickly forming a sand dune." (paragraph 3)
- © "Drought-resistant plants have adapted to store and conserve water, and others grow very long roots that tap into moisture far below the ground." (paragraph 13)
- © "Small rodents dig connecting burrows in the sand, and many varieties of snakes, lizards, and insects find shelter in the sand dunes." (paragraph 13)
- 19

Read this sentence from paragraph 13 of the sidebar:

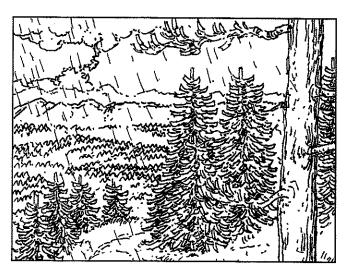
Though sand dunes may seem dry and barren, many diverse life-forms thrive in these habitats.

As used in paragraph 13 of the sidebar, the word "diverse" is closest in meaning to

- (A) ancient
- (B) distinct
- © simple
- (D) unusual

# A Very Unpleasant Night

- 1 My friend Greg, looking toward the dashboard, said that he had a bad feeling about our prospects. I thought he was indicating the road in front of us, which was barely even a trail through the woods, over which the car bumped and thumped heavily. He was actually talking about the fuel gauge, however, which, as he pointed out, was tottering on the "E"—for "Empty."
- 2 First, we had to end our camping trip early because of the heavy rains, and then we got lost on the rough paths through the hills, and now we're running out of gas! I couldn't believe our collective misfortune as the engine, choked by thirst, finally stopped running. We were out of gas and stranded, at night, in the endless, drenching rain.
- 3 Greg, my other friends Jamal and Kareem, and I had little idea what to do but look at one another in vexation. I got out of the car to check if any gasoline was left in our emergency can, but it was bone dry. Meanwhile, Greg tried to call for a tow truck, but none of us had phone reception in these deep woods. I returned to the car and announced that one of us would have to take the map and lantern and find a way to town to get more gas.
- 4 Greg clearly did not feel up to the task, reminding us that he had a sore back from cutting firewood the previous evening. Jamal had not slept well and was too tired to walk, and Kareem was just getting over the flu and did not want the cold, wet rain to bring on a relapse. In truth, I didn't want to take the journey either, but I knew it had to be done. Someone had to suffer through it, and instead of making everyone go and suffer



together, or making someone go unwillingly, I reluctantly agreed.

- 5 Tossing on a raincoat and hoisting the big waterproof camping lantern, I stepped out of the car and directly into an enormous puddle. Immediately muddy rainwater seeped into my boots, and that was just the first step! I used the map to find my way out of the woods in a relatively short time, but every step was difficult and distinctly unpleasant. The rain poured incessantly, soaking me completely despite the raincoat, while mud spattered up to my hips. Worse, a chilly night wind set in, making me start to sneeze.
- 6 Still, I accomplished my mission, and returned by early morning with a can full of the badly needed gasoline. We fueled up the car and were driving homeward within moments. Looking around, my friends looked happy and healthy and I was a mess—but I felt happy that, through my own sacrifice, I'd helped three of my friends avoid a very unpleasant night.

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character to t	in the story rev the reader? Use	real aspects of two details fr	Prometheus's om the story	s to	
support your	response.				



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### **Home**

By Gwendolyn Brooks 1953

Gwendolyn Brooks (1917-2000) was an American poet, author, and teacher. In 1950, she was awarded the Pulitzer Prize for Poetry, which made her the first African-American woman to receive the honor. Her writing often explores the experiences of ordinary people and their communities. In this short story, a family contemplates losing their house. As you read, take notes on each character's perspective on losing the house.

[1] What had been wanted was this always, this always to last, the talking softly on this porch, with the snake plant in the jardinière<sup>1</sup> in the southwest corner, and the obstinate<sup>2</sup> slip from Aunt Eppie's magnificent Michigan fern at the left side of the friendly door. Mama, Maud Martha, and Helen rocked slowly in their rocking chairs, and looked at the late afternoon light on the lawn and at the emphatic<sup>3</sup> iron of the fence and at the poplar tree.<sup>4</sup> These things might soon be theirs no longer. Those shafts and pools of light, the tree, the graceful iron, might soon be viewed passively by different eyes.

Papa was to have gone that noon, during his lunch hour, to the office of the Home Owners' Loan. If he had not succeeded in getting another extension, they would be leaving this house in which they had lived for more than fourteen years. There was little hope. The Home Owners' Loan was hard. They sat, making their plans.



<u>"#rocking #chairs #front #porch #springlake"</u> by Matt Sudol is licensed under CC BY-NC-ND 2.0.

"We'll be moving into a nice flat somewhere," said Mama. "Somewhere on South Park, or Michigan, or in Washington Park Court." Those flats, as the girls and Mama knew well, were burdens on wages twice the size of Papa's. This was not mentioned now.

"They're much prettier than this old house," said Helen. "I have friends I'd just as soon not bring here. And I have other friends that wouldn't come down this far for anything, unless they were in a taxi."

- [5] Yesterday, Maud Martha would have attacked her. Tomorrow she might. Today she said nothing. She merely gazed at a little hopping robin in the tree, her tree, and tried to keep the fronts of her eyes dry.
  - 1. French for "planter"
  - 2. Obstinate (adjective): stubbornly refusing to change
  - 3. Emphatic (adjective): attracting special attention
  - 4. a type of quick-growing tree



"Well, I do know," said Mama, turning her hands over and over, "that I've been getting tireder and tireder of doing that firing. From October to April, there's firing to be done."

"But lately we've been helping, Harry and I," said Maud Martha. "And sometimes in March and April and in October, and even in November, we could build a little fire in the fireplace. Sometimes the weather was just right for that."

She knew, from the way they looked at her, that this had been a mistake. They did not want to cry.

But she felt that the little line of white, sometimes ridged with smoked purple, and all that cream-shot saffron<sup>5</sup> would never drift across any western sky except that in back of this house. The rain would drum with as sweet a dullness nowhere but here. The birds on South Park were mechanical birds, no better than the poor caught canaries in those "rich" women's sun parlors.

[10] "It's just going to kill Papa!" burst out Maud Martha. "He loves this house! He lives for this house!"

"He lives for us," said Helen. "It's us he loves. He wouldn't want the house, except for us."

"And he'll have us," added Mama, "wherever."

"You know," Helen sighed, "if you want to know the truth, this is a relief. If this hadn't come up, we would have gone on, just dragged on, hanging out here forever."

"It might," allowed Mama, "be an act of God. God may just have reached down and picked up the reins."

[15] "Yes," Maud Martha cracked in, "that's what you always say — that God knows best."

Her mother looked at her quickly, decided the statement was not suspect, looked away.

Helen saw Papa coming. "There's Papa," said Helen.

They could not tell a thing from the way Papa was walking. It was that same dear little staccato<sup>6</sup> walk, one shoulder down, then the other, then repeat, and repeat. They watched his progress. He passed the Kennedys', he passed the vacant<sup>7</sup> lot, he passed Mrs. Blakemore's. They wanted to hurl themselves over the fence, into the street, and shake the truth out of his collar. He opened his gate — the gate — and still his stride and face told them nothing.

"Hello," he said.

[20] Mama got up and followed him through the front door. The girls knew better than to go in too.

Presently Mama's head emerged. Her eyes were lamps turned on.

"It's all right," she exclaimed. "He got it. It's all over. Everything is all right."

- 5. an orange to orange-yellow
- 6. short, quick, and separate
- 7. Vacant (adjective): not filled, used, or lived in



The door slammed shut. Mama's footsteps hurried away.

"I think," said Helen, rocking rapidly, "I think I'll give a party. I haven't given a party since I was 11. I'd like some of my friends to just casually see that we're homeowners."

"Home" from Maud Martha by Gwendolyn Brooks. Copyright © 1953. Reprinted by Consent of Brooks Permissions. All rights reserved.



### **Text-Dependent Questions**

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following identifies a theme of the text?

[RL.2]

- A. Homes provide physical and emotional security for families.
- B. While change can be frightening, it also creates a chance for growth.
- C. The stress of waiting for bad news can be worse than the bad news itself.
- D. Families are stronger when everyone shares their true feelings.
- 2. PART B: Which detail from the text best supports the answer to Part A?

[RL.11

- A. "They're much prettier than this old house,' said Helen. 'I have friends I'd just as soon not bring here." (Paragraph 4)
- B. "'It's just going to kill Papa!' burst out Maud Martha. 'He loves this house! He lives for this house!" (Paragraph 10)
- C. "if you want to know the truth, this is a relief. If this hadn't come up, we would have gone on, just dragged on, hanging out here forever." (Paragraph 13)
- D. "I think I'll give a party. I haven't given a party since I was 11. I'd like some of my friends to just casually see that we're homeowners." (Paragraph 24)
- 3. PART A: What does the possibility of losing their home reveal about Maud Martha [RL.6] and Helen's points of view?
  - A. Helen focuses on the benefits of finding a new home, while Maud Martha can't help but think of everything they'll lose.
  - B. Helen is excited to leave their home for a new and better one, while Maud Martha is convinced they will never find something that compares.
  - C. Helen is reluctant to leave their home, while Maud Martha is somewhat embarrassed by the current state of their home.
  - D. Helen wants to leave their home because she is not attached to it, while Maud Martha is solely concerned about the effect it will have on their father.
- 4. PART B: Which TWO quotes from the text best support the answer to Part A?

[RL.1]

- A. "And sometimes in March and April and in October, and even in November, we could build a little fire in the fireplace. Sometimes the weather was just right for that." (Paragraph 7)
- B. "She knew, from the way they looked at her, that this had been a mistake. They did not want to cry." (Paragraph 8)
- C. "'It's just going to kill Papa!' burst out Maud Martha. 'He loves this house! He lives for this house!" (Paragraph 10)
- D. "He lives for us,' said Helen. 'It's us he loves. He wouldn't want the house, except for us." (Paragraph 11)
- E. "if you want to know the truth, this is a relief. If this hadn't come up, we would have gone on, just dragged on, hanging out here forever." (Paragraph 13)
- F. "I think I'll give a party. I haven't given a party since I was 11. I'd like some of my friends to just casually see that we're homeowners." (Paragraph 24)



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