
# New York State Testing Program

# English Language Arts Test
## Book 3

## Grade 8

January 16–19, 2007

Name _____

49161

## TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Be sure to read carefully all the directions in the test book.
- Plan your time.
- Read each question carefully and think about the answer before writing your response.

This test asks you to write about what you have listened to or read.
Your writing will NOT be scored on your personal opinions. It WILL be scored on:

- how clearly you organize and express your ideas
- how accurately and completely you answer the questions
- how well you support your ideas with examples
- how interesting and enjoyable your writing is
- how correctly you use grammar, spelling, punctuation, and paragraphs

*Whenever you see this symbol, be sure to plan and check your writing.*

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# Book 3

## Reading and Writing

### *Directions*

**In this part of the test, you are going to read an article called "This Car Runs on Thin Air!" and an article called "Clothes Washer and Dryer." You will answer questions 31 through 34 and write about what you have read. You may look back at the articles as often as you like.**

***Go On***

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# This Car Runs on Thin Air!

*by Nick D'Alto*

Can noncombustion technology create a no-pollution way to drive? Imagine pulling into a service station to fuel up your car. But not at the gas pump or electric battery charger—at the *air* pump! That's not hot air, either! The next generation of cars may run on thin air. Wouldn't that be an incredible way to cut both pollution and dependence on foreign oil?

If you've ever inflated a balloon and then let it go, you've got the basics to test-drive the amazing MiniCAT, currently being developed by Moteur Développement International (MDI), headquartered in Luxembourg. Invented by Formula One racing car designer Guy Nègre, this experimental vehicle is unlike any car you've ever seen. While your family's traditional sedan or SUV draws its horsepower using combustion (flammable gasoline explodes inside the engine's cylinders), the only fuel that MiniCAT needs (CAT stands for Compressed Air Technology) is the air we breathe.

Start with about 25,000 gallons of air (enough air to fill a small house). Now, squash it all into a space smaller than your school locker—because that's the size of two super-strong, high-pressure air tanks, custom-fabricated from exotic, spun-carbon fiber and mounted beneath the air car.

Talk about a tight squeeze! Confining that much air inside those little tanks (it's done using special compressors) generates an internal pressure of over 4,000 pounds per square inch. That's over 300 times normal air pressure.

When this cold, high-pressure air enters MiniCAT's unique, multichambered engine, it interacts with warmer air to create pressure waves that pump the engine's ingeniously engineered pistons to propel the car. MiniCAT's projected top speed is 60 miles per hour, with a range of 120 miles on a full air supply.

piston = a solid cylinder or disk that fits snugly into a larger cylinder and moves under fluid pressure



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And pollution? Traditional internal combustion engines spew out carbon monoxide and other poisonous hydrocarbons, producing smog that is dangerous to human health and greenhouse gases that contribute to global warming. MiniCAT's only exhaust is air—filtered so that it's cleaner than the air we breathe. This negative contamination (called "minus pollution") marks a revolutionary advance. While driving an ordinary car increases pollution, driving a MiniCAT actually cleans the atmosphere. That's not just zero pollution—it's even better!

Because there's no fuel burned, this car's air-exhaust comes out cold—so cold, at minus 22 degrees F, that you can blow it *inside* the car to produce no-cost air conditioning! In fact, this car's advanced, four-cylinder engine runs so clean that it's lubricated using just three and a half cups of vegetable oil! (Like you'd put in a salad—just change it every 30,000 miles!) The air car engineers are also experimenting with Earth-friendly body panels made from natural hemp fiber and mounted on an aircraft-inspired aluminum chassis.

Are you ready to take a test drive?

With no combustion (explosions) in the engine's cylinders, MiniCAT's ride is extremely quiet. Need to slow down for a curve? MiniCAT's brakes reduce the car's speed—but they also refuel the car! Called "regenerative braking," this works by absorbing the energy of the car's forward motion to operate a pump that raises the pressure in the air tanks. That extra pressure later helps run the car. Stop at a red light, and the engine literally stops, too—another feature to conserve power. The really cool part is the engine's automatic and instantaneous restart when you step on the gas pedal.

When it's time to refuel, just pull into an air station—where in three minutes, via a high-pressure hose, simply plug MiniCAT's onboard electric air compressor into an ordinary wall socket (like running a tire pump from your car's cigarette lighter). Projected cost to fill your tank? About two dollars—or 1.6 cents per mile.

***Go On***

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**31** In the chart below, name two everyday objects the author uses as examples to explain how the MiniCAT works. Then describe how the author uses the examples.

| | Everyday object | How the author uses the object to explain information in the article |
|---|---|---|
| 1. | | |
| 2. | | |



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**32** Read this sentence from the article "This Car Runs on Thin Air!"

**That's not just zero pollution—it's even better!**

Explain how the author supports this statement. Use details from the article to support your answer.

*Go On*

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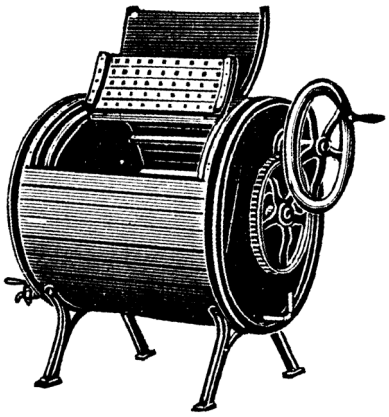

# Clothes Washer and Dryer

*by Don L. Wulffson*

Question: How did the Pilgrims wash their clothes during their voyage to America? Answer: The same way it had been done at sea for centuries. They placed their dirty laundry in a strong cloth bag, tossed it overboard, and dragged it behind the ship for hours. It worked pretty well, and did what washing machines today do: it forced water through the clothes while tumbling and turning them every which way.

During the 1800s, all sorts of hand-operated washers were invented. The first was a wooden barrel and a device called a dolly, a big plunger that was pushed up and down by hand. Next, around 1860, came "the box." Soap, water, and laundry were put into a sealed wooden box held between two support beams and turned around and around by means of a hand crank. In 1884 a man named Morton invented one of the best of the hand-operated devices. "It is so easy to work," Morton boasted in an early advertisement, "that a child can wash six sheets in fifteen minutes!"

In 1914, electric motors were introduced, finally putting all the hand cranking to an end. At first, these motors were fitted right under the tub, with their inner workings exposed. Water from the washer dribbled down into them, frequently giving the operator a paralyzing shock. "My hair stood on end and me eyeballs almost shot out of me head," a woman of the era wrote in her diary.

In the 1920s, mechanical tubs were introduced, and the washing machine as we know it had finally come to be. To prevent shocks, the motor was kept apart from the tub and was fully enclosed.

The first dryer was a fairly worthless contraption. Called the "Ventilator," it was invented in 1800 by M. Pochon of France. Damp, hand-wrung clothes were dumped into a cylindrical metal drum pierced with holes, and as a handle was turned, the drum rotated


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above an open fire. Depending on the size of the fire, the clothes either took forever to dry or burned, and they always stank of soot and smoke.

J. R. Moore invented the first successful electric dryer in the 1930s. Moore sold his invention to the Hamilton Company in Wisconsin, who called in industrial designer Brooks Stevens to help redesign the machine. Stevens came up with the idea for a window in the dryer's door so that consumers would know what the machine was for. He advised the company to display the window-type dryer in stores with a "pair of boxer shorts flying around in there."

Despite the fact that the dryers worked, and despite the flying shorts, sales were poor. Not until the early 1960s did they really catch on, and people began abandoning their clotheslines in favor of mechanical dryers.

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**33** Based on information in the article "Clothes Washer and Dryer," explain why improvements in clothes washers and dryers were necessary for **safety** reasons. Use details from the article to support your answer.

*Go On*

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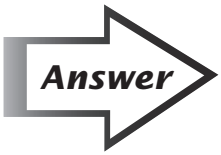
## *Planning Page*

**You may PLAN your writing for question 34 here if you wish, but do NOT write your final answer on this page. Your writing on this Planning Page will NOT count toward your final score. Write your final answer on Pages 9 and 10.**



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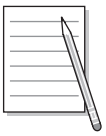
**34** Write an essay in which you describe the benefits of a car that can run on air, and the benefits of the clothes washer and clothes dryer. In the essay, include your opinion of which invention might have the greater impact on people's lives and why. Use details from **both** articles to support your answer.

In your answer, be sure to
- describe the benefits of the inventions
- include your opinion of which invention would impact people more and why
- use details from both articles to support your answer



Check your writing for correct spelling, grammar, and punctuation.

***Go On***

STOP



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