

The Vending Miser Experiment

From the students of Mr. Whitten's Lab
Biology B second period class

Experimental Procedures

Experimental Procedure

We, the students of 2nd period Biology at Nokomis Regional High are going to take the following steps to attempt to save money at our school.

1. Conduct research on vending misers. How do they work?
2. Collect baseline data on one vending machine in the school.
3. Collect data on one vending machine with vending miser installed.
4. Compute the Payback period.
5. Determine how much money school will save each year if the school. Purchased and installed the product on all vending machines after payback period.
6. Create slideshow presentation.
7. Present to school board and faculty.

What is the Vending Miser?



The Vending Miser is a machine that is hooked to the back of the refreshment machines and is turned on when a person is in the same room, but after a few minutes with no body there, the Vending Miser will turn the compressor off and this will help to save energy.

We here at Nokomis Regional High, are trying to get data for all our districts vending machines. Hopefully this project will save the district electricity and money in the future.

How have previous schools done with the Vending Miser?

One of our students in our class, called up Stephanie Arsenault, and asked how much money other schools have saved with their Vending Misers.

We found out that none of the other schools had done their work right, and that her information indicated that the schools should have been saving more money than that of which they said. When we gave a report on ours she said we were doing very well.

GO NOKOMIS REGIONAL HIGH!!

Information on the Vending Miser

Thus far we found out that, without the vending miser in the teachers room downstairs we would be using 2803.2 KWH per year.

By putting the Vending Miser on this machine we would be able to save 1743.24 KWH per year.

That is a significant difference in just one year, saving us 1059.97 KWH. This savings is \$94.64.

We did the same experiment on a newer machine in the cafeteria. We found that it would be using 2950.7 KWH per year without the Vending Miser, but with, it would be using 2628 KWH per year. Saving us about \$28.81 dollars. Paying off the Vending Miser in 6.3 years.

Why would Nokomis Regional High want the Vending Miser?

Mr. Whitten's second period class has been studying the Vending Miser for almost 12 days.

Without the Vending Miser on one of our refreshment machines, we would be spending \$250.17, that is too much money for just one.

With the Vending Miser we would be saving \$94.60. In two years we would be able to pay off the cost of the Vending Miser and start saving.



District Savings

In the entire district we have eight schools.

1. Corinna Elementary
2. Newport Elementary
3. Palmyra Elementary
4. St. Albans Elementary
5. Hartland Consolidated
6. Seabrook Valley Middle School
7. Somerset Valley Middle School, and
8. Nokomis Regional High

Throughout the entire district we have only 11 refreshment machines. We've estimated that if we put a Vending Miser on each one of the schools machines we would save an overall amount of \$1,040.60.

Review of Vending Miser

So to review,

- The Vending Miser is a machine that turns the compressor in a refreshment machine on and off.
- By using the Vending Miser we will be able to save an estimated \$94.60 on just one refreshment machine, in the second year of using the Vending Miser we will be able to pay it off.



One of the Vending Machines in the Cafateria