

## Waste Reduction Campaign

### Planned Expenditures

- Materials and supplies for our power saving initiative (i.e. light bulbs, motion sensors, power strips, etc.).
- Vermicomposting supplies for small scale tests in science class and a larger scale system for use in the cafeteria.
- Supplies for publicizing our energy saving and vermicomposting programs.
- Planting and gardening supplies for Native American Garden Activity.
- Reusable lunch bags for team/school activity to reduce lunch garbage waste.

### Our Goals

As a team, we will be identifying sources of waste in our school devising a campaign to:

- Reduce electricity usage in our school using power saving initiatives.
- Reduce food and trash waste in our cafeteria using vermicomposting.
- Develop an activity on Native American gardening to demonstrate organic agriculture.

### Process

Using all four disciplines, the students will study the environmental impact of our school and implement changes to address those concerns.

In each class, the students will use the following steps to address issues raised:

- Identify a Problem
- Gather Information
- Brainstorm Solutions
- Take Action
- Measure Progress

### Social Studies Lesson #1 (Identify the Problem)

**Objective:** What is a campaign?

**Activity:** The students will study historical examples. Clean Water Act? What are the components of an effective campaign?

Examples: Military Campaign – Pearl Harbor Attack – walk students through the 5 steps as would pertain to this military campaign.

Clean Water Act – Students will read handout on Clean Water Act

(<http://www.epa.gov/region5/water/cwa.htm>) and identify which of these five steps were followed in the creation of this law.

Step 1 - Identify a problem – Review our upcoming HW assignments that identify sources of waste in our schools.

Step 2 - Gather Information – Discuss possible sources for information on issues we will raise. Where could you go to find out background information?

Step 3 - Brainstorm solutions – How do we generate possible solutions.

Step 4 - Take Action – What do you do to create the change that you want to see? i.e. gather attention for the cause, implement changes such as legislation, community action, rules, education...

Students will examine the website for the Green Schools Initiative.

<http://www.greenschools.net/report/index.html>

How to organize to pass a school board resolution and create a blueprint for a healthy and sustainable school? <http://www.greenschools.net/action.html>

Step 5 - Measure Progress

Postings available – a good place for student to respond and describe what they have done? <http://www.edutopia.org/sage-advice-how-green-classroom>

HW: Waste Survey

### **Social Studies Lesson (Gather Information)**

**Objective:** What are the sources of “waste” in our school? How can those sources be reduced or eliminated?

**Activity:**

Step 1) For a previous HW assignment, students record an exact list of EVERY piece of waste they create in one 24 hour period. Students will share and discuss those results.

What is the main source of waste in our individual lives? What do we discard?

Compare our findings to English study on what is thrown away.

[http://news.bbc.co.uk/1/hi/english/static/in\\_depth/world/2002/disposable\\_planet/waste/wee ks\\_waste/default.stm](http://news.bbc.co.uk/1/hi/english/static/in_depth/world/2002/disposable_planet/waste/wee ks_waste/default.stm)

Create a “Waste Footprint” that visualizes what was left behind.

Follow steps to analyze your waste footprint:

<http://www.sustainablefootprint.org/en/cms/gebruikerscherm.asp?itemID=196>

Discuss quantities and types of waste created. View statistics on waste reduction at the state level. Pennsylvania Example: (Specific reference to poundage per person)

<http://www.dep.state.pa.us/dep/deputate/airwaste/wm/RECYCLE/FACTS/reduce.htm>

HW: School Waste Survey - For a homework assignment, the students will survey their school and came up with individual lists of three key areas of waste they see day-to-day. The students will share those observations and each class will come up with a comprehensive list of key sources of waste. Class discussion: Which areas of waste are most important to address? Which areas of waste would we have the power to influence? Create a list

Focus students on these three areas:

1 - Power usage!

2 - Garbage amount in cafeteria?

Follow up lesson: Share lists and create a unified list of areas of waste.

### **Social Studies Lesson (Take Action)**

**Objective:** Create a power saving campaign for the month of February.

**Activity:** Examine with students the districts initiative on cutting energy costs. What could be changed or added? Look at materials available in conference room and create a plan to distribute what's there.

Discuss what power we have to change our power usage in the school.

Small Group Research – Find out how schools and business save on power costs.

Computer lab research. Report back to class.

**Activity:** Distribute Informational Materials to classrooms throughout the school on energy saving.

### **Math Lesson (Gather Information)**

**Objective:** The students will calculate energy costs per student and compare that amount to other school's costs. (Find a green school example - Toms River) What are the monthly power costs for the school? Obtain and examine previous year's bills.

### **Science Lesson**

Design and build a sample vermicomposter for our cafeteria food waste. Purchase supplies and a dedicated food waste only bucket. Organize a schedule to empty the bucket into vermicomposter.

**Objective:** How can we use composting to reduce food waste in our cafeteria?

Research vermicomposting: [http://cahe.nmsu.edu/pubs/\\_h/h-164.pdf](http://cahe.nmsu.edu/pubs/_h/h-164.pdf)

<http://www.nyworms.com/vermicomposting.htm>

**Activity:**

Review composting process.

Students Gather materials and construct test vermicomposting bins.

Create compost buckets and larger scale vermicomposting bins for use in the cafeteria.

Produce and distribute education materials for cafeterias.

### **Language Arts Lesson (Take Action)**

**Objective:** How do you get permission to carry out changes to school programs?

Draft a proposal to Ms. Mahoney outlining our ideas and asking permission to proceed.

### **Social Studies Lesson – Native American Gardens (Take Action)**

**Objective:** How can Native Americans agricultural techniques be combined with renewable and organic gardening techniques to create an effective garden using school cafeteria compost.

Part 1 – What was Native American agriculture like?

<http://www.pathtofreedom.com/pathproject/gardening/threesisters.shtml>

Part 2 – Design a Native American garden that combines our supply of compost with traditional techniques and crops.

**Step 5 – Measure Progress**

**Math Lesson** – The students will compare power usage to previous years. What percentage reduction was achieved?

**Step 6 – Share our results**

Notify school board

Get word out to students.