**Going Green**

**A Green Schools Webquest**

**& Newsletter**

**ET605**

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**Learning Activity Template**

Title: Going Green

Curriculum: Science/Green Schools

Grade-Level Span: 2nd grade – 3rd grade

**PURPOSE:**

This is a web quest activity where students will be gathering information about various “green” topics in order to create a class newsletter to inform students of ways to make their school and their community better places to live. Students will complete independent pages of a newsletter on individual topics and then will work together to create the cover page of the newsletter including an article on what “green” schools are and an article that proposes a project for their school to implement. This lesson would be a great lesson to use when your school is applying to be a Howard County green school.

**DESCRIPTION:**

The teacher will need to schedule the computer lab for 5 class periods for the students to do their research and article writing. The students will need to go into their teacher’s “hand out” folder to get access to the “Webquest” and then collaborate with their group members to create a newsletter to share with the class.

Day 1: Introduction and Decision Making-

* Take the children to the computer lab.
* Brainstorm “going green” with the students, writing their ideas on a brainstorming web.
* Discuss the real world problem- “Our school is going to start a ‘Going Green Gazette.’ We need your help to share information with the school about various green school topics. You will research a ‘green’ topic and then work together to write one newsletter. Your group must also decide on a project that our school can do to help our school become a “green school.”
* Divide the class into their groups and read through the Introduction page with the class.
* Have the students decide which topic they will be researching and have them print the note taking sheet that they will need for their research the next day.

 Day 2: Research-

* Take the children to the computer lab.
* Have each child do research on their individual topic, writing down the information they gather on the

note-taking sheet.

* Walk around to monitor children’s activity on the computer.

 Day 3: Article Writing

* Take the children to the computer lab. The students should bring their completed note taking sheet.
* Have the children work individually to type their articles and name the articles appropriately. They

should also add 2 pictures from the research page to their newsletter. The should proofread their articles before they print their work. The individual newsletter pages should be done by the end of this class period.

 Day 4: Putting It All Together

* Begin the lesson by having the groups meet at tables to share the articles they have created with

their group. They should choose one topic that they think is the most important topic to focus on for

the front page of their newsletter.

* Take the students to the computer lab. They should bring their note-taking sheets and their

completed newsletters from the day before.

* The students will work together in the lab to create the final 2 articles for the newsletter. They will

need to proofread the newsletter before printing it and handing it in. The front page will be stapled to

the other articles to produce one complete newsletter.

 Day 5: Presentations

* Students will remain in the classroom and listen to the group presentations of the completed

newsletters.

* After all presentations are complete, the students will vote on one project to implement at the school

wide level.

|  |  |  |
| --- | --- | --- |
| **ACTIVITIES** | **CURRICULUM STANDARDS** | **NETS PERFORMANCE INDICATORS** |
|  |  |  |
| Students will communicate and collaborate to create a newsletter about “Going Green”  | Language Arts-  G2: 2.c.1 G2: 4.c.1 G3: 2.d.1 G3: 4.a.2 | Standard 2 |
| Students will write newsletter articles to demonstrate their knowledge of “green concepts.”  | Language Arts- G2 4.a.2 G2 5.a.1 G2 5.a.4 G3 4.a.2 G3 5.a.1 G3 5.a.4 | Standard 3 |
| Students will go on a “Webquest” to gather information about various “green” topics.  | Schools applying to be green schools meet various standards or qualifications by students learning about the topics we have chosen.  G2 2.c.1 G3 2.d.1 | Standard 4 |
| Students will decide on a “going green” project to implement in their school setting based on information gathered during research.  | Green School Objective I- Environmental Issue Investigation | Standard 4  |
| Students will learn the benefits of water conservation.  | Green School- Objective II- Water Conservation | Standard 3 |
| Students will learn the benefits of energy conservation. | Green School- Objective II- Energy Conservation | Standard 3 |
| Students will learn the benefits of habitat restoration. | Green School- Objective II- Habitat RestorationScience-  G2 4.1.m G2 4.1.o G3 4.3.a-i | Standard 3 |
| Students will learn the benefits of reducing solid waste in various ways.  | Green School- Objective II- Solid Waste  | Standard 3  |

[NETS Standards](http://www.iste.org/Content/NavigationMenu/NETS/ForStudents/2007Standards/NETS_for_Students_2007.htm)

[Howard County Curriculum Objectives](group%20webquest/objectives.doc)

[Maryland Association for Environmental and Outdoor Education- Green School Requirements](http://www.maeoe.org/greenschools/application/requirements.php)

**TOOLS AND RESOURCES:**

Websites and Descriptions:

**Descriptions of Plants Websites:**

<http://www.danthegardener.co.uk/ideas.htm>

 This website is all about gardening. The students can choose different characters who have “knowledge’ of many different ecological issues. Dan the Gardener gives a lot of information about planting in general and specific tips about when to water your plants to keep them healthy.

<http://www.nababutterfly.com/How_to_Start_a_Butterfly_Garden.html>

 This website is all about starting a butterfly garden. It was created by the North American Butterfly Association. It gives information on the basics of butterfly gardening, specifically four main things that butterfly gardens need to be successful, shelter, sun, water and plant diversity. There are many other informational links about butterfly gardens throughout the webpage.

<http://urbanext.illinois.edu/firstgarden/planning/school.html>

 This website is all about planning a garden to be planted at your school. There are many tips and ideas for students to use when creating a school garden. This would be a great website to use with students if they really wanted to plant a butterfly garden. It also includes a list of tools that would be useful when planting a garden.

<http://www.copper-tree.ca/garden/index.html>

 This website is a great resource for all things “planting.” There are many different sections to choose from, planting to caring and shrubs to herbs. All of the links send you to colorful, easy to understand websites full of important information. It also has a very helpful plant “glossary” that children could use if they weren’t sure of a definition of a plant word.

**Descriptions of Reduce, Reuse, and Recycle Websites:**

<http://www.ollierecycles.com/planet/usa/info/info/r_home03.htm>

This website is all about how to reuse things at home. It gives examples of different items kids can reuse instead of throwing them away. Some of the examples are plastic bags, cardboard boxes, clothing, and more. It is written in kid friendly language and is easy to understand.

<http://www.ollierecycles.com/planet/usa/info/issue/recycle.htm>

 This website is all about recycling. It gives examples of different materials kids can recycle. It has clickable links for the kids to click on and see examples of each type of material. It is easy to navigate and gives clear information.

<http://www.ecofriendlykids.co.uk/AGuideWhatProductsCanBeRecycled.html>

 This website is also about recycling. It gives examples of materials kids can recycle. It has a list of the materials with examples right on the page. It talks about materials the kids might have at home or at school. It is very easy to understand.

<http://ecofriendlykids.co.uk/reducereuserecycle.html>

 This website is about reducing, reusing, and recycling. It gives reasons why kids should be doing these three things to help save our planet. It goes into more detail about reusing and recycling. It gives examples of how to reuse and recycle things rather than examples of what to reuse and recycle.

**Descriptions of Energy Conservation Websites:**

<http://www.duke-energy.com/kidswithenergy/web-resources.asp>

This websites provides additional websites related to energy pages for kids. These pages are interactive, have games, information, and activities for kids and adults.

<http://www.energystar.gov/index.cfm?c=kids.kids_index>

This site is an interactive site from Energy Star. It contains information on what energy is, ways to make changes, a word bank with definitions, fun facts, and information for parents and teachers.

<http://www.energyquest.ca.gov/saving_energy/index.html>

This website has a made up Professor that explains ways to “change the world.” It is interactive and easy to navigate. It also contains a glossary, resources for students, teachers and parents, books, movie titles, current news and more.

<http://www.eere.energy.gov/kids/smart_home.html>

This website is interactive and kid friendly. It provides games, tips, and facts for kids. When you roll over an icon, it gives a short explanation of how to save energy.

The games and activities for kids are interactive and fun to play and watch.

<http://www.touchstoneenergykids.com/energysavings.php>

This website provides information on the meaning of the word energy and electricity. There is also a list of 5 ways to save energy. Students can also play games and puzzles that relate to saving energy and electricity.

<http://www.tvakids.com/electricity/conservation.htm>

This websites provides a simple bulleted list on ways to save energy. The top and side bars also contain additional information and resources for students and teachers.

<http://tonto.eia.doe.gov/kids/energy.cfm?page=3>

This website gives basic information on using and saving energy in homes, commercial buildings, and industries. The page is kid friendly and contains games and activities.

**Water Conservation Website Descriptions**

<http://www.bellmuseum.org/distancelearning/watershed/watershed2.html>

This website is a game that allows students to discover the characteristics of a watershed and how each person has an effect on the water within the watershed. The game has 2 levels- novice and intermediate. Students could complete the activity using the novice level in order to address the concept of a watershed.

<http://www.sandiego.gov/water/conservation/kids/tips.shtml>

This website is a simple bulleted list that contains ways that people can save water within their everyday lives. It is divided into ways to save water indoors and ways to save water outdoors. Students can easily choose ways that they can save water with their families.

<http://www.dcwasa.com/kids/activities/wheredoeswatergo.html>

This website is a pictorial display of the amount of water used in various everyday household activities. There is also a verbal description of ways to save water using the same household appliances as those pictured. Students must match up the pictured machine to its corresponding water saving technique. There are also links for students to explore other information about water, its uses in everyday life, and how to conserve water.

<http://www.epa.gov/safewater/kids/flash/flash_matching.html>

Students use this website to match water-using activities to the amount of water used in each. Students have 3 “guesses” for each activity before the game will tell the student the correct answer. The activities include everyday household activities as well as a few manufacturing applications that use very large amounts of water in production.

**Resources:** On next pages, you will find a sample of the completed note-taking sheets (samples done on the computer, when teaching the lesson the students will be filling out note-taking sheets using paper and pencil).

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 How does a butterfly garden help What are three types of plants that

 habitat restoration? you can plant in your garden to attract

 butterflies?

* Black-eyed Susans

- Butterflies help pollinate flowers.

- Gardens help to prevent erosion.

- Caterpillars have food to eat which eventually makes more butterflies.

* Evening Primroses
* Rough Blazing Stars

 Describe the perfect soil for planting in What are three important steps for you to

 the space below. follow when planning a butterfly garden

 for your school.

* Choose a site that will get both shade

-You should use soil that isn’t too sandy or too “clayish.”

-The perfect soil is a mixture of the two soils.

-You should pay attention to your soil when you decide what time of year to plant your garden.

 & sun.

* Involve everyone in the school, the more

 people who are able to help, the better.

* Don’t let adults do everything, students

 have a lot of fun and can do almost

 everything

What are 4 things should you think about when choosing a site for a butterfly garden?

Water

Plant Diversity

The Sun

Shelter

Tips for maintaining a beautiful garden:

* On summer days, you might need to water your plants twice a day.
* When you go on vacation, don’t forget to ask someone to water your garden.
* The best time to water your plants is in the morning.
* Use light colored pots so that the sun doesn’t make them too hot.

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Reduce Reuse, Recycle Note Taking Sheet**

Reduce

|  |
| --- |
| List two things people can use less of.Explain why people should **REDUCE** the amount they use. |
| Electricity(includinglights) | People should reduce the amount of electricity they use so they can helpsave our planet’s resources. You should turn off the lights whenever youleave a room, even if it is just for a minute. |
| Hot water | People should reduce the amount of hot water they use because it takeselectricity to heat the water and we want to save electricity. |

Reuse

|  |
| --- |
| List two things that people can **REUSE** instead of throw away.Explain one way that people can reuse them. |
| Grocery Bags | You can use old grocery bags to carry things to and from school. You can also use them to pick up after your dog. |
| Clothes | You can give your old clothes to a younger sibling or friend. |

Recycle

|  |
| --- |
| List two **materials** that people can **RECYCLE**.Give two examples of each type of material. |
| Material #1Plastic | Example #1Soda and Water Bottles | Example #2Condiment Containers |
| Material #2Paper | Example #1Newspaper | Example #2Old school work |

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Researcher Notes

List and explain four ways to conserve energy.

|  |  |
| --- | --- |
| Lighting | Use florescent light bulbs. These bulbs help reduce energy. Turn off the lights around the house.  |
| Temperature | Use a programmable thermostat. In warm weather set it to 78 degrees. In cold weather set it to 68 degrees. When people are not home for a long period of time, turn off the setting or set it at a higher or lower setting. This will also help save your family money on heating cost. |
| Water | Flushing the toilet and drippy faucets waster electricity and energy. Take short showers and turn the water off while brushing your teeth.  |
| Turn things off | Turn off electronics that you are not using. TV, radio, computers, appliances, lamps, fans.  |

What is energy conservation?

Using less energy and electricity by making smart choices around your house or school.

Why is it important to conserve energy?

It is important to conserve energy because we rely on power everyday. By doing little things around the house, it’ll help cut cost and save the environment.

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How old is the water in streams and rivers near your house?

Billions of years

Does “old water” ever disappear?

\_\_\_\_\_\_No\_\_\_\_\_\_\_\_\_\_

What is a watershed?

All the streams, creeks,

and other water bodies

that flow into another

larger body of water

such as a river or bay

What are 2 ways that you can reduce water use inside?

\_1\_\_Turn off the water when you brush your teeth.

\_2. Do not use the toilet to throw things away- use a trash can.

Name one way you can reduce water use outside.

\_1\_Adjust sprinklers so that the

water stays on the lawn and not the street

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How many gallons of water do you use, on average, in a shower?

\_\_\_15-30\_\_\_

**Water**

**Conservation**

Going Green Gazette

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Your creek is old!

 The water in the creeks, rivers, and even oceans has been there billions of years, since the days of the dinosaurs. The water never disappears. It just moves from place to place.

 A watershed is made of all the streams, creeks, and other water bodies that flow into larger bodies of water, such as a river. We need to protect our watershed so that it stays nice.

 One way we can reduce the amount of water we waste is to make sure that our sprinklers do not water the street. The water should stay on the grass so that we do not waste water!



Turn the water off!

Did you know that running the water in your house wastes water? A shower uses between 15 and 30 gallons of water. That is a lot! If you take a shorter shower you will save water each time.

There are other ways you can save water in your house, too. If you turn off the water when you brush your teeth, you will save water every time you brush.

Have you ever used the toilet to throw away a Kleenex, or a bug, or anything? That wastes water too. You should use the trash can for trash, and only use the toilet for going to the bathroom!

By doing these simple things every day you will be able to save water and you will save your parents money, too!



**ASESSMENT:**

The students will be assessed on their individual work, as well as their contribution to the group project. All aspects of the Webquest process will be graded, from the brainstorming web to the individual newsletter page, to the group newsletter page and the collaboration of the entire group. See the rubric below.

Individual Rubric

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 4 | 3 | 2 | 1 |
| Did you present accurate information? | All facts are accurate. | There are 1-2 incorrect facts  | There are 3-4 incorrect facts.  | There are 5 or more incorrect facts.  |
| Did you use correct grammar and spelling? | There are 0-2 spelling or grammatical mistakes.  | There are 3-5 spelling or grammatical mistakes. | There are 6-9 spelling or grammatical mistakes.  | There are more than 10 spelling or grammatical mistakes.  |
| Did you include all required parts? | There are 2 photos and 2 articles on the newsletter page.  | There is 1 missing or incorrect part on the newsletter page. | There are 2 missing or incorrect parts on the newsletter page. | There are 3 missing or incorrect parts on the newsletter page.  |
| Did you complete your note-taking sheet? | The entire sheet is complete.  | There are 1-2 missing pieces of information.  | There are 3-4 missing pieces of information.  | There are 5 or more missing pieces of information.  |
| Did you collaborate with your team- mates? | You always got along with your group members.  | You usually got along with your group members.  | You sometimes got along with your group members.  | You rarely got along with your group members.  |
| Was the first page of your newsletter complete?  | All sections of the first page were complete.  | There is one complete section and one incomplete section on the first page.  | There is only one complete section on the first page.  | There are no complete sections on the first page.  |

**TECHNOLOGIES CHECKLIST:**

Check only the items you want graded for this project. If it is not checked, it will not count toward your requirements.

 \_\_x\_\_ Newsletter/Brochure

\_\_\_\_\_ Spreadsheet

 \_\_x\_\_ Web Page

 \_\_\_\_\_ PowerPoint

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**COMMENTS:**

This learning activity would be great to have students participate when your school is submitting an application for being a green school, especially if the followthrough/extension piece was done as a school project. This would also be a great activity for an environmental club to do, or for students to do over an extended period of time in technology class. It would be a great cross curricular assignment.

It would be best for students to have had some experience with word processing before attempting to complete this webquest. In both 2nd and 3rd grade the referenced units are taught in the 4th quarter, so students would have had some exposure to word processing in both homeroom and technology classrooms.

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