

NO PAPER DAY

- Grade Level: 9-12
- Subjects: Science, Social Studies, Language Arts
- Suggested Time: 2 class periods, plus the No Paper Day



Work with teachers and administrators to analyze current paper use, identify ways to conserve paper, and sponsor a No Paper Day.

Materials

Computers with internet access and Microsoft PowerPoint, poster boards and markers, dry erase boards with erasers and refillable markers (optional), classroom laptop set (optional), a few sheets of scrap paper for signs, and paper recycling bins.

National Standards

Science:

- Interdependence of organisms.
- Energy in the earth system.
- Natural resources.
- Environmental quality.
- Science and technology in local, national, and global challenges.

Language Arts:

- Communication skills.
- Communication strategies.
- Evaluating data.
- Developing research skills.

Social Studies:

- Environment and society.
- Roles of the citizen.
- Scarcity.

Ohio 2010 Standards

Environmental Science:

- Investigate and/or research the relationship between deforestation and changing weather or in some cases climate at a specific location. Analyze the data and draw a conclusion based upon the analysis. Discuss the conclusion with the class.

- Investigate and research the effect that climate change is having, or has had on a specific species or an ecosystem. Research and analyze quantifiable scientific data pertaining to food availability, reproductive requirements and changes, adaptations, or population changes to draw conclusions. Present data and conclusions to the class.
- Develop a risk assessment for a specific company. Research one particular toxin or hazardous chemical used by the company to determine possible risks and pathways to the environment and humans. The assessment should include: nature of the toxin/chemical, on-site use and handling of the chemical/toxin, by-products, storage, transportation of the chemical/toxin, required documentation, emergency plans/guidelines, topography and geology of the area. Use a computer-modeling program to model and predict the movement of the possible pathways of the toxin/chemical and recommendations of methods to contain the release of the toxin/chemical. Present the findings to the class or an authentic audience. (covered in Extensions)
- Science inquiry and application.

Language Arts:

- Conduct short as well as more sustained research projects to answer a question or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation. (9-12)
- Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. (9-10)
- Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. (11-12)
- Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task. (9-10)
- Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the lines of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. (11-12)
- Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. (9-12)

Modern World History:

- Advances in technology, communication and transportation improved lives, but also had negative consequences.

Contemporary World Issues:

- Effective civic participation involves identifying problems or dilemmas, proposing appropriate solutions, formulating action plans, and assessing the positive and negative results of actions taken.

- Decisions about human activities made by individuals and societies have implications for both current and future generations, including intended and unintended consequences.
- Sustainability issues are interpreted and treated differently by people viewing them from various political, economic and cultural perspectives.

World Geography:

- Human modifications of the physical environment in one place often lead to changes in other places.
- There are costs and benefits of using renewable, nonrenewable, and flow resources.

Objectives

The student will be able to:

- Research current paper use in the United States and its impact on the environment.
- Research current paper use and paper recycling in the school and/or school district.
- Identify ways to reduce paper use.
- Create a PowerPoint presentation to inform others about paper use, environmental effects, and paper saving strategies.
- Plan and advertise a school-wide No Paper Day.
- Create a printer checklist to inform others how to reduce paper used for printing.
- Advertise a paper recycling drive and bring recyclable paper products from home.

Teacher Preparation

- Contact school officials such as the building principal, administrative assistants, or treasurer to find out how much paper the school and district use and recycle each year.
- Gain support from the building principal and other staff to hold a No Paper Day.

Introduction

- Ask students to brainstorm on the board all the ways that they use paper at school and at home (create two columns).
- Ask students to discuss the pros and cons of recycling paper versus reducing paper use. Record ideas on the board.
- Inform students that they will be sponsoring a No Paper Day for the whole school, which will combine reducing and recycling strategies.

Activities

- Students should research the following questions, using the web sites below. They will also need to contact school officials (from teacher preparation above) to find out how much paper the school uses. Display these questions in a paper-free way, such as the board, overhead projector, or PowerPoint slide.

- How much paper does the United States use every year? How does this compare with other countries?
- How does paper use affect the environment?
 - Deforestation--impact on species and ecosystems
 - Chemical process of producing paper
 - Carbon dioxide emissions
 - Impact on landfills
 - Global climate change
- How much paper does the high school use each year? How much does the school district use each year? How much does each recycle? (provide students with contact info)
- Helpful web sites:
 - http://www.tappi.org/paperu/all_about_paper/faq.htm (Go to Paper Industry Statistics)
 - <http://156.98.19.245/paper/index.html>
 - <http://www.guardian.co.uk/environment/2009/feb/26/toilet-roll-america>
- As a class, discuss findings and record statistics and paper-saving strategies on the board. Help students to consider the following tips:
 - Use no new paper, only scrap paper (already been put in the recycle bin).
 - Encourage students to bring lunches in reusable, non-paper lunch bags.
 - Art teachers should use non-paper mediums, preferably re-usable mediums such as canvas or clay.
 - Use paper alternatives such as the chalkboard, laptops (students may email teachers work), and individual whiteboards with refillable dry-erase markers to do classroom work (see <http://www.amazon.com/Pentel-Handy-line-Retractable-Refillable-assorted/> and <http://www.whiteboardsetc.com/LapBoards.htm> for more information).
 - Unplug copiers and printers for the day, and create signs from scrap paper to explain the reason.
 - Identify exceptions for the No Paper Day (such as toilet paper, tissues, and cafeteria napkins).
- Plan the No Paper Day campaign. Break students into small groups and assign one of the following activities to each group:
 - Create posters advertising No Paper Day, including a paper recycling drive. Encourage students to bring lunches in a reusable lunch bag, and to bring paper from home for recycling collection.
 - Create a PowerPoint presentation about paper use, environmental impact, and paper-saving strategies. Students should present in front of the class, their other classes, and if possible, at a staff meeting.
 - Write a letter using Microsoft Word, announcing and explaining No Paper Day to staff members. Email the letter to the staff listserv and ask staff to advertise No Paper Day to their students.
 - Write a checklist of printing tips to save paper, using Microsoft Word. Email this list to staff members and suggest posting a copy near printers in offices, the library, and computer labs. See the web sites above for ideas.

- Write a PA announcement advertising No Paper Day, including the paper recycling drive. Students from the group should take turns reading the announcement on different days leading up to the No Paper Day. Also, create signs to post on printer and copiers explaining why they are turned off during No Paper Day.
- Hold the No Paper Day, including the paper recycling drive. Students should record the amount of paper collected for recycling and create a follow-up announcement to update and congratulate the student body for its paper-saving efforts.

Extensions

- Students may write articles before and after No Paper Day for the school or local newspaper.
- Students may create a presentation or proposal containing ideas for more permanent paper saving strategies. Arrange for students to email or present their ideas to staff members.
- The questions in the first activity are just an overview of information about paper use and environmental impact. Students may conduct more in-depth research and write a persuasive essay about reducing paper use.
- Students may share their research and printer checklists with their parents or other adults for use in offices and other places of employment.
- Students may create a plan for saving paper at home and present it to their families. They may hold a No Paper Day at home by turning off printers, using cloth napkins, purchasing recycled toilet paper, using only scrap paper for writing, etc.
- Students may develop a risk assessment for a paper or pulp factory. Research one particular toxin or hazardous chemical used by the company to determine possible risks and pathways to the environment and humans. The assessment should include: nature of the toxin/chemical, on-site use and handling of the chemical/toxin, by-products, storage, transportation of the chemical/toxin, required documentation, emergency plans/guidelines, topography and geology of the area. Use a computer-modeling program (many are available through freeware sites) to model and predict the movement of the possible pathways of the toxin/chemical and recommendations of methods to contain the release of the toxin/chemical. Present the findings to the class or an authentic audience.

Closing

- Review the lesson and congratulate students on the success of No Paper Day.
- Ask students to identify paper-saving practices they could continue on a more permanent basis. Write the plan on the board and ask students to sign their names as a pledge to continue saving paper. Encourage students to be a spokesperson for ongoing paper-saving practices in their other classes.