

Print and Paper The Facts



Teacher Resources Related to Paper, Forest Products and the Environment

Educating children about environmental issues is essential in today's world where climate change, the depletion of natural resources, hunger and poverty are regular and alarming subjects of news media. Understanding the complexity of the facts and providing tools to analyze them empowers children to find solutions. This list of resources for teachers is designed to give students a balanced view of many environmental issues with a particular focus on the forest industry. It includes materials about sustainable forest management, wetlands, wildlife, recycling and climate change in the form of teacher's tours and workshops about sustainable forestry (across the U.S. and Canada), lesson plans, slide decks that can be used in the classroom, outdoor activities, data analysis tools, contests and interactive games.

Website	Source (Description in footnotes)	Cost	Age Level	Geographic Area	Materials Available	Themes and Details
Academic Invest	Academic Invest ¹	Free	Grades 9-12	U.S. and Canada	Career descriptions (ex: How to become a pulp and paper chemist), statistics, links to schools and related careers	Descriptions of careers in the pulp and paper industry, skills and knowledge needed for positions
American Tree Farm System	American Forest Foundation ²	Free	All grades	U.S.	Forest activities for younger ages Tree farm certification standards for older grades	Forest Certification Standards Sustainable Forest Management "Family Activities" are designed to help children learn about the natural world around them. Examples: "How camouflage works"; "A layered story: what the soil can teach"; "Experiencing evergreens in winter".
Borealforest.org	Lakehead University ³	Free	Middle to upper grades	Boreal forest of Canada with specific attention to northern Ontario	Fact sheets Activities and experiments	Plants and animals of the boreal forest Anatomy of a modern paper mill (in Ontario) Air and water pollution; Papermaking; Nature's carrying capacity; The food chain; Recycling crossword puzzle

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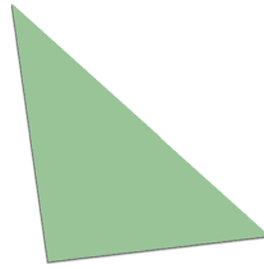


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Boy Scouts of America: Pulp & Paper Merit Badge	Boy Scouts of America ⁴	\$4.99 for Merit Badge Pamphlet	Grades 5-12	U.S. and Canada	Merit Badge Series: Pulp and Paper (BSA Supply No. 35937)	Understanding the role and types of paper in society, its manufacture, and sources of raw materials.
Council of Forest Industries (COFI)	COFI ⁵	Free	Grades 4-7 Grades 10-12	Interior of British Columbia	Background materials and videos	Sustainable forestry, climate change and the mountain pine beetle
EcoKids	Supported mainly by TD, Sony and 7 Canadian universities ⁶	Free	K to grade 8, divided by grade	Canada (but applicable elsewhere) (English and French)	Learning activities about environmental issues classified under : - In the environment (outside activities) - About the environment (themes like waste, water and “I like trees”) - For the environment (campaigns, contests and actions students can take)	
Education in Nature	Georgia Pacific ⁷	Free	Grades 2-3 Grades 4-5	U.S. and Canada	Brochures, associated lesson plans and videos	Forest products, wetlands and greenhouse gases
Forest Academy	Domtar ⁸	Free	Grades 4-7	U.S. and Canada (English and French)	Online game with backgrounds materials for teachers	“Become a Forest Expert”: Users create an avatar and earn badges as they successfully complete sessions that teach them about the forest.
Forestinfo.org/teachers	Dovetail Partners ⁹	Free	Lower grades Middle grades Upper grades	U.S. and Canada	Teacher’s tools	Forestry-related resources for use in the classroom
					Teaching units	PowerPoints on several forest-related topics
					Lesson plans	Published online as a service to help educators share ideas with other educators
					Forestry tours	Available for teachers throughout the U.S. and Canada (not free)
					Research references	Wide variety of resources and links

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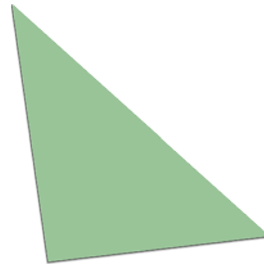


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FSC-United States FSC-Canada FSC-International	Forest Stewardship Council ¹⁰	Free	Upper grades	Global including U.S. and Canada	Resources on forest certification	Forest Certification Standards Chain of Custody Certification Sustainable Forest Management
Idaho Forest Products Commission (IFPC)	Idaho Forest Products Commission ¹¹	Free	Preschool Early grades Middle grades Upper grades	Some material specific to Idaho but much is general to U.S.	Lesson plans and teaching activities	Developed by school teachers who attended a “Wood – A remarkable fiber” workshop or the “Ecology, Economics and the Environment Forest Tour”
					Resources for teachers and kids	Links to many other forestry-related websites as well as fact sheets, posters, list of videos, sustainable forestry tours
LEAF	Wisconsin DNT-Division of Forestry University of Wisconsin-Stevens Point Wisconsin Center for Environmental Education ¹²	Free	K-8 Divided by grade levels, K-1, 2-3, etc.	Most materials specific to Wisconsin but some general information. Visits from foresters can be arranged.	Curriculum lesson guides	Urban forests, wildland fires, conceptual guide
					K-8 Grade kits	Lesson guides for introduction to trees and forests, biodiversity, management etc. Accompanying kits can be borrowed locally for free
					Videos	Forests, management, sustainability.
Learnforests.org (Oregon Forest Literacy Program)	Hosted by the Oregon Forest Resources Institute	Free	K to grade 12	State of Oregon but applicable in other regions of the U.S.	Filed programs In-class programs Teacher Workshops Publications Service Learning Lesson Plans Related Links	The Oregon Forest Literacy Program includes a forest education conceptual framework and a scope and sequence, which together offer educators guidance for developing curricula and classroom lessons related to forests.

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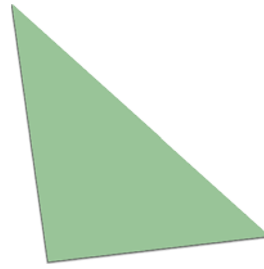


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NetLogo Models Library: Spread of Forest Fire	NetLogo ¹³	Free	Grades 8-12	U.S. and Canada	Software modeling	The model shows that the spread of fire through a forest depends critically on the density of trees. The NetLogo application can be downloaded and user manuals are available.
OFIA Canadian Forests Primer	Ontario Forest Industries Association ¹⁴	Free	Grades 8-12	Canada	Documentation	Forestry in Canada, forest products, species at risk, aboriginal initiatives and climate change.
Paper Discovery Center	Paper Industry Hall of Fame ¹⁵	Students \$3 Adults \$5	All grades	Located in Wisconsin	Tours	Integrates science, art, and history with an inspiring and relevant industry example that is strongly connected to Wisconsin's heritage.
Paper is Good. Pass it On	Domtar ¹⁶	Free	K-Grade 1 Grades 2-3 Grades 4-5 Grades 6-8	U.S. and Canada	Lesson plans	Wide variety of tree-related subjects
					Background documents	Paper production
Paperrecycles.org	American Forest & Paper Association ¹⁷	Free	All Grades	United States	Materials related to paper recycling in school, community and workplace. Statistics about paper recovery and recycling.	Video on how to make paper Elementary school recycling activities School Recycling Guide
Paperonline	European Paper and Packaging Industries ¹⁸	Free	Grades 6-12	Europe	Various materials related to papermaking	Paper making, myths and realities, downloads

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PaperWorks	CPI ¹⁹	Free	Ages 5-7 7-11 11-14 11-18	Website is based in UK but many activities are general.	Art and Design	Creative paper-based ideas
					Science and Technology	Paper making and scientific principles
					Geography studies	Sustainable paper industry
					Business studies	Exploring the modern paper industry
PEFC-Canada PEFC-International	Program for the Endorsement of Forest Certification ²⁰	Free	Upper grades	Global including U.S. and Canada	Documentation (in English and French)	Forest Certification Standards Chain of Custody Certification Sustainable Forest Management
Project Learning Tree (PLT)	American Forest Foundation ²¹	\$40-50/ workshop	Ages 3-6 yrs Pre K to Grade 8 Grades 9 to 12	Most U.S. states	Workshops for teachers	Trees, forests and ecology
					Green Schools! Program	Tools for students to analyze data and design a student-driven project
					GreenWorks! Program	Provides grants to PLT trained educators for students to implement environmental improvement projects
Pulp and Paper Resources and Information Site	PaperOnWeb ²²	Free	Grades 5-12	Global	Links to other pulp and paper related sites	Wide variety of information on pulp and paper such as history of papermaking. Links to many other sources of pulp and paper information.
Sustainable Forestry Initiative	Sustainable Forestry Initiative ²³	Free	Upper Grades	U.S. and Canada	Fact Sheets Webinars	

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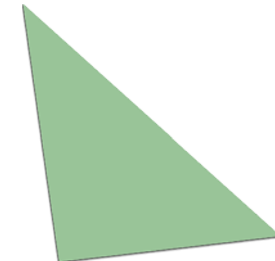


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TAPPI Paper University	Technical Association of the Pulp and Paper Industry ²⁴	Free	Grades 3-8	U.S. and Canada	Interesting facts about paper, recycling and the environment; arts and crafts with paper; science activities; interactive games; list of resources.	
University of Illinois Schools on line	University of Illinois Extension ²⁵	Free	Ages 5-8 Grades 3-5 Grades 6-8	U.S. (A Walk in the Woods is a forest in Illinois)	Videos with teacher's guides (offered in Spanish)	"A Walk in the Woods" "Secret Life of Trees" "Trees are terrific" "Dr. Arbor talks about trees"
UPM Forest Life	UPM ²⁶	Free	Grades 6-12	Forest is in Finland but information is generally appropriate	Interactive video with background information	Economic, social and environmental issues associated with sustainable forestry including producing timber, recreation and biodiversity.
US Forest Service	USDA and US Forest Service ²⁷	Free	Grades 4-8	North America	Science journal	"Natural Inquirer" written by Forest Service scientists for middle school students
					Webinars	Pollinators, climate change, wetlands, bats, bird migration, butterflies and rainforests
UNIVERSITY PROGRAMS:						
Forestry Degree Programs	Fire Science			U.S. and Canada	Information on university programs offered in forestry and paper engineering.	
Paper Engineering	Study.com			U.S.	Universities offering paper science and engineering programs.	
Canadian Schools of Forestry	Assoc. of Canadian Forestry Schools			Canada	Canadian universities offering forestry programs.	
Pulp and Paper Education and Research Alliance (PPERA)	University of Minnesota Website			U.S.	An alliance of universities with programs which are individually distinctive but which are similar in being committed to the advancement of the North American pulp, paper and allied industries.	
Paper Schools	Pulp and Paper Canada			International	Universities in several countries offering pulp and paper programs.	

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- ¹ Academic Invest, a staffing and recruiting company, is dedicated to introducing students to jobs, scholarships and career options they can pursue based on their major. They also provide companies with an opportunity to advertise job openings to students and new graduates using an easy to use, budget friendly job board. Based in Alberta, Canada
- ² The American Tree Farm System® is a program of the American Forest Foundation which works on-the-ground with families, teachers and elected officials to promote stewardship and protect the values provided by the forest heritage.
- ³ Lakehead University Faculty of Natural Resources Management has run this site since 2002. The site will continue to evolve with new additions such as international forestry and materials aimed at young audiences. Lakehead University is in Thunder Bay, Ontario.
- ⁴ The Boy Scouts of America is one of the nation's largest and most prominent values-based youth development organizations. The BSA provides a program for young people that builds character, trains them in the responsibilities of participating citizenship and develops personal fitness.
- ⁵ Council of Forest Industries (COFI) advances the strategic interests of the British Columbia interior forest industry with government and the public.
- ⁶ Started in 1994, EcoKids offers free learning activities and resources for Canadian teachers, students, parents and communities to engage in environmental action. EcoKids is designed to inspire children to become life-long environmental stewards through nature connection and play.
- ⁷ This site is sponsored by Georgia Pacific, one of the world's leading makers of tissue, pulp, paper, packaging, building products and related chemicals. Georgia-Pacific is proud to support schools and a wide variety of educational programs.
- ⁸ This site is created by Domtar, a company that designs, manufactures, markets and distributes a wide range of paper products for a variety of customers, ranging from retail consumers to publishers.
- ⁹ Forestinfo.org provides information on natural resource issues and aims to educate the public about sustainable forest resources and their effect on people and quality of life. This website is created by Dovetail Partners, a non-profit organization that informs about the impacts and trade-offs of environmental decisions.
- ¹⁰ Forest Stewardship Council is an international non-profit, multi-stakeholder organization established in 1993 to promote responsible management of the world's forests.
- ¹¹ The IFPC promotes "the economic and environmental welfare of the state by providing a means for the collection and dissemination of information regarding the management of the state's public and private forest lands and the forest products industry."
- ¹² LEAF was created to help promote forestry education in Wisconsin in 2001. LEAF connects formal and non-formal educators in Wisconsin with high quality forestry education resources and services. The unit-based lessons are divided by grade levels: K-1, 2-3, 4, 5-6, 7-8, and 9-12. Lessons build upon one another to provide connectivity in the students' educational experience. When taught as a unit, these lessons provide students a well-rounded understanding of forestry in Wisconsin. You may find that they are also effective when taught individually and integrated with other classroom material.
- ¹³ NetLogo is a multi-agent programmable modeling environment. It is used by tens of thousands of students, teachers and researchers worldwide. It is authored by Uri Wilensky and developed at the CCL(Northwestern University Center for Connected Learning and Computer-Based Modeling, Illinois).
- ¹⁴ The Ontario Forest Industries Association is a provincial trade association which represents member companies.
- ¹⁵ The Paper Industry International Hall of Fame is a 501(c)3 non-profit organization. The Paper Discovery Center, operated by the Paper Industry Hall of Fame, is a science and technology museum dedicated to preserving the history of the paper industry and contributing to interdisciplinary education. They rely on individual donors for support and receive no government funding or public support.
- ¹⁶ This site is created by Domtar, a company that designs, manufactures, markets and distributes a wide range of paper products for a variety of customers, ranging from retail consumers to publishers.
- ¹⁷ The American Forest & Paper Association (AF&PA) is the national trade association of the forest products industry. AF&PA launched this website in 2005 as a dedicated resource to provide up-to-date information on paper recycling news, tools and events. The site was designed for use by individuals interested in obtaining information about the paper industry and resources to help start or improve paper recycling efforts.
- ¹⁸ The Confederation of European Paper Industries is a non-profit international association under Belgian law. It champions the pulp and paper industry's achievements.
- ¹⁹ Confederation of Paper Industries (CPI) is the leading organization working on behalf of paper-based industries in the United Kingdom.
- ²⁰ The Programme for the Endorsement of Forest Certification (PEFC) is an international non-profit, non-governmental organization dedicated to promoting Sustainable Forest Management (SFM) through independent third party certification.

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²¹ PLT is a program of the American Forest Foundation which helps educators to teach tomorrow's decision-makers how to think, not what to think, about complex environmental issues, like climate change and energy. More than half of all PLT activities can be conducted outdoors.

²² Published by Hari Goyal, M.S., P.Eng, a pulp and paper specialist, an IC (integrated Circuit) designer and a web master with extensive experience in process design and project management. He also provides Pulp and Paper Consulting and Management Services in Toronto, Canada

²³ SFI Inc. is an independent, nonprofit organization dedicated to promoting sustainable forest management. It was launched in 1994 in the United States.

²⁴ Technological Association of the Pulp and Paper Industry (TAPPI) is a non-profit organization which gathers and disseminates information about production and innovation in the pulp, paper and packaging industry.

²⁵ University of Illinois Extension is an outreach effort offering educational programs aimed at making life better, healthier, safer and more profitable.

²⁶ UPM is a global leading producer of forest products based in Finland.

²⁷ The agency's mission is to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations.

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