

Appendices



Contents

Appendix A – Resource List.....	156
Appendix B – Glossary	170
Appendix C – Who and What Determines What Our Product Labels Say	175
Appendix D – Sample Labels	184
Appendix E – The Label Must Tell You	193
Appendix F – Science Investigation Form	194
Appendix G – <i>Hazards on the Homefront</i> Washington State Essential Academic Learning Requirements.....	197
Appendix H – The Multiple Intelligences Connection.....	201
Appendix I – List of Slides	202





Resource List

Household Hazardous Waste

This list is a sampling of resources available to help you successfully teach the lessons in this guide.

We invite you to explore these resources to locate experts, printed materials, and studies related to the field of household hazardous waste.

GOVERNMENT RESOURCES

LOCAL OR REGIONAL

If you are located outside King County, please see the Household Hazardous Waste Resources by County table for resources specific to your area.

You can also find a version of the table on www.ecy.wa.gov/HazardsontheHomefront. The web version of the table may be more current than the one in this document.

KING COUNTY SOLID WASTE DIVISION

Education and Schools Assistance
201 S. Jackson Street, Suite 701
Seattle, WA 98104

your.kingcounty.gov/solidwaste/education/index.asp

Find educational programs, household hazardous waste project ideas, and materials on recycling and resource conservation for King County schools. Also find information on assistance to improve school recycling and other resource conservation practices.

LOCAL HAZARDOUS WASTE MANAGEMENT PROGRAM IN KING COUNTY

130 Nickerson Street, Suite 100
Seattle, WA 98109
(206) 263-3051

www.govlink.org/hazwaste/index.cfm

Search the site for these topics:

- **Hazardous Products and Healthy Alternatives**

This section lists some common household products, their contents, potential hazards and safer alternatives. Proper disposal options are described.

- **Library**

Curricula, books, videos, brochures, and news articles are just some of the resources available at the LHWMP library.

- **Pesticides and Schools – Integrated Pest Management Program**

Find information about the Parent Notification Law, which requires schools to notify parents and employees of pesticides being used on school grounds. The website also gives information on King County efforts to encourage safer alternatives to pesticides through integrated pest management programs.

- **Rehab the Lab**

Download fully scripted lesson plans for least-toxic chemistry labs, information on ways to reduce chemical stockpiles in biology labs, and a list of chemicals whose risks outweigh their educational utility.



STATE

WA STATE DEPARTMENT OF ECOLOGY

P.O. Box 47600
 Olympia, WA 98504
 Headquarters and Southwest Region:
 (360) 407-6000
 Northwest Region: (425) 649-7000
 Central Region: (509) 575-2490
 Eastern Region: (509) 329-3400

- **1800Recycle** – 1-800-RECYCLE (732-9253)
www.ecy.wa.gov/programs/swfa/eproductrecycle/
 This database contains the most up-to-date and comprehensive list of recycling services in Washington. Call or search the online database to find disposal and recycling services nearest you.
- **E-Cycle Washington**
www.ecy.wa.gov/programs/swfa/eproductrecycle/
 Find information about recycling electronics.
- **Environmental Education**
www.ecy.wa.gov/services/ee/index.html
 Learn about free classroom presentations, upcoming teacher workshops, grant opportunities, and many other resources.
- **Environmentally Preferred Purchasing**
www.ecy.wa.gov/beyondwaste/epp/prod_fact_sheet.html
 Get fact sheets about specific categories of commercial products such as landscape and grounds management supplies are helpful for working with school janitorial and maintenance staff.

- **Toxic Free Tips**

Hazardous Waste and Toxics Reduction Program
 1-866-939-9991

ToxicFreeTips@ecy.wa.gov
www.ecy.wa.gov/toxicfreetips/

A sponsor of the Hazards on the Homefront Teacher's Guide and workshops, including free web and disk versions of the guide, this site provides information on specific chemicals and their health effects, and resources for a less toxic home, school, workplace and community. Web is in English and Spanish. Students can call or email questions about toxic substances.

- **Urban Pesticide Education Strategy Team (UPEST)**

www.ecy.wa.gov/programs/swfa/upest/

This is a clearinghouse for the many Integrated Pest Management resources available. Find information on IPM for schools and households. UPEST is a cooperative effort with state, federal and local agencies providing sensible pest management solutions.

WA STATE DEPARTMENT OF HEALTH

Health Education Resource Exchange (HERE)

P.O. Box 47833
 Olympia, WA 98504-7833
 360) 236-3736

HERE@doh.wa.gov
www3.doh.wa.gov/here

HERE is a clearinghouse of public health education and health promotion projects, materials and resources in Washington State.

WASHINGTON POISON CENTER

155 NE 100th Street, Suite 400
 Seattle, WA 98125
 Public education line: (206) 517-2359
 Emergency line: 1-800-222-1222

www.wapc.org

Download educational fact sheets and a home checklist for students to identify poisons in their homes.

Appendices



FEDERAL

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

www.atsdr.cdc.gov

This site includes very detailed information about a wide variety of hazardous substances (Toxicological Profiles section). It also gives an up-to-date list of all the hazardous waste sites in Washington (Hazardous Waste Sites).

U.S. ENVIRONMENTAL PROTECTION AGENCY

• Clearinghouse for Environmental Education and Information

1200 Sixth Avenue
Seattle, WA 98101
(206) 553-1200
1-800-424-4372

www.epa.gov/r10earth/clearinghouse

This site provides curriculum resources, materials, activities, and “student center” on environmental topics, including hazardous waste, water quality and recycling.

• Design for the Environment

www.epa.gov/dfe/pubs/projects/formulat/label.htm

This national consumer product certification program includes both environmental and human health factors. Certification is based on science and peer-reviewed data.

• Student Center

www.epa.gov/students

Specially designed for middle school and high school students as a research tool, this site has information on a vast range of environmental health topics.

• Teaching Center

www.epa.gov/teachers

Here is a wealth of links for teachers. The Curriculum Resources page has great links for environmental health topics, especially the Air, Human Health, Waste and Recycling, and Water sections.

• Toxics Release Inventory

www.epa.gov/tri

This database contains information on toxic chemical releases and waste management activities reported annually by certain industries as well as federal facilities. Enter your zip code to receive information about industries in your neighborhood.

FOOD AND DRUG ADMINISTRATION Center for Food and Applied Nutrition

www.cfsan.fda.gov/~dms/cos-lbl.html

Find information on cosmetic labeling and labeling claims.

NATIONAL INSTITUTES OF HEALTH Household Products Database

www.householdproducts.nlm.nih.gov

At this site find a detailed inventory of common household products that may pose a potential health risk to people. Users are able to find out what’s in these products, their potential health effects, and other safety and handling information.

NATIONAL LIBRARY OF MEDICINE Tox Town

www.toxtown.nlm.nih.gov

Click on images of everyday life at this very cool site and learn about hazards that could be present where you live, work and play. The site is also available in Spanish.



OTHER RESOURCES AND INTEREST GROUPS

Note: These resources are provided for additional information and may or may not reflect the viewpoints of the agencies providing Hazards on the Homefront curriculum.

GREEN SEAL

www.greenseal.org/findaproduct/index.cfm

This organization provides independent environmental certification standards for products and services.

HEALTHY CHILD HEALTHY WORLD

• Info and Actions

www.healthychild.org

Find information here about preventable health and development problems caused by exposures to toxic substances in homes, schools and communities, and about actions the public can take to protect children against toxic threats.

• Virtual Home Tour

www.checnet.org/healthhouse/virtualhouse/

Visitors to the Virtual House can click on a familiar everyday item to bring up information about its health risks, remedies and related articles. The site provides links to many other helpful organizations.

INTEGRATED ENVIRONMENTAL HEALTH MIDDLE SCHOOL PROJECT

Environmental Health Websites

www.iehms.com/online/resources/EH_websites.php

This site provides educators in grades six through eight with materials to plan, implement, and assess student-driven projects on environmental health issues. It offers materials and resources for teachers, students, and the community.

THE NATIONAL CHILDREN'S STUDY

www.nationalchildrensstudy.gov

The National Children's Study examines the effects of environmental influences on the health and development of more than 100,000 children across the United States, following them from before birth until age 21. The goal of the study is to improve the health and well-being of children.

NORTHWEST ASSOCIATION FOR BIOMEDICAL RESEARCH

www.nwabr.org/education/

This site provides secondary student lessons and information on teacher workshops that promote the understanding and application of biomedical research. Several of the lessons and teacher workshops focus on personal care products.

SOAP AND DETERGENT ASSOCIATION

www.cleaning101.com/house/fact/

Find fact sheets and information on household cleaners from this trade organization whose members produce more than 90 percent of the cleaning products marketed in the U.S.

TOXIPEDIA

www.toxipedia.org

Toxipedia is a free toxicology encyclopedia and resource center that allows everyone to contribute articles and discussion.

WASHINGTON TOXICS COALITION

www.watoxics.org/publications

Download Home Safe Home fact sheets on cleaning, personal care, lawn and garden, pest control, art and other products. Also available are Pesticide Free Zone sign for yards and information about school pesticide application policies.


Appendices

HOUSEHOLD HAZARDOUS WASTE RESOURCES BY COUNTY

County	Education Contact	Disposal Contact
Adams	Dixie Fultz Adams County Public Works 425 E. Main Street Othello, WA 99344 Phone: (509) 488-9441 Email: DixieF@co.adams.wa.us	Bruce Transfer Station (509) 488-6171 Ritzville Transfer Station (509) 659-1164
Asotin	Debra Barto City of Clarkston Moderate Risk Waste/Recycling 2901 6th Avenue Clarkston, WA 99403 Phone: (509) 758-1965 Email: Dab-acri@clarkston.com	Asotin County Regional Landfill (509) 758-9230
Benton	Keith Martin Benton County Solid Waste Department 14303 N. Hinzlerling Road Prosser, WA 99350 Phone: (509) 786-5611 Email: keith.martin@co.benton.wa.us Web: www.co.benton.wa.us/solid-waste.htm	Horn Rapids Landfill (509) 942-7387
Chelan	Brenda Harn Chelan County Public Works 316 Washington Street, Suite 402 Wenatchee, WA 98801 Phone: (509) 667-6415 Email: PW@co.chelan.wa.us Web: www.co.chelan.wa.us/pw/pw_solid_waste.htm	Dryden Facility (509) 548-5592
Clallam	Bob Martin Clallam County Solid Waste Division 17th & B PO Box 1150 Port Angeles, WA 98362 Phone: (360) 417-2305 Email: bmartin@co.clallam.wa.us Email: recycling@cityofpa.us Household Hazardous Waste www.clallam.net/envhealth/html/eh_hazwaste.htm Solid Waste www.clallam.net/envhealth/html/eh_solidwaste.htm	Port Angeles Landfill (360) 417-4875 Blue Mountain Transfer Station (360) 417-4874 West Waste and Recycling in Forks (360) 374-5020 City of Sequim (360) 683-4908


Appendices

Clark	Anita Largent Clark County Public Works 1300 Franklin Street Vancouver, WA 98660 Phone: (360) 397-6118 ext. 4372 Email: Solidwaste@clark.wa.gov Visit their website for description of school programs: www.co.clark.wa.us/recycle/school/index.html	West Vancouver Material Recovery Center (360) 737-1727 Central Transfer and Recycling Center (360) 256-8482 Collection Events (360) 397-6118 ext. 4352
Columbia	Lisa Heinrich Columbia County Public Works 535 W. Cameron PO Box 5 Dayton, WA 99328 Phone: (509) 382-2534 Email: lisa_heinrich@co.columbia.wa.us Email: columbia@bmi.net Web: www.columbiaco.com	Columbia County Transfer Station (509) 520-2040
Cowlitz	Don Olson Cowlitz County Public Works 207 4th Avenue North Kelso, WA 98626 Phone: (360) 577-3125 Email: olsond@co.cowlitz.wa.us Web: www.co.cowlitz.wa.us/publicworks/sw/index.htm	Waste Control Transfer Station (360) 577-3125
Douglas	Ron Draggoo Douglas County Solid Waste 140 19th St. NW, Suite B East Wenatchee, WA 98802 Phone: (509) 886-0899 Email: rdraggoo@co.douglas.wa.us Web: www.countywidesolidwaste.net	Greater Wenatchee Regional Landfill & Recycling Center (509) 884-2802 Bridgeport Bar Transfer Station (509) 686-4242 Collection events (509) 886-0899
Ferry	Kristy Cromwell Ferry County Waste Management 350 East Delaware #8 Republic, WA 99166-0305 Phone: (509) 775-5217 Email: Kristy_Cromwell@hotmail.com Web: www.ferry-county.com/waste_management.htm	Torboy Transfer Station and Collection Events (509) 775-5217

HAZARDS ON THE HOMEFRONT



Franklin	Sally McKenzie Franklin County Solid Waste 3540 North Avenue #C Pasco, WA 99301 Phone: (509) 545-3551 Hotline: 1-800-967-8128 Email: smckenzie@co.franklin.wa.us Web: www.co.franklin.wa.us/solid_waste	Household Hazardous Waste Collection Facility in Pasco (509) 547-2088
Garfield	Grant Morgan Garfield County Public Works 19th and Arlington PO Box 160 Pomeroy, WA 99347-0580 Phone: (509) 843-1301 Email: garfeng@co.garfield.wa.us Web: www.co.garfield.wa.us/node/77	Naslund Transfer Station 1-800-958-5755 Recycling (509) 843-1301
Grant	Joan Melvin Grant County Solid Waste 124 Enterprise Street S.E. Ephrata, WA 98823-0037 Phone: (509) 754-6082 x104 Email: joanmelvin@co.grant.wa.us Web: www.co.grant.wa.us/GCPW/HTM/Solid%20Waste.htm	Ephrata Landfill (509) 754-4319 Drop boxes at various locations (509) 754-6082 Recycling Hotline 1-800-572-0119
Grays Harbor	Mark Cox Grays Harbor County Public Services 100 West Broadway, Suite 31 Montesano, WA 98563-3614 Phone: (360) 249-4222 ext 436 Email: Mcox@co.grays-harbor.wa.us Web: www.co.grays-harbor.wa.us/info/pub_svcs/Recycle/index.htm Teacher Resources www.co.grays-harbor.wa.us/info/pub_svcs/Recycle/EducatorsStudents.htm	Central Transfer Station (formally Aberdeen Landfill) (360) 533-1251 Household Hazardous Waste Facility (360) 538-7080 Rural Transfer Stations www.co.grays-harbor.wa.us/info/pub_svcs/Recycle/RuralTransferStation.htm
Island	Jerry Mingo Island County Public Works 6th and Main Streets PO Box 5000 Coupeville, WA 98239-5000 Phone: (360) 679-7386 Email: JerryM@co.island.wa.us Web: www.islandcounty.net/publicworks/Solid%20Waste/index.htm	Oak Harbor Transfer Station (360) 675-6161 Island County Transfer Station (360) 679-7386 Bayview Transfer Station (360) 321-4505 Camano Island Transfer Station (360) 387-9696


Appendices

Jefferson	<p>Jefferson County Environmental Health 623 Sheridan Street Port Townsend, WA 98368 Phone: (360) 379-4491 Web: www.co.jefferson.wa.us/publicworks/solidwaste/solidwasteinfo.asp</p>	<p>Jefferson County HHW Facility (360) 379-6911</p> <p>Recycle Center (360) 385-7678 www.co.jefferson.wa.us/publicworks/solidwaste/Recycling.asp#The%20Recycle%20Center</p>
King	<p>Donna Miscolta Local Hazardous Waste Management Program in King County 201 S. Jackson Street, Suite 701 Seattle, WA 98104 Phone: (206) 296-4477 Email: donna.miscolta@kingcounty.gov Hazardous Waste School Program your.kingcounty.gov/solidwaste/education/hazwaste.asp</p>	<p>Household Hazardous Waste Collection Options www.your.kingcounty.gov/solidwaste/facilities/hazwaste.asp</p>
Kitsap	<p>Jo Meints Kitsap County Public Works 614 Division Street Port Orchard, WA 98366-4699 Phone: (360) 895-4898 Email: jmeints@co.kitsap.wa.us Web: www.kitsapgov.com/sw/ Visit website and search Students and Teachers category for educational programs.</p>	<p>Hansville Landfill and HHW Facility (360) 337-5777</p>
Kittitas	<p>Patti Johnson Kittitas County Solid Waste 925 Industrial Way Ellensburg, WA 98926 Phone: (509) 962-7577 Email: patti.johnson@co.kittitas.wa.us Web: www.co.kittitas.wa.us/solidwaste/default.asp Household Hazardous Waste www.co.kittitas.wa.us/solidwaste/mr.asp</p>	<p>Cle Elum and Ellensburg Transfer Stations (509) 962-7577</p> <p>Ryegrass Landfill (509) 856-0299</p>

HAZARDS ON THE HOMEFRONT



<p>Klickitat</p>	<p>Tim Hopkinson Klickitat County Solid Waste 127 West Court Street Goldendale, WA 98620 Phone: (509) 773-4448 1-800-785-1718 Email: timh@co.klickitat.wa.us Web: www.klickitatcounty.org/SolidWaste/default.asp?fCategoryIDSelected=948111261</p>	<p>Roosevelt Landfill (509) 384-5641 BZ Corners Transfer Station (509) 493-4434 Dallesport Transfer Station (509) 767-4468 Goldendale Transfer Station (509) 384-5641</p>
<p>Lewis</p>	<p>Lewis County Waste Management Services 1411 South Tower Avenue Centralia, WA 98531 Phone: (360) 740-1452</p> <p>Education Resources Dr. Toxic Presentations Mark Bronson Phone: (360) 740-1221 Email: MJBronso@co.lewis.wa.us</p> <p>Recycling Coordinators Melanie Case Email: Melanie.Case@lewiscountywa.gov Nicole Korpi Email: Nicole.Korpi@lewiscountywa.gov Phone: (360) 740-1451</p>	<p>Central Transfer Station (360) 740-1221</p>
<p>Lincoln</p>	<p>Rory Wintersteen Lincoln County Public Works 27234 SR 25 North Davenport, WA 99122 Phone: (509) 725-7041 Email: rwintersteen@co.lincoln.wa.us Web: www.co.lincoln.wa.us/publicworks/solidwaste/default.htm</p>	<p>Lincoln County Transfer Station (509) 725-0122 or (509) 725-7041</p>


Appendices

Mason	David Baker Mason County Public Works 410 N Fourth St Shelton, WA 98584 Phone: (360) 427-7771 Email: DavidB@co.mason.wa.us Web: www.co.mason.wa.us/health/envhealth/solid_waste/index.php	Mason County Transfer Station (360) 427-5271
Okanogan	Sue Christopher Okanogan County Public Works 1234A 2nd Avenue South Okanogan, WA 98840 Phone: (509) 422-2602 Email: ChrstphrSue@netscape.net Web: www.okanogancounty.org/PW/solid_waste_recycling.htm	Central Landfill (509) 422-2602 Bridgeport Bar Transfer Station (509) 686-4242 Ellisforde Transfer Station (509) 476-3910 Twisp Transfer Station (509) 997-2025
Pacific	Megan McNelly Pacific County Environmental Health Division 1216 W. Robert Bush Drive South Bend, WA 98586 Phone: (360) 875-9356 Cell Phone: (360) 589-3598 Email: mmcnelly@co.pacific.wa.us Recycling: www.co.pacific.wa.us/dcd/recycle.htm	Pacific County HHW Facility (360) 642-9356 or (360) 875-9356
Pend Oreille	Harley Seger Pend Oreille Solid Waste 625 West 4th Street Newport, WA 99156 Phone: (509) 447-4513 Email: hseger@pendoreille.org Web: www.pendoreilleco.org/county/solid_waste.asp	South County (509) 447-3054 Central County Drop Box (509) 445-0222 North County Drop Box (509) 442-3051



<p>Pierce</p>	<p>Pierce County Solid Waste & Recycling 9850 64th Street West University Place, WA 98467 Phone: (253) 798-2179 Email:</p> <p>Hazardous Waste Hotline 1-800-287-6429 Environmental Education www.co.pierce.wa.us/pc/services/home/environ/edmenu.htm</p> <p>Jacqueline Fuller Tacoma Solid Waste Utility 3510 S. Mullen Street Tacoma, WA 98409 Phone: (253) 591-5543 Email: jfuller@cityoftacoma.org</p>	<p>Hidden Valley Transfer Station (253) 847-7555</p> <p>City of Tacoma Landfill (253) 591-5418</p>
<p>San Juan</p>	<p>Helen Venada 915 Spring Street Friday, Harbor WA 98250 Phone: (360) 370-0500 Email: HelenV@sjcpublicworks.org Web: www.co.san-juan.wa.us/publicworks/solid-waste.aspx</p>	<p>Lopez Island Transfer Station (360) 468-2555 Orcas Island Transfer Station (360) 376-4089 San Juan Island Transfer Station (360) 378-8449</p>
<p>Skagit</p>	<p>NAME? Skagit County Solid Waste/Recycling 1800 Continental Place Mount Vernon, WA 98273 Phone: (360) 336-9400 Recycling www.skagitcounty.net/Common/Asp/Default.asp?d=PublicWorksSolidWaste&c=General&p=recyclemain.htm Note: A new educator was being hired at the time of this printing.</p>	<p>Skagit County Recycling and Transfer Station (360) 424-3873 Sauk Recycling and Transfer Station (360) 853-8810 Clear Lake Recycling and Transfer Station (360) 856-5083</p>
<p>Skamania</p>	<p>Brad Uhlig Skamania County Public Works 170 NW Vancouver Avenue Stevenson, WA 98648-0790 Phone: (509) 427-9456 Email: uhlig@gorge.net Web: www.skamaniacounty.org/Public_Works/Solid%20Waste/solid_waste_division.htm</p>	<p>Mt. Pleasant Transfer Station (360) 837-3329 Stevenson Transfer Station & Collection Events (509) 427-3926 Underwood Transfer Station (509) 493-3313</p>


Appendices

Snohomish	<p>Snohomish County Public Works 2930 Wetmore Avenue, 5th Floor, Suite 101 Everett, WA 98201-4044 Web: www1.co.snohomish.wa.us/Departments/Public_Works/Divisions/SolidWaste/Haz_Waste/</p> <p>Educators: Pheobe Wall pwall@shd.snohomish.wa.gov Kathy Pierson kpierson@shd.snohomish.wa.gov Phone: (425) 339-5250</p> <p>Everett Public Works 3200 Cedar Street Everett, WA 98201 Phone: (206) 257-8988 Email: jharris@ci.everett.wa.us Just for Teachers www.everettwa.org/default.aspx?ID=130</p>	<p>Snohomish County HHW Facility (425) 388-6050</p> <p>McDougal Avenue drop off station (Everett) (425) 388-6050</p>
Spokane	<p>Ann Murphy 221 N. Wall, Suite 410 Spokane, WA 99201 Phone: (509) 625-6580 Recycling Hotline: (509) 625-6800 Email: amurphy@spokanecity.org Educational Programs www.solidwaste.org/sub6b3d.asp?id=5128</p>	<p>Waste to Energy Facility (509) 625-6879 North County Transfer Station (509) 625-6882 Valley Transfer Station (509) 625-6887</p>
Stevens	<p>Kim Morrow 1257 Landfill Road Kettle Falls, WA 99141 Phone: (509) 738-6106 Email: kmorrow@co.stevens.wa.us Recycle Email: SCrecycle@plix.com</p>	<p>North Stevens County Landfill (509) 738-6106</p> <p>South County Transfer Station and other transfer stations (509) 233-8941</p>

HAZARDS ON THE HOMEFRONT

Appendices



Thurston	<p>Amber Wells Thurston County Solid Waste 921 Lakeridge Drive SW Bldg 4 Olympia, WA 98502-6045 Phone: (360) 786-5136 Email: wellsa@co.thurston.wa.us School Programs and Teacher Resources www.co.thurston.wa.us/wwm/recycling_and_disposal/School%20Assistance/Schools.htm</p>	<p>Thurston County Waste and Recovery Center and Collection Events (360) 754-3354</p>
Wahkiakum	<p>Sarah Hamm Wahkiakum County Public Works 64 Main Street Cathlamet, WA 98612-0097 Phone: (360) 795-3301 Email: hamms@co.wahkiakum.wa.us</p>	<p>Transfer Station and Collection Events (360) 795-3301</p>
Walla Walla	<p>Melissa Warner City of Walla Walla Public Works Dept. 55 Moore Street Walla Walla, WA 99362 Phone: (509) 524-4549 Email: mwarner@ci.walla-walla.wa.us</p>	<p>Sudbury Road Landfill and Collection Events (360) 527-3746</p>
Whatcom	<p>Penny Lempere Whatcom County Solid Waste Division 322 N. Commercial, Suite 220 Bellingham, WA 98225 Phone: (360) 676-6802 Email: plempere@co.whatcom.wa.us Web: www.co.whatcom.wa.us/publicworks/solidwaste/index.jsp Education support is contracted to RE Sources for Sustainable Communities (360) 733-8307</p>	<p>Disposal of Toxics (DoT) Facility and Collection Events (360) 380-4640</p>

Appendices



Whitman	Judi Gray Whitman County Solid Waste Division 310 North Main Street Colfax, WA 99111 Phone: (509) 397-6206 Email: judi.gray@co.whitman.wa.us	Carothers Road Solid Waste Facility (509) 334-2400
Yakima	Wendy Mifflin Yakima County Solid Waste Division 7151 Roza Hill Drive Yakima, WA 98901 Phone: (509) 574-2454 Email: Wendy Mifflin - wendy.mifflin@co.yakima.wa.us School Programs Phone: (509) 574-2450 www.yakimacounty.us/publicservices/solidwaste/school_programs.asp	Terrace Heights Landfill, Lower Valley Transfer Station, and Cheyne Landfill (509) 574-2450



Glossary

Absorption (skin) - Process of active or passive transport of a substance across a membrane or other barrier, in this case through the skin.

Acephate - Active ingredient in some insecticides. Slightly toxic when ingested. A cholinesterase inhibitor. Suspected human carcinogen.

Acetone - A colorless, highly volatile chemical often used in the manufacture of other chemicals and as a solvent in paint, varnish and nail polish removers. Very flammable. Moderately toxic by ingestion and inhalation. Exposure to high enough concentrations can cause dizziness, lightheadedness and unconsciousness.

Acid - A chemical compound that, when dissolved in water, produces hydrogen ions. An acid is identified as having a pH of less than 7. Acids are reactive compounds which can attach to other chemical compounds and produce a burn on living tissue.

Ammonium hydroxide - A solution of ammonia and water often used as a principal ingredient in many cleaners, such as household ammonia, window cleaners and some general purpose cleaners. It is a strong base and therefore can burn the skin and damage the eyes at high concentrations. Liquid and vapor can be extremely irritating, especially to eyes.

Bandwagon - A current or fashionable trend or popular cause that attracts growing support —often used in such phrases as *jump on the bandwagon*.

Bioaccumulation - The buildup of toxic substances in the fatty tissues of an organism.

Bisphenol A (BPA) - An organic compound often used in the production of polycarbonate plastic. Such plastic is used to make a variety of common products, including baby and water bottles, sports equipment, medical and dental devices, dental composite (white) fillings and sealants, lenses, and household electronics. Epoxy resins containing BPA are used as coatings on the inside of almost all food and beverage cans and are an ingredient in the production of flame retardants. BPA is an endocrine disrupter with suspected links to breast and prostate cancer.

Cadmium - A relatively abundant metal used in some batteries, as pigment in ceramic glazes and in baking enamels. Also found in cigarettes. Highly toxic when inhaled as a dust or aerosol and when ingested. A respiratory irritant and known carcinogen.

Carbaryl - An organic chemical used in insecticides. Suspected to be an animal carcinogen and to cause birth defects. Toxic by ingestion, inhalation and skin absorption. Is an irritant and cholinesterase inhibitor. May cause kidney damage.

Carcinogen - Any substance that causes cancer.

Caustic - A substance capable of corroding, burning, or dissolving by chemical action. Most common caustics are formed from the combination of an alkali metal and a hydroxide ion. Common examples include sodium hydroxide (known as lye), potassium hydroxide, and calcium hydroxide.

Caution - Signal word that appears on the label of hazardous substances. Usually followed by "Keep out of reach of children." When used on non-pesticide labels, *warning* and *caution* are used interchangeably.

Chemical - A substance with a distinct molecular composition; of, relating to, used in, or produced by chemistry.

Chemistry - The scientific study of the properties, composition and structure of matter, and the changes in structure and composition of matter and accompanying energy.

Chlorofluorocarbons (CFCs) - Organic compounds primarily used as solvents in industrial cleaners, as expanders to make foam products, and as coolants in air conditioners and refrigerators. Except for a few specialized uses, CFCs were banned in the United States in 1979 because of their depleting effect on the ozone layer. Human health effects are unknown.

Cholinesterase inhibitor - A substance capable of causing poisoning and death in humans and animals by interfering with neural activity.

Contaminant - An impurity.



Control - The portion of an experiment which undergoes all the same steps as the other parts, except it is not subjected to the variable being evaluated. The substance being tested is not applied.

Combustible - A principal hazard that describes a product that can burst into flames when exposed to heat or flame (see flammable).

Corrosive - Any substance that will destroy or irreversibly damage another substance with which it comes in contact. The main hazards to people include damage to eyes, skin and tissue under the skin, but inhalation or ingestion of a corrosive substance can damage the respiratory and gastrointestinal tracts.

Cost-benefit analysis - A measure in which the total expected costs are weighed against the total expected benefits of one or more actions in order to choose the best or most profitable option.

Danger - A signal word on a product label indicating the product is highly toxic, corrosive or flammable.

Dichloro-diphenyl-trichloroethane (DDT) - Among the best known of synthetic pesticides, DDT is an organochlorine that is nearly insoluble in water, but has good solubility in fats, oils and organic solvents. Toxic to a wide range of animals including humans. Highly toxic to aquatic life and a reproductive toxicant for certain bird species, especially bald eagle, brown pelican, osprey and peregrine falcon.

Dioxins - A group of highly toxic, chlorinated chemical compounds produced through a number of activities, such as certain types of chemical manufacturing, the chlorinated bleaching of pulp and paper, and the burning of waste. Dioxin was present as a contaminant in defoliants (Agent Orange) used in Vietnam.

Dose - The quantity of a substance administered to, taken or absorbed by an organism. The effect of a dose depends on a number of parameters such as age, size, weight, general state of health, exposures to other substances, and genetic factors.

Endocrine disruptor - Chemicals the body mistakes for hormones causing a disruption of the endocrine (hormone) system. This disruption can potentially lead to health risks such as developmental disabilities, diabetes, obesity, and some types of cancers.

Endorsements - Testimonials by people describing the benefits of a product or action.

Exposure - The condition of being subject to some effect or influence.

Fertilizer - Any one of a large number of natural or synthetic materials, including manure and nitrogen, phosphorus and potassium compounds, that is spread or worked into the soil to increase its fertility.

Flammable - A principal hazard that means the product can burst into flames when exposed to heat or flame (see combustible).

Food chain - The transfer of energy in the form of food from one organism to another.

Food web - A network of food chains by which energy and materials circulate within an ecosystem.

Groundwater - The supply of fresh water beneath the earth's surface, usually found in layers of soil, sand and rocks called aquifers, which supply water to wells and springs.

Hazardous household product - Products for the home that contain chemicals potentially dangerous to human health and/or the environment. These products when disposed, are called **household hazardous wastes**.

Hazardous waste - Discarded or used-up products that contain hazardous chemicals and pose special problems to living things or to the environment because they are toxic, reactive, corrosive or flammable.

Herbicide - A substance containing chemicals that kill or inhibit the growth of unwanted plants.

Inert - A substance which is not chemically active. When used on product labels, refers to an ingredient that does not significantly help achieve the product's main purpose.

Appendices



Ingestion - The consumption of a substance by eating or drinking.

Inhalation - The movement of air from the external environment through the airways and into the lungs.

Irritant - A substance that causes roughness, soreness or inflammation.

Isopropyl alcohol (rubbing alcohol) - A colorless, flammable chemical compound with a strong odor. Found in a variety of home products, including medical applications, lotions and hair products. Toxic by ingestion, inhalation and skin absorption.

Landfill - A facility at which solid waste is placed in the ground for long-term disposal.

Leach - Removal of soluble materials from a solid or mixture, typically by passing a liquid through it.

Leachate - Commonly used to refer to liquid that collects contaminants as it drains from a landfill or septic system.

Lethal dose - The amount of a substance that will cause death. Commonly reported as LD50, the lethal dose which kills 50% of the population within an established period of time.

Methylene chloride - A volatile liquid used as a paint remover and solvent in aerosol sprays. Suspected carcinogen. May cause liver and kidney damage in animals. May depress the central nervous system.

Nitrogen - An element found in many organic and biological compounds. Nitrogen is also found in DNA and other biological molecules and is therefore an important nutrient for living organisms. It is also used in industrially important compounds such as ammonia and fertilizers.

Nitrosamines - Organic compounds containing nitrogen and oxygen in a very specific arrangement. Found in some consumer products such as tobacco smoke and latex rubber. Some nitrosamines are potent cancer-causing compounds and can cause liver damage, jaundice and fever.

Nutrient pollution - Unwanted plant growth in water typically caused by an excess of nutrients. Related to human activities, including clearing forest cover and allowing manure and dog waste to enter streams and lakes.

Pentachlorophenol - A chlorinated organic compound to preserve wood and to kill fungi and mollusks. Toxic to humans by ingestion, inhalation and skin absorption. Solids and concentrated solutions also may produce skin irritation and even burn the skin. In the eyes, causes inflammation that may progress to permanent corneal injury. Only licensed applicators may legally sell and apply this chemical.

Persistent bioaccumulative and toxic pollutants (PBT) - Compounds or elements that are resistant to environmental degradation (persist), accumulate in organisms and increase in concentration as organisms move up the food chain (bioaccumulate), and have a negative impact upon human health and the environment (toxic). The biggest concerns about PBTs are that they remain in the environment for long periods of time, transfer rather easily through air, water, and land, and span geography and generations. They are associated with a range of adverse human health effects, including impacts to the nervous system, reproductive and developmental problems, cancer, and genetic defects. Examples of PBTs are mercury, polychlorinated biphenyls (PCBs), and polybrominated diphenylethers (PBDEs).

Persistent chemicals - Chemicals that do not break down readily in the environment. They can be found long after they have been banned. PCBs, for example, remain an environmental problem 30 years after their use was banned in the US.

Personal care products - Products we use to take care of our bodies, including cosmetics, shampoos, gels, soaps, lotions, shave cream, hair dyes, etc. Most personal care products are purchased over the counter.



Petroleum distillate - Organic chemicals derived from crude oil through distillation. The most common petroleum distillates are organic solvents, which are a common ingredient in adhesives, furniture polishes, lubricants, spray products and pesticides.

Phosphoric acid - An inorganic chemical consisting of the elements phosphorous, oxygen and hydrogen. Used in some detergents, for treating roofs, and in making metal products and fertilizers. Breathing the vapor can irritate the nose, throat and lungs. Toxic by ingestion, inhalation and irritant to skin.

Phosphorus - An element found in many organic and biological compounds. Phosphorous is found in human DNA and other biological molecules and is an important nutrient for living organisms. It is used in the production of fertilizers, explosives, pesticides and detergents.

Phthalates - A large group of organic chemicals used primarily to increase the flexibility of plastics. Phthalates are also used in adhesives, glues, building materials, personal care products, detergents, paints, printing inks and coatings, pharmaceuticals, food products and textiles. Phthalates are being phased out in many countries due to health concerns. Some phthalates are known endocrine disruptors that lead to abnormal hormonal changes and birth defects.

Poison - A substance capable of causing injury or death if swallowed, inhaled or absorbed through the skin.

Pollutant - An impurity (contaminant) that causes an undesirable change in the physical, chemical or biological characteristics of the air, water or land that may be harmful to or affect the health, survival, or activities of humans or other living organisms.

Pollution - The introduction of contaminants into air, soil, or water.

Polybrominated diphenylethers (PBDEs) - Organic compounds primarily used to reduce the flammability of a wide range of consumer products. They have been used in furniture foam, consumer electronics, wire insulation, back coatings for draperies and upholstery, and small appliances. PBDEs persist in the environment,

accumulate in living organisms and are toxic to humans and the environment. PBDEs cause liver, thyroid, and neurodevelopment toxicity. The European Union and several US states have banned the use of two PBDE formulations in all applications. The European Union and the states of Washington and Maine have banned the use of a third formulation in specific applications.

Polychlorinated biphenyls (PCBs) - Organic compounds used to make products such as coolants, paints, adhesives, plastics, rubber products, pigments, dyes, and carbonless copy paper. Found to adversely affect the immune, reproductive, nervous, and endocrine systems, and cause liver cancer and birth defects. PCBs were banned for most applications in the U.S. in 1977 and restrictions on their use are present in many countries around the world.

Porosity - In soil, the amount of space between particles.

Potassium hydroxide (lye) - A caustic compound capable of corroding, burning, or dissolving by chemical action. It has a wide range of uses and is commonly used as a cleaning agent (see sodium hydroxide).

Potassium nitrate - Used as a food additive and in chemical analysis, medications and fertilizers. Contact with skin can cause burns. High levels can interfere with the ability of the blood to carry oxygen.

Potent - Powerful, having a strong effect.

Precautionary principle - When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. The burden of proof of safety falls on those who favor the action or policy. This principle is in contrast to the general current practice of putting a chemical into use, which many times has resulted in the discovery of adverse health or environmental impacts years later.

Precautionary statements - Directions on product labels for avoiding hazards when using or disposing of the product.

Appendices



Primary consumers - In the food chain, an animal that feeds on plants; an herbivore.

Principal hazard (chemical properties) - A property (toxic, flammable, corrosive, reactive) of a product that makes it potentially dangerous.

Producer - The foundational species in the food chain, such as plants or bacteria, capable of making their own food.

Reactive - A principal hazard that means the product will readily interact with certain other products, usually producing some negative impact such as fire, explosion or toxic gases.

Responding variable - In an experiment, the variable that is being measured and whose change (or lack of change) is the result of the manipulated variable.

Risk - Exposure to the chance of injury or loss.

Scientific process - Technique for gathering information by making observations, conducting experiments, and testing a hypothesis.

Secondary consumer - An animal that feeds on smaller, plant-eating animals (primary consumers) in a food chain.

Septic tank - A storage chamber buried underground and used for the disposal of human waste or sewage.

Signal words - Words on product labels that indicate a hazard is associated with the product. Signal words are *poison*, *danger*, *caution*, and *warning*, with *poison* being the most hazardous, and *caution* and *warning* the least.

Sodium hydroxide (lye) - A strong, corrosive poison commonly used as a cleaning agent. Present in many washing powders, some denture cleaners, detergents, drainpipe cleaners and paint removers. Corrosive to tissue in the presence of moisture, strong irritant to tissue, and toxic by ingestion.

Sodium silicate - A compound used in some detergents that can cause irritation of skin, cornea and mucous membranes.

Surface water - Water collecting on the ground or in a stream, river, lake, wetland, or ocean.

Susceptibility - Level of sensitivity to disease, infection or chemical.

Teratogen - A drug or other substance capable of interfering with the development of a fetus, causing birth defects.

Toluene - An organic chemical used in industrial solvents, aviation gasoline, perfumes, medicines and explosives. Flammable and toxic by ingestion, inhalation and skin absorption. Possible reproductive hazard.

Toxic - Signal word on a product label that indicates the product is capable of causing injury or death if swallowed, inhaled or absorbed through the skin.

Toxic pollution - Harmful, chemical contamination in water, air or soil.

Toxin - A poisonous substance produced by living cells or organisms. Bee stings and botulism are examples of toxins. Man-made substances created by artificial processes usually are not called toxicants.

Urban - Having to do with cities.

Variable - Something which is not fixed, but can assume a range of values, such as a variable in an experiment.

Ventilate - To circulate fresh air.

Ventilation - The circulation of air in an area.

Viscosity - The resistance of a fluid to flow.

Volatile - Something changing or changeable. Unstable. The tendency of a substance to vaporize.

Volatile organic compound (VOC) - A carbon-based chemical which can vaporize easily and enter the atmosphere. Some VOCs are contributors to the greenhouse effect and indoor air pollution.

Warning - Signal word, like *caution*, that appears on the labels of hazardous substances. *Warning* and *caution* are usually followed by "Keep out of reach of children." When used on non-pesticide labels, *warning* and *caution* are used interchangeably.

Waste - Refuse or unwanted excess materials.

APPENDIX C

Who and What Determines What Our Product Labels Say

Appendices



Who Regulates Household Hazardous Products?

There are three federal government agencies that regulate household hazardous products. These agencies decide which products are hazardous and how the hazard must be identified on the label.

Pesticides are regulated by the U.S. Environmental Protection Agency (EPA). Pesticides include products designed to kill or repel insects (insecticides), weeds (herbicides), fungi (fungicides), and bacteria (bactericides or disinfectants).

Foods, drugs, and cosmetics are regulated by the U.S. Food and Drug Administration (FDA).

Everything else falls to the Consumer Product Safety Commission (CPSC).

However, this distinction is not as simple as it seems. Chlorine bleach, for example, is regulated by the EPA because it is a disinfectant and therefore a pesticide. On the other hand, hydrogen peroxide laundry bleach, such as Clorox 2, is regulated by the CPSC. Hydrogen peroxide sold in drug stores and used as a medication is regulated by the FDA. House paints and varnishes are regulated by CPSC, while wood preservatives fall under EPA's jurisdiction because they are pesticides. Nail polish, a cosmetic, falls to the FDA.

The table below summarizes the products each of the three federal agencies regulate and how they indicate a product is hazardous.

Environmental Protection Agency (EPA)		Consumer Product Safety Commission (CPSC)		Food and Drug Administration (FDA)
Pesticides: insecticides, herbicides, fungicides, rodenticides, disinfectants, chlorine bleach, mildew removers, wood preservatives		Cleaners, non-chlorine bleach, wood finishes, other household items except food, drugs, and personal care products		Food, drugs (medicines), and cosmetics and other personal care products
Hazard Category	Signal Word	Hazard Category	Signal Word	No hierarchy of signal words. Drugs receive extensive testing and review. Food and cosmetics are not subjected to the same level of review. CAUTION is used as a general alert that some hazard exists. FDA requires that labels list all ingredients in decreasing order of amount.
Toxicity I	DANGER	Extremely hazardous	DANGER	
Toxicity II	WARNING	Hazardous	WARNING or CAUTION	
Toxicity III	CAUTION			
Toxicity IV	CAUTION	Not hazardous	No signal word	
Product labels carry advertising as well as product safety information. Advertising is regulated by another government agency, the Federal Trade Commission (FTC).				

Appendices



State governments also can regulate household products, as long as state laws don't override federal laws or interfere with interstate commerce. Washington State has passed laws regulating products that contain mercury, lead, cadmium, phthalates and toxic flame retardants.

The state's Mercury Education and Reduction Act (MERA) requires manufacturers to label mercury-containing light bulbs, such as compact fluorescents, with the chemical symbol for mercury (Hg). It also bans most mercury in schools, and the sale of mercury-containing novelties, toys, jewelry, thermometers, and new cars with mercury switches. Washington State also passed a law in 2007 phasing out the use of toxic flame retardants in many products. The law bans the use of polybrominated diphenyl ethers (PBDEs) in items found in the home, because the greatest exposure concerns are for infants and children.

In 2008, Washington State passed the Children's Safe Product Act, which limits the use of lead, cadmium and phthalates, a chemical commonly used in plastics. It also directs the Washington Department of Ecology to create a list of Chemicals of High Concern to Children, and to require manufacturers to report to Ecology if these chemicals are present in their products.

What's on the Label

A product label is a key source of consumer information. Labels usually contain information about what the product is used for and directions on how to use it. The label also contains certain required hazard warnings; it may or may not contain an ingredient list. The type of information required on a product label differs with the type of product and the federal agency that regulates it.

Pesticide Labels

It is a violation of federal law to use a pesticide except as directed on the label. Manufacturers must register

their pesticides with the EPA and display the registration number on the product label.

Registration of a product with the EPA is not a guarantee of safety, but rather an indication that the benefits of using the product, including economic benefits, outweigh the environmental and human health risks.

Figure 4.1 shows a sample product label for a typical lawn and garden insecticide.

1. Pesticide labels must contain in large print one of these words: CAUTION, WARNING, or DANGER. Called signal words, they indicate the acute toxicity of the product, with DANGER indicating the most toxic and CAUTION the least toxic. There are actually four categories of pesticide toxicity, but the two lowest ones are both indicated by the word CAUTION. The sample product label carries the word WARNING, which signals the second highest level of toxicity.
2. Information about specific human health hazards, actions for avoiding them and treatment for exposure is found near the signal word. The sample label indicates that the product is hazardous by all routes of exposure: ingestion, inhalation, and skin or eye contact. It also tells us that the product is a cholinesterase inhibitor, which is a nerve poison. Because of the extreme human health hazards of pesticides, their labels must have detailed first-aid information for physicians or emergency personnel.
3. Pesticide labels differ from other product labels in that they must list some environmental as well as human health hazards. Since pesticides are poisons designed to kill living organisms, they pose a risk to living things other than the targeted pest. Many pesticides are especially toxic to harmless or beneficial species that are likely to be nearby, such as birds, fish, bees, and soil bacteria. The sample label explains that the product is toxic to birds and highly toxic to bees. Notice that the label specifically cautions against using the product when "bees are visiting the treatment area." Using this product on blooming plants would violate federal law.



4. Pesticide labels must identify the active ingredients, those which actually repel, confuse or kill the pest. The percentage of the active ingredient in the product must also be shown on the label. Active ingredients in pesticides often have long, tongue-twisting chemical names, though they are usually known by shorter, common names as well. About 400 active ingredients are currently in use in 25,000 different formulations.

In addition to the active ingredients, almost all pesticides contain what are called "inert" ingredients. In our example, inert ingredients constitute more than 90 percent of the formula. This is not unusual, since inert ingredients often make up the greatest percentage of a product.

Inert ingredients perform any function in the product other than killing or repelling the target pest. For example, inert ingredients include simple components like water as well as complicated chemicals such as solvents, detergents, and propellants. Some inert ingredients may be more toxic than the active ingredients. Others may be highly flammable or corrosive. Information on inert ingredients is frequently unavailable to the consumer. Only a few of the most toxic inert ingredients must be listed. In other words, the higher the percentage of inert ingredients in a product, the higher the percentage of unknown ingredients.

In September 1997, the EPA issued a notice

encouraging manufacturers, formulators, producers, and registrants of pesticide products to voluntarily substitute the term "other ingredients" for the term "inert ingredients" on product labels. The notice was prompted by the results of a survey, which indicated that many consumers are misled by the term "inert ingredient," believing it to mean "harmless."

5. Pesticide labels contain detailed information about how to use the product, including mixing instructions and a list of organisms against which the product is effective. These instructions must be followed carefully. Failure to do so can lead to harmful exposures or impacts.

6. Pesticide labels also contain storage and disposal instructions. However, the disposal instructions, particularly on old pesticide containers, may be in conflict with local policies or laws. Notice that the sample label states that "partially full bottles may be disposed of by securely wrapping original container in several layers of newspaper and discard[ing] in trash." This recommendation is contrary to current disposal practices in Washington. Unused pesticides must not be placed in the trash or poured down the drain. They should be disposed as hazardous waste. Homeowners should contact their local waste handler or county government for information on proper disposal methods and locations.



Pest-B-Gone

Systemic Insect Control

Controls: Aphids, Armyworms, Bagworms, Budworms, Cankerworms, Flower Thrips, Grasshoppers, Japanese Beetles, Leaf-hoppers, Leafminers, Leafrollers, Loopers, Mealybugs, Pine Tip Moth, Root Weevil, Rose Midge, Sawflies, Spittlebug, Tent Caterpillars, Whitefly and other listed leaf-eating caterpillars, worms, and lawn pests.

ON: Roses, Flowers, Ornamentals, Shrubs, Shade Trees and Lawns.

Active Ingredient	By Wt.
****Acephate (O,S-dimethyl acetyl-phosphoramidothioate)	9.4%
Inert Ingredients	90.6%
****ORTHENE(r) Acephate	
U.S Pat. Nos. 3,716,600 & 3,914,417	

4

1

Keep out of reach of children
WARNING
See side panel for additional precautionary statements.

NET CONTENTS 1 QT.

PRECAUTIONARY STATEMENTS

Hazards to humans and domestic animals
WARNING: Causes eye irritation Harmful if swallowed Do not get in eyes Avoid contact with skin or clothing Avoid breathing vapors or spray mist when handling this product Wear chemical resistant gloves long pants and long sleeved shirt When using outdoors spray with your back to the wind and do not use when wind speeds are 10mph or more Wash the outside of the gloves with soap and water before removing Do not allow children or pets to come into contact with treated surfaces until sprays have dried

STATEMENT OF PRACTICAL TREATMENT

If swallowed have water or milk to drink and induce vomiting by touching back of throat with finger or by administering syrup of ipecac If possible contact a physician Poison Control Center or emergency clinic before inducing vomiting Do not induce vomiting or give anything by mouth to an unconscious person If medical advice cannot be obtained take person and product container to the nearest emergency treatment facility In case of eye contact flush eyes with fresh water for 15 minutes and get medical attention immediately Wash skin and hands thoroughly after using If inhaled remove person from exposed area **Note to Physicians:** Emergency Information— call 1-800-457-2022 This product contains a cholinesterase inhibitor If signs and symptoms of cholinesterase poisoning are present atropine is antidotal 2-PAM may also be given in conjunction with atropine

2

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds Do not apply directly to water or wetlands Do not contaminate water by cleaning of equipment

3

or disposal of wastes Cover or soil incorporate spills

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting treatment area **PHYSICAL OR CHEMICAL HAZARDS** Do not use or store near heat or open flame

DIRECTIONS FOR USE

It is a violation of Federal Regulation to use this product in a manner inconsistent with its labeling

READ THE SIDE LABEL USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

Mix thoroughly and spray entire plant covering both sides of foliage thoroughly May be applied with ORTHO SPRAY-ETTE, ORTHO Lawn & Garden Sprayer, tank-type or power sprayer. Spray when insects are present or feeding injury is first noticed Repeat if reinfestation occurs **For homeowner use only Do not apply to plants to be used for feed or food**
NOTE: Do not apply to American Elm, Flowering Crabapple, Sugar Maple, Red Maple, Cotton and Weigelia as foliage injury may occur Clean sprayer after use by rinsing with water Do not use household bleach as a cleaning agent.

5

ON: Roses, Flowers, Ornamentals, Shrubs and Shade trees

For Aphids, **Grasshoppers: Apply 2 Tbs. (1fl oz.) to 1 gal water

For insects listed below: Apply 3 Tbs. (11/2 fl oz.) to 1 gal water

Armyworms, Bagworm, **Black Vine Weevil, Budworms, Cabbage Looper, Casebearers Cataipa, Sphinx Moth, Cherry Laurel, Cuban Laurel Thrips, Elm Leafbeetle, Fall Cankerworm, Fall Webworm, *Flower Thrips *Gladiolus Thrips, Green Striped Mapleworm, Gypsy Moth Hornworm, Lace Bug, Leafhoppers, Leafminers, Obliquebanded Leafrollers, Omnivorous Leafminer, Maple Shoot Moth, *Mealybugs, Mimosa Webworm, Nantucket Pine Tip Moth, Oak Webworm, Oleander Caterpillar, Orange-striped Oakworm, **Obscure Root Weevil(adults), Poplar Tentmaker, Psyllids, Rose Midge Sawflies, *Scales (crawlers), Spittlebug, Sunflower Moth, Tent Caterpillars, *Tow-Spotted Spider Mites- (Suppression), Willow Leafbeetle, White-marked Tussock Moth, *Whiteflies, Yellow-necked Caterpillar

*For these hard to control insects, spray 2-3 times 7-10 days apart

****Special Directions: Obscure Root Weevil (Adults)**— Apply full coverage spray to the foliage in late spring as soon as feeding is noticed (usually about April) Repeat every four weeks through September (mid-July through August are the peak feeding times) **Black Vine Weevil**— Apply full coverage spray to foliage and soil beneath plants Begin applications in mid-June and make 3 additional applications at

5

6

3-week intervals **Grasshoppers**— Apply full coverage spray to foliage and soil beneath plants and to lawn grasses

For Japanese Beetle (Rose Linden, Boston Ivy) Apply 4 Tbs. (2 fl oz.) to 1 gal. Water Repeat at 7-10 day intervals for as long as needed

HONEYSUCKLE APHID ON HONEYSUCKLE: Spray thoroughly as leaves begin spring expansion Reapply in 2 weeks with a third spray 4 weeks after second application

COMBINATION SPRAY WITH FUNGICIDE OR FERTILIZER ON ROSES: ORTHENE Systemic Insect Control may be used together with ORTHO FUNGINEX® Rose Disease Control or ORTHOCIDE® (Captan) Garden Fungicide or ORTHO Rose & Flower Food 8-12-4 (Liquid) at the rates recommended on each product label Apply fungicides on a regular schedule for disease control Add ORTHENE Systemic Insect Control only when necessary for insect control Do not apply more than two consecutive applications of ORTHENE Systemic Insect Control in combination with any of the above fungicides

Lawn Insects— (Fall Armyworm, Leafhoppers, Sod Webworms, Greenbug) on Bermuda grass, Bluegrass, Bentgrass Fescue, St. Augustine Apply 3 Tbs. (11/2 fl oz.) to 1 gal water Spray when insects are present or feeding damage is first noticed Apply at the rate of 6 gallons of spray per 1000sq ft. of lawn Repeat if reinfestation occurs

Imported Fire Ants— Bermuda grass, Centipede, Bahia, St. Augustine and bare ground Mix 2 Tbs. (1 fl oz.) in 1 gal. water in sprinkling can and apply to each fire ant mound Thoroughly wet mound and treat a 4 foot diameter area around mound For best results apply in cool weather or in early morning or late afternoon Treat new mounds as they appear

STORAGE AND DISPOSAL

Storage— Keep pesticide in original container Do not put concentrate or dilute into food or drink containers Avoid contamination of feed and food stuffs Store in a cool dry place preferably in a locked storage area Do not store diluted spray

DISPOSAL PRODUCTS— Partially filled bottle may be disposed of by securely wrapping original container in several layers of newspaper and discard in trash **CONTAINER**— Do not reuse empty bottle Rinse thoroughly before discarding in trash

NOTICE— Buyer assumes all responsibility for safety and use not in accordance with directions

Pest-B-Gone
PO Box Z, Big Valley, CA
Product 0000
EPA Reg No XXX-XXXX-XX

FIGURE 4.1 PESTICIDE LABEL



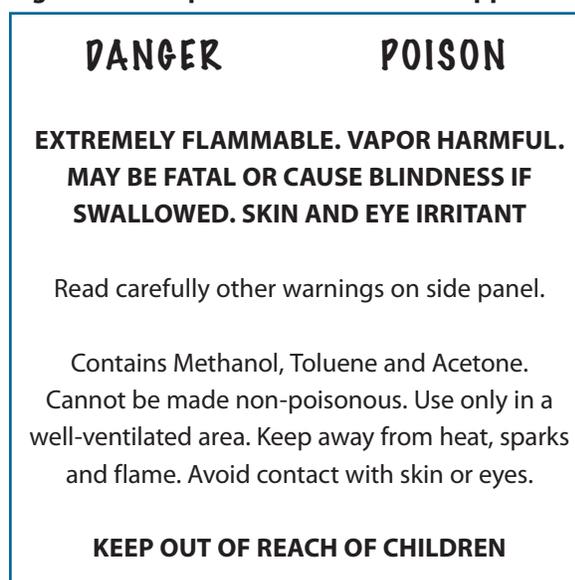
Consumer Product Safety Commission Labels

Figure 4.2 shows the wording on the label from a paint stripper, a typical product regulated by CPSC. Notice that it carries the signal word **DANGER** which indicates the product is extremely hazardous. The product is labeled **DANGER** because it is highly flammable and poisonous if swallowed or inhaled. While the signal word applied to a pesticide product is based on its level of toxicity or poison, the signal word for other products can be driven by other concerns such as flammability. When multiple hazards are present in a product, the most important one determines the signal word. Less hazardous products regulated by CPSC carry the words **WARNING** or **CAUTION** on the label. If a product is not considered hazardous by its regulating agency, a signal word will not appear on the label. However, since manufacturers are not required to ensure the safety of all products before they are sold, a product's effect on human health and the environment may not be known until the product is on the shelf and in widespread use. Examples of this situation are the pesticide DDT, lead in children's toys, melamine in pet food, and early formulations of birth control pills.

Near the signal word are phrases which identify the nature of the hazard indicated by the signal word. Typical phrases include "harmful or fatal if swallowed," "flammable," "may cause skin irritation," or "vapors harmful." Until recently, products regulated by CPSC did not contain any warnings about long-term health hazards. In 1990 CPSC required that art materials be labeled if they pose a long-term health hazard, such as cancer, nervous system damage, and birth defects. The art material guidelines have since been extended to all products regulated by CPSC, and all such products are now expected to identify long-term hazards on the label. It is the manufacturer's responsibility to determine if a long-term hazard exists and to label the products properly. It is important to remember

that long-term hazard warnings will only appear on products manufactured after the new requirements went into effect. Many products in a typical home have been there for years and may have no hazard labeling at all. Therefore, when disposing of old chemicals from the home, be cautious and assume that all products are hazardous.

Figure 4.2 Sample Label for a Paint Stripper



CPSC has singled out a few ingredients for special health warnings. Besides methanol, which causes blindness if swallowed, methylene chloride, ethylene glycol, benzene, toluene, xylene, petroleum distillates, and turpentine require special scrutiny. Under CPSC, if a product is considered hazardous, the label must list the ingredients that contribute to that hazard. On this sample paint stripper label, the listed ingredients are methanol, toluene, and acetone. Notice that percentages are not given. In addition, there may be other ingredients which are not listed because they do not contribute significant health hazards. CPSC does not require that environmental hazards be listed on product labels.

Appendices



Food, Drugs, Cosmetics, Personal Care Products

Products regulated by the FDA have labeling requirements both more and less stringent than those regulated by the EPA and CPSC. The FDA has a stronger disclosure rule than either of the other two agencies and requires that products under its jurisdiction list all ingredients in decreasing order of amount. The label for a typical hair color preparation, such as the one shown in Figure 4.3, lists more ingredients than the labels for a pesticide or paint stripper.

A product such as hair color would have the word CAUTION on the side panel, followed by some specific health warnings. The word CAUTION on this product does not have the same meaning as it does when it appears on products regulated by the EPA or CPSC. The FDA does not have a hierarchy of signal words with different meanings. Instead, the term CAUTION is used on the cosmetic label merely as a general alert that some hazard exists. The sample label indicates that the hazards are skin irritation when the product is used as directed and blindness if the product is used improperly for dyeing eyelashes or eyebrows. Notice that the advertising claim that the product does not contain “harsh ammonia” is much larger and more prominent than the important warning about possible blindness that can result from using the product improperly.

Figure 4.3 Hair Color Label

Radiant Color Salon Formula Ammonia-Free Hair Color

The professional hair color you can use at home. Beautiful young color, livelier shine, healthier hair – Without harsh ammonia!

ONE APPLICATION

CONDITIONING SHAMPOO CONTAINS WATER • TRIDECETH-7 CARBOXYLIC ACID • COCOAMPHOIPROPIONATE • LAURAMIDE DEA • GLYCOL STEARATE • FRAGRANCE • POLYQUATERNIUM-10 • GUARHYDROXYPROPYLTRIMONIUM CHLORIDE • PANTHENOL • CITRIC ACID • DISODIUM EDTA • METHYLCHLOROISOTHIAZOLINONE • METHYLISOTHIAZOLINONE • METHYLPARABEN • PROPYLPARABEN

CAUTION: THIS PRODUCT CONTAINS INGREDIENTS WHICH MAY CAUSE SKIN IRRITATION ON CERTAIN INDIVIDUALS AND A PRELIMINARY TEST ACCORDING TO ACCOMPANYING DIRECTIONS SHOULD FIRST BE MADE. THIS PRODUCT MUST NOT BE USED FOR DYEING EYELASHES OR EYEBROWS. TO DO SO MAY CAUSE BLINDNESS.

COLORANT

CONTAINS WATER • OLEIC ACID • ETHANOLAMINE • ISOPROPYL ALCOHOL • LINOLEAMIDE DEA • OLEAMIDE DEA • PEG-2 COCAMINE • TEA-LAUYL SULFATE • POTASSIUM COCO-HYDROLYZED COLLAGEN • FRAGRANCE • LANETH-5 • SODIUM SULFITE • PPR-40 BUTYL ETHER • ERYTHORBIC ACID • TETRASODIUM EDTA • P-PHENYL ENEDIAMINE • P-AMINOPHENOL • RESORCINOL • 2-METHYLRESORCINOL • 2-CLORO P-PHENYLENEDIAMINE SULFATE • 4-AMINO-2-HYDROXYTOLUENE

CREAM DEVELOPER

CONTAINS WATER • HYDROGEN PEROXIDE • CETEARYL ALCOHOL • CETEARETH-20 • MINERAL OIL • SODIUM LAURYL SULFATE • METHYLPARABEN • SODIUM PHOSPHATE • PHOSPHORIC ACID



Advertising Claims

Many product labels use words that are not currently regulated by the government. *New, improved* and *professional strength* are advertising claims. Recently, environmental advertising claims have become more common on product labels. *Ozone friendly, environmentally safe, biodegradable, and nontoxic* are commonly seen words on product labels. However, with the exception of *organic*, there are no government standards or regulations that define the meaning or use of such words. Consumers should use caution and investigate the basis for these claims and not accept them as true without proof.

In order to prevent well-intentioned consumers from being misled, the Federal Trade Commission issued guidelines in 1992 for the use of environmental claims on product labels. These guidelines urge manufacturers to avoid vague or general claims altogether and to provide documentation for specific claims they make. Although the guidelines do not have the force of law, they are a step towards a more stringent policy.

What's Not on the Label

As mentioned earlier, pesticide labels may not reveal the identity of inert ingredients.

What other information is not commonly found on product labels?

Except for pesticides, product labels do not have to warn of hazards to the environment. This means that you often will not know if the product contains ingredients harmful to the earth's ozone layer, toxic to fish, resistant to biodegradation or given to accumulation in the environment. For example, many

spray paints, spot removers, adhesives and pesticides once contained the ozone depleting chemical 1,1,1-trichloroethane. Most carwash products contain detergents highly toxic to fish. Mothballs and rubber cement contain ingredients that bioaccumulate in human fatty tissues. None of this information is explained on product labels.

Product labels usually do not list ingredients that cause cancer in animals and are suspected of causing cancer in humans. An exception is in the state of California, where a state law (known commonly as Proposition 65) requires the listing of carcinogens and reproductive poisons on products sold there. Because California is such a large market, many products sold throughout the U.S. may also adhere to this labeling requirement.

Typically, however, the consumer's only protection against such chemicals occurs when they are banned from consumer products, as has happened with pentachlorophenol and carbon tetrachloride, both widely used at one time. There are many chemicals still on the market and found in products which have been identified as problematic. The following are a few examples of ingredients currently on the market which are suspected of causing cancer:

- Methylene chloride, widely used in paint removers.
 - Paradichlorobenzene, the most common constituent of mothballs.
 - Captan, an ingredient in some garden fungicides.
- Many additional examples exist.

Appendices



Other Sources of Information

Material Safety Data Sheet (MSDS)

A Material Safety Data Sheet (MSDS), required by the Occupational Safety and Health Administration (OSHA), is another source of information on consumer products. An MSDS lists hazardous ingredients that make up one percent or more of a hazardous product. It must list known or suspected cancer-causing agents present at 0.1 percent or more, and the health effects of exposure to the product must be described. If the inert ingredients in a pesticide formulation are considered hazardous by OSHA, they must be listed on the MSDS, even if EPA does not require that they appear on the product label.

Some manufacturers create more complete and detailed MSDSs than others. Some may restrict access to information by listing the components of a product as “proprietary,” thereby limiting the ability of an interested party to evaluate the risks associated with a product. The MSDS is also only required to list hazardous chemicals, so little information is available on non-hazardous components. If a product is deemed not to contain any hazardous chemicals, the manufacturer may not list any ingredient information in the MSDS at all.

OSHA requires manufacturers to create an MSDS for each product, and requires that manufacturers and employers make the MSDS readily available to workers who may be exposed to the product. Manufacturers are not required to supply these sheets to consumers, but sometimes they will do so if asked. The product label and the MSDS together can provide more information on ingredients than either one alone.

Product Certification: Government and Non-Government Programs

Because our current laws don't require complete disclosure of product ingredients and associated hazards, the EPA and many private organizations have developed programs to certify a product's safety.

The EPA's Design for the Environment (DfE) program is based on peer-reviewed science. Manufacturers pay a fee to have their products tested, and if they pass certain criteria, they are allowed to use the DfE symbol on their label. Some products in the Clorox Company's *Green Works* line of household cleaners are among the products that have received DfE certification.

Green Seal and Scientific Certification Systems (SCS) are two of a number of private organizations that offer an evaluation of a product's environmental performance for a fee. Manufacturers whose products meet the criteria of these organizations are entitled to bear their logos, along with explanatory text, on the label.

Because of differences in the two organizations' goals, there is potential for consumer confusion. SCS certifies particular performance aspects, such as biodegradability, of a product or its packaging. When considering a product with an SCS certification, it is very important to read and understand just what aspect of the product or package is being certified. For example, a highly toxic product could receive an SCS green cross for its recycled bottle. Green Seal, on the other hand, attempts to identify products that represent environmental performance across a group of factors which they consider to be the most important. The Green Seal is a broader certification than the SCS green cross.



Many private organizations also provide searchable product databases, such as Environmental Working Group's popular Skin Deep personal care product database. These databases are a convenient way for consumers to learn more about products. However, consumers should research the criteria and science behind the rankings or endorsements to ensure they understand what is being presented.

Perhaps the most far-reaching effort is REACH (**R**egistration, **E**valuation, and **A**uthorization of **C**hemical substances), a European Community regulation on chemicals and their safe use. REACH, which became effective in 2007, addresses the production and use of chemical substances, and their potential impacts on both human health and the environment. It requires manufacturers and importers to gather information on the properties of their chemical substances and to register their product with the European Chemicals Agency (ECHA) in Helsinki.

Some of this information, including the results of toxicity testing, will be publically available in a central database run by ECHA. ECHA also co-ordinates the in-depth evaluation of suspicious chemicals and runs a public database in which consumers and professionals can find hazard information. The regulation also calls for the progressive substitution of the most dangerous chemicals when suitable alternatives have been identified.

As a result of REACH, products sold in Europe and Canada will likely have fewer hazardous chemicals compared with those sold here in the United States. Whether and how a version of REACH will be implemented in the United States is being discussed and debated by lawmakers, industry and consumer groups.

The original version of this article was authored by Philip Dickey and appeared in the 1999 edition of this guide by the Local Hazardous Waste Management Program in King County. It was revised by the editors of this 2009 edition with input from Alex Stone, Chemist, Washington Department of Ecology.

Appendices



APPENDIX D

Sample Labels



New! **SHAKE BEFORE USING**

FlushAway

TOILET BOWL CLEANSER



CAUTION:
Eye irritant
Read back panel carefully

THICK
with Bleach
AND Abrasives

Net Wt 24 Oz. (680.4 g)



FlushAway
Toilet Bowl Cleanser
Thick with Bleach and Abrasives
A powerful combination of bleach and abrasives scrubs away stains to leave your toilet bowl thoroughly clean. It's safe for colored toilets, and the mild abrasives will not scratch your bowl.

And FlushAway Toilet Bowl Cleanser has an easy-open cap and a new angle neck design to make cleaning under the rim easier.

DIRECTIONS FOR USE:
SHAKE WELL BEFORE USE.

1. To open, simply twist cap counter-clockwise one-quarter turn. Cap does not come off.
2. Lower bottle so nozzle is below rim. Direct product under and around rim.
3. Brush to completely cover inside of bowl, then flush. Rinse brush in fresh water after use. Repeat if necessary.

IMPORTANT - Close cap after each use to prevent product from drying out.

CAUTION: Eye irritant. May be irritating to skin.
FIRST AID: Eyes - Flush with water for 15 minutes.
IF SWALLOWED - Drink a glassful of water. In all cases, call a physician.
KEEP OUT OF REACH OF CHILDREN. Avoid contact with clothes, fabric or carpet. Do not use or mix with other household chemicals as hazardous gases may result.
TO DISPOSE: Pour unused product down drain and flush with water. Do not mix products when disposing.
Contains calcium carbonate, hypochlorite bleach and detergents. Contains no phosphorous. Safe for plumbing and septic systems.

MADE IN U.S.A.

Isopropyl Rubbing Alcohol



Rubefacient/Topical Antimicrobial

Helps relieve minor muscular aches due to overexertion.

16 Fl. Oz. (1 Pt.) 473 mL

Isopropyl Rubbing Alcohol

Warning: Flammable, keep away from fire or flame.
Indications: To decrease germs in minor cuts and scrapes. Helps relieve minor muscular aches due to overexertion. Directions: Apply to skin directly or with clean gauze, cotton, or swab. For rubbing, apply liberally and rub with hands.
Warnings: For external use only. Will produce serious gastric disturbances if taken internally. Use only in a well-ventilated area; fumes may be harmful.
Keep out of the reach of children: In case of accidental ingestion, seek professional assistance or contact a Poison Control Center immediately.
Caution: Do not apply to irritated skin, use in eyes or on mucous membranes. In case of deep or puncture wounds, consult doctor.
Active ingredient: 70% Isopropyl Alcohol by volume. Also contains: Water.
Notice: Does not contain, nor is intended as substitute for grain or ethyl alcohol.



Active ingredient
Sodium Hypochlorite 5.25%
Inert ingredients 94.75%
Contains No Phosphates

New



Keep out of reach of children

Warning: EYE IRRITANT
(see back panel for other cautions.)

Removes Stains
Cleans Deodorizes

64 fl oz (2 qts) 1.89 liters

BLANCO bleach for a cleaner fresher laundry and household

Your laundry needs BLANCO bleach:

For the broad range of laundry problems, no other detergent additive can give a cleaner brighter wash
Brightens whites and removes stains - Deodorizes and eliminates odors - Boosts cold water cleaning power - Safe for most color-fast washables

Directions for laundry use

- Pretreat stains and heavy soils
- Stubborn stains may be soaked for 5 minutes in a solution of 1/4 cup BLANCO bleach to 1 gallon of cool sudsy water.
- Sort laundry by color and fabric
- Separate whites from colors, light colors from dark ones. Avoid bleaching wool, silk, mohair, leather, spandex, and non-fast colors.
- Add bleach and detergent
- BLANCO bleach may be added to the wash water before laundry is put in, or for best results dilute with a quart of water and add 5 or 6 minutes after the wash cycle has begun.
- Use the recommended amount of BLANCO bleach as shown. For very large loads, add slightly more BLANCO bleach.

Regular Top Loading Automatic... 1 cup
Large Top Loading Automatic... 1 1/2 cups
Front Loading Automatic... 1/2 cup
Hand Laundry (2 gallons sudsy water)... 1/8 cup

STORAGE AND DISPOSAL

- Store BLANCO bleach in a cool dry place. Do not reuse empty container; rinse container and put in trash collection.

Directions for household use

BLANCO bleach is a highly effective deodorizer for your bathroom and kitchen.

Bathrooms and showers Flush drains. Clean with a solution of 3/4 cup BLANCO bleach per gallon of warm sudsy water. Let stand 5 minutes. Rinse. *Toilet bowls* Flush toilets. Pour 1/2 cup of BLANCO bleach into bowl. Brush. Let stand 10 minutes; flush. *Kitchen sinks* Cover stains with 2/3 gallons of water, add 1/2 cup of BLANCO bleach. Let stand 5 minutes. Rinse. *Floors, vinyl tile, woodwork, and appliances* Clean with a solution of 3/4 cup BLANCO bleach per gallon of sudsy water. Let stand 5 minutes. Rinse.

Warning Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed. May irritate skin.

First Aid

If in eyes, remove contact lenses; rinse with plenty of water for at least 15 minutes. If swallowed, drink a glassful of water. In either case, call a physician. If contact with skin, immediately remove contaminated clothing and wash skin thoroughly with water.

Flush drains before and after use.

Do not use or mix with other household chemicals, such as toilet bowl cleaners, rust removers, acid or ammonia containing products. To do so will release hazardous gases. Do not use for food or water treatment. Prolonged contact with metal may cause pitting or discoloration.

Precautionary Statements

HAZARDS TO HUMANS

Avoid contact with eyes, skin, and clothing. Avoid breathing vapors or spray mist. Keep away from food, foodstuffs and domestic water supplies. Wash thoroughly after handling. Do not use in edible product areas of food processing plants, restaurants, or other areas of food processing plants, restaurants, or other areas where food is commercially prepared or processed. Do not use in serving areas while food is exposed. Do not allow children or pets to contact treated areas until spray has dried.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, birds, and other wildlife. Do not apply directly to water. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label. This product is highly toxic to bees exposed to direct treatment or residue on plants. Protective information may be obtained from your Cooperative Agricultural Extension Service.

STATEMENT OF PRACTICAL TREATMENT

If Swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. **If on Skin:** In case of contact, remove contaminated clothing and immediately wash skin with plenty of water. **If in Eyes:** Flush eyes with plenty of water. **If Inhaled:** Remove victim to fresh air. Apply artificial respiration if indicated.

NOTE TO PHYSICIAN: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. Atropine only by injection is antidote.

PHYSICAL OR CHEMICAL HAZARDS

CAUTION

Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130 F may cause bursting.

DIRECTIONS FOR USE It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS. Lonsect Ranger Ant, Roach, and Spider Killer is a highly effective formulation which provides rapid kill of such crawling insects as listed below, including those resistant to certain other insecticides. In addition to rapid initial kill, Lonsect Ranger Ant, Roach & Spider Killer stays on treated surfaces and provides residual insect killing power for four to six weeks after spray deposit has dried.

How to Use: Spray infested surfaces until wet, moving the spray stream rapidly to prevent excessive wetting of surfaces and waste of material. Point spray away from people, plants, and surfaces. Thoroughly wash dishes and food handling utensils with soap and water if they become contaminated by application of this product. Do not allow children or pets to contact treated surfaces until spray has dried. Remove pets and cover fish bowls (tanks) before spraying.

DIRECTIONS: Within residential buildings including homes and apartments for SPOT TREATMENT only. **FOR CONTROL OF COCKROACHES (including Asian and strains resistant to certain other insecticides), ANTS, SPIDERS (including black widow spiders), CRICKETS, FIREBRATS, AND SILVERFISH:** Direct spray into cracks and crevices in walls, dark corners of rooms, cabinets and closets, along and behind baseboards, beneath and behind sinks, waste containers and wherever else these pests may find entrance. **Note:** A period of four to seven days is normally required for maximum effect on cockroaches. Residual activity lasts for four to six weeks.

For control of carpet beetles - spot treatment: Spray along baseboard and edges of carpeting, under carpeting, rugs, and furniture, in closets and on shelves and wherever else these insects are seen or suspected.
Storage and Disposal
 Storage: Store in a secure, preferably locked, storage area away from heat or open flame. Disposal: Product - Unused product may be disposed of by securely wrapping original container in several layers of newspaper and discarding in trash. Container - Replace cap and discard container in trash. Do not incinerate or puncture. **Notice: Buyer assumes all responsibility for safety and use not in accordance with directions.**
 EPA Reg. No. 4444-22-333
 EPA Est. No. 9999-AA-1



The Lonsect Ranger

Ant, Roach & Spider Killer

"Puts the Little Buggers Out to Pasture" for Good

Kills:

Roaches, Ants, Spiders, Crickets, Silverfish, Firebrats, & Other Listed Pests

Kills on Contact

Keeps Killing for up to Four Weeks
Keep Out Of Reach Of Children



Active Ingredients	
d-trans allethrin (allyl homolog of cinerin 1)	0.0500%
related compounds	0.0036%
chlorpyrifos [0,0-diethyl 0-(3,5,6-trichloro-2-pyridyl) phosphorothioate]	0.5000%
xylene range aromatic solvent	0.3300%
petroleum distillates	4.0000%
Inert Ingredients	95.1164%
Total	100.0000%

CAUTION

See Back Panel for Additional Precautionary Statements

NET WT. 15 OZ

BUGOUT

Flea and Tick Fogger

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: May cause eye irritation. Avoid contact with eyes, skin, or clothing. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing mist. Do not apply to animals or humans. Avoid contamination of food or foodstuffs. Do not use in edible product areas of food processing plants, restaurants, or other areas where food is commercially prepared, processed, or stored. Do not use in serving areas while food is exposed.

STATEMENT OF PRACTICAL TREATMENT

if in eyes - Flush with plenty of water. Get medical attention if irritation persists.

if inhaled - Remove victim to fresh air. Apply artificial respiration if indicated.

if on skin - Remove contaminated clothing and wash affected areas with soap and water.

PHYSICAL OR CHEMICAL HAZARDS

FLAMMABLE: Contents under pressure. Do not use or store near heat or open flame. Do not smoke in use area. Do not puncture or incinerate container. Exposure to temperatures above 130 F may cause bursting. **DO NOT** use in small enclosed or restricted spaces such as cabinets, closets, or under tables. Use of more than one fogger per 5,000 cu. ft. (or 625 sq. ft.) may pose a fire hazard.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For most effective results, entire dwelling should be treated. Use one fogger for each 5,000 cubic ft. (or 625 sq. ft.).

- 1) Close outside doors and windows and turn off fans and air conditioners. Open interior doors, cupboards, and closets of area to be treated.
- 2) Extinguish open flames except pilot lights.
- 3) Remove pets, but be sure to leave pet bedding as this is a primary hiding place for fleas and must be treated to get best results. No need to discard pet bedding after treatment.
- 4) Cover or remove fish tanks and bowls. Cover or remove exposed food, dishes, utensils, food handling equipment and plastic items such as eye glasses, stereo covers, and notion boxes. Leave rugs, drapes, slip covers, and upholstered furniture in place. Used as directed this product will not harm them, just the fleas hiding inside.
- 5) Place the fogger on a raised area such as a table or chair with newspapers covering the area directly under the can, at least 6 ft. away from pilot lights.
- 6) Keeping at arm's length, point top of can away from face and press down actuator tab to lock in position and start fogging action. Set in an upright position and leave treated area for 2 hours.
- 7) After 2 hours, open all doors and windows, turn on air conditioner and fans, and let treated area air for 30 minutes.
- 8) All food handling surfaces should be covered during treatment or thoroughly cleaned before using.

STORAGE AND DISPOSAL

Store in cool area away from children. Do not reuse empty container. Wrap and put in trash.

BUGOUT

Flea and Tick

- Kills Fleas and Ticks
- Kills Preadult Fleas
- PLUS 7 Months Flea Control

Active ingredients: (S)-Methoprene
 [Isopropyl (2E,4E,7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate] 0.075%;
 Permethrin (3-phenoxyphenyl) methyl (+)cis-trans-3(2,2-dichloroethyl)-2,2-dimethylcyclopropanecarboxylate 0.500%.
 Inert ingredients: 99.425%. Total: 100.000%



CAUTION: KEEP OUT OF REACH OF CHILDREN.

See back panel for additional precautionary statements.

Net Wt 5 Oz. (141 g)

BLAZE-UP

Charcoal Lighter



PLEASANT HICKORY AROMA!

Net 32 Fl. Oz. (1 Qt.)

Danger: Harmful or fatal if swallowed. READ PRECAUTIONS ON BACK BEFORE USING. Keep out of reach of children.

Read directions before using
Caution - combustible mixture

DIRECTIONS:
Just remove cap and BLAZE-UP is ready to use. Finger pressure on sides of can creates a spray of liquid from the special built-in squirt top. No changing of spouts, no muss, no fuss. Point can opening in direction desired before squeezing can. Use as directed below - replace cap on spout after each use.

TO USE:
Squirt BLAZE-UP Charcoal Lighter over bed of charcoal. Wait a short time for liquid to penetrate, then ignite with care. Provide good draft and do not disturb fire until well lighted. BLAZE-UP Charcoal Lighter will burn off cleanly in a few minutes, leaving the charcoal fully ignited.

CONTAINS PETROLEUM DISTILLATES.
If swallowed, DO NOT induce vomiting - call a physician immediately. Keep out of reach of children. Replace cap after each use and before lighting charcoal. DO NOT use BLAZE-UP Charcoal Lighter on lighted fire.

NEW!
No-Drip Cap

Great for the Delicate Cycle!

For all fine washables

GENTLE SUDS

Cold Water Wash

No Shrinking, Stretching, Fading

16 Fl. Oz. (1 Pt.) 473 ml

GENTLE SUDS Cold Water Wash
Safely cleans without shrinking, stretching, fading.

GENTLE SUDS safely cleans all your fine washables - knits, sweaters, doubleknits, blouses, panty hose, stockings, bras, fine lingerie, gloves, bathing suits, down jackets, baby clothes, blankets, fine washables of silk, wool, cashmere, cotton, polyester, orlon, nylon, rayon and other synthetics.

MACHINE WASHING:
Fill machine with cool or cold water, add 1/4 cup GENTLE SUDS and then add garments. Delicate or gentle cycle recommended. Rinse in cool or cold water and spin dry. Contains 8 washes.

HAND WASHING:
Use in cool or cold water. The average bathroom sink requires 1-2 capfuls (fill cap to line). Kitchen sinks and large laundry tubs are much larger, and when full, need 5-7 capfuls. Soak garment for 3 minutes. Gently squeeze suds through. Rinse thoroughly in cool or cold water. Roll in towel to remove excess water. Do not wring or twist. Dry flat, away from sun or heat. Contains up to 40 hand washes.

NOTE:
For stubborn spots, soak longer or wet garment thoroughly and apply a little GENTLE SUDS directly to spot.

IMPORTANT:
Follow manufacturer's care (and drying) instructions sewn into garments. If colors are not fast, do not wash (test by dipping corner in water). GENTLE SUDS does not contain bleach, phosphates or dyes; the organic surfactants in GENTLE SUDS are biodegradable.

For Medical Emergency call 1-800-555-5555.
This bottle is coded for recycling.

Environmentally Safe Aerosol

With Organic Protein Polypeptide & di-Panthenol

Never Flaky
Never Sticky

HOLD UP

Professional Hair Spray

Sold in Salons

3.0 Fl. Oz. (2.4 Av. Oz.)



When you finish with HOLD UP, the professional salon hair spray, your hair-do will really stay done.

Perfect for quick sets for long-standing styling . . . holds from set to set even in damp, humid weather. Use it as your hairdresser does.

Filtered clear formula contains no lacquer . . . water soluble for easy damp comb touch-up . . . never leaves hair stiff or sticky . . . and it's anti-static to prevent "fly-away" hair. Formulated for professional use.

DIRECTIONS FOR USE: Hold can upright 8-12 inches from hair and spray. To restyle without respraying use damp comb.

WARNING: Flammable. Do not use near fire or flame or while smoking. Avoid spraying in eyes. Contents under pressure. Do not puncture or incinerate. Do not store at temperature above 120 F. Use only as directed. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Keep out of reach of children.

INGREDIENTS: SD Alcohol, Isobutane (or Normal Butane), Propane, Vinyl Acetate/Crotonic Acid/Vinyl Neodecanoate Polymer, Aminomethyl Propanol Fragrance, PPG-1-PEG-50, Lanolin, PVP, Animal Protein Derivative, Panthenol, PPG-2 Salicylate.

Patented Formula

All Weather Protection

TOMBSTONE
ANTIFREEZE/COOLANT



"Use it or Watch Your Car Die"

Warning:

*Harmful or fatal if swallowed or inhaled
Read cautions on back label*

1 gal. (3.78L)

When used as directed, TOMBSTONE Antifreeze:

- Prevents freeze-ups
- Prevents rust and corrosion
- Prevents overheating and boilovers
- Protects aluminum and all other engine metals

Directions

Just follow these 3 simple steps once a year to give your car unsurpassed cooling system protection. Caution: Do not remove radiator cap when engine is hot.

- 1 Drain your radiator. Collect used antifreeze and dispose according to local laws and regulations. Where permitted, we recommend disposal in sanitary sewer systems. Do not drain onto ground or into storm drainage systems.
- 2 Flush the cooling system using a flush/cleaner.
- 3 Fill radiator with a minimum 50%, maximum 70% TOMBSTONE Antifreeze/Coolant. Add water to fill radiator.

Important Safety Information

Antifreeze/coolant is poisonous. Clean up any leaks or spill immediately. Tighten the child resistant cap and store antifreeze away from children and animals.

WARNING

Do not drink antifreeze or solution. If swallowed, give two glasses of water and induce vomiting. Call a physician. Ethylene glycol base. Avoid inhaling mist or hot vapors. If inhaled, remove to fresh air. Ethylene glycol causes birth defects in laboratory animals. Do not store in open or unlabeled containers. Wash thoroughly after handling. Solution is poisonous to animals.

KEEP OUT OF REACH OF CHILDREN.

This container is coded for plastic recycling. Please encourage recycling in your community.



CUTS GREASY DIRT FAST!

Dirt Be Gone

All Purpose Cleaner

22 Fl. Oz. (1 Pt. 6 Oz.) 651 mL.

Caution: Eye irritant
Read back label carefully



Dirt Be Gone

Cuts greasy dirt fast!

Wipes away dirt and grease stains including Heel Marks, Crayon, Fingerprints, Food Stains, and Soap Scum on Most Washable Surfaces around your House, both Inside and Out!

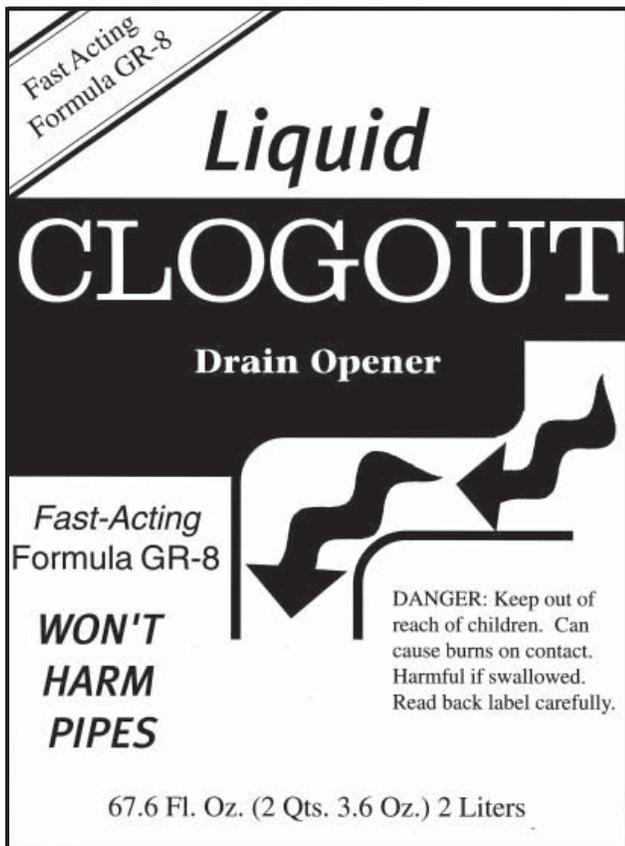
KITCHEN AND HOUSEHOLD
Refrigerators, Counters, Stoves, Stove Hoods, Walls, Window Sills, Floors, Doors, Cupboards, Woodwork

BATHROOMS
Ceramic Tile, Sinks, Showers, Tubs, Cabinets
Just Spray and Wipe!
No rinsing needed. For Big Jobs use the Economical 64 oz. size Dirt-Be-Gone.

Note:
Dirt-Be-Gone is safe on most washable surfaces. However, on painted surfaces test a small area. Not recommended for use on soft vinyl, varnishes, or aluminum. If applied on those surfaces, rinse and wipe dry immediately.

CAUTION:
May be irritating to the eyes upon direct contact. In case of eye contact, flush eyes with plenty of water for 15 minutes. If swallowed, drink a glassful of water. Call a physician. Keep out of reach of children.

Ingredients:
Water, detergents, builder, grease cutter, & color.
Contains no phosphorous.



Fast Acting Formula GR-8

Liquid CLOGOUT

Drain Opener

Fast-Acting Formula GR-8

WON'T HARM PIPES

DANGER: Keep out of reach of children. Can cause burns on contact. Harmful if swallowed. Read back label carefully.

67.6 Fl. Oz. (2 Qts. 3.6 Oz.) 2 Liters



Liquid CLOGOUT

Drain Opener
with Formula GR-8

Keep out of reach of children.

IMPORTANT: READ ENTIRE LABEL BEFORE USING.

Open carefully. Do not squeeze bottle. Pour slowly and avoid splashing. Keep hands, face, and children away from drains while using CLOGOUT. Clean up spills at once. Never use a plunger or pressurized drain pipe opener during or after use of CLOGOUT because CLOGOUT may still be present if drain did not completely clear. Do not reuse empty container. Rinse container and replace cap before discarding.

DIRECTIONS FOR USE:
FOR CLOGGED OR SLOW RUNNING DRAINS

- 1 Pour 1/4 bottle slowly over drain
- 2 Allow to work for 30 minutes
- 3 Flush with hot water from tap

Repeat steps 1, 2, and 3, if necessary. For tough clogs let stand overnight before flushing. Pours through standing water - need not remove water from sink.

TO HELP KEEP DRAINS RUNNING FREE: Follow same directions using 1/8 bottle weekly.

GARBAGE DISPOSER: Follow same directions as for other drains. If drain has not cleared, do not turn on disposer since CLOGOUT may splash back. Consult plumber.

DANGER: Harmful if swallowed. May burn eyes, skin, and mucous membranes on contact. Contains 1.7% sodium hydroxide and 6% sodium hypochlorite. Do not mix or use liquid CLOGOUT with ammonia, toilet bowl cleaners, household cleaners, or other drain cleaners. Mixture may release hazardous gases or cause violent eruption from drain. If gases are released, leave area immediately - ventilate if possible.

FIRST AID: GIVE IMMEDIATELY. EYES: Rinse immediately with water. Remove contact lenses, then flush eyes with water for 15 minutes. SWALLOWED: Rinse mouth. Drink a glassful of milk or water. Do not induce vomiting. SKIN: Remove affected clothing. Flush skin with water for 15 minutes. THEN call poison center, emergency room, or physician at once.

Ingredients: Water, sodium hypochlorite, sodium hydroxide, sodium chloride, corrosion inhibitor. Contains no phosphorous.

EPOXY AND LACQUER THINNER

VAPOR HARMFUL. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE, OR NAUSEA. CAUSES EYE, SKIN, NOSE, AND THROAT IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. CANNOT BE MADE NONPOISONOUS.

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

USE ONLY WITH ADEQUATE VENTILATION. KEEP CONTENTS AND VAPOR AWAY FROM HEAT, SPARKS, AND FLAME. VAPORS MAY CAUSE FLASH FIRE. Do not smoke. Extinguish all flames and pilot lights and turn off stoves, heaters, electric motors, and other sources of ignition during use and until all vapors are gone. To avoid breathing vapors or spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air or wear respiratory protection (NIOSH/MSHA TC 23C or equivalent) or leave area. Close container after each use. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not transfer contents to unlabeled bottles or containers.

FIRST AID: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. In the case of eye contact, flush thoroughly with plenty of water for at least 15 minutes and get medical attention (immediately). For skin, wash thoroughly with soap and water. If swallowed, immediately give 1 to 2 glasses of water and call a physician, hospital emergency room, or poison control center for way to induce vomiting.

KEEP OUT OF REACH OF CHILDREN.

Description: A blend of solvents formulated exclusively for use with most lacquer-based wood and metal finishes. High strength combined with a moderate evaporation rate makes Lacquer Thinner an excellent cleaner and degreaser. Thin lacquer base paints and clear finishes to improve leveling and reduce viscosity without affecting clarity or gloss. Add gradually and stir thoroughly until desired consistency is obtained. Excessive amounts may decrease hiding power or cause blushing.

Use for general cleaning and degreasing of metal tools and engine parts. Clean brushes and spray equipment as long as lacquer remains soft on these tools. Do not use on rubber, plastic, asphalt tile, linoleum, or synthetic bristle brushes. Not compatible with most automotive or other specialty lacquers.

DO NOT use this product for any use that requires quantities of product to be spread over large surfaces (more than 4 square feet). The potential for fire or health effects is increased dramatically. Careless disposal of any product is not environmentally responsible. Call your local sanitation department for aid in disposing of unwanted product in your area or call the Environmental Protection Agency Solvent and Hazardous Waste Hotline at 1-800-424-9346. Do not dump on the ground or in local sewer or discharge systems.

ACME

Epoxy and

Lacquer Thinner

High strength lacquer solvent and cleaner

Moderate evaporation rate

DANGER! POISON! 

EXTREMELY FLAMMABLE LIQUID AND VAPOR. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. VAPOR HARMFUL. SKIN AND EYE IRRITANT.
See other cautions on back panel.

32 Fl. Oz. (One Qt.) .95 Liter



APPENDIX E

The Label Must Tell You

In the 1960s, the Federal Hazardous Substances Act was passed to alert consumers to the risks posed by certain hazardous household products. Now administered by the Consumer Product Safety Commission, the act provides for labeling of all products that are, or contain, a hazardous substance. The act requires the product label to be of specific size and contain information on the following:

1. Signal words - DANGER on those products that are extremely flammable, corrosive, or highly toxic; WARNING or CAUTION on all other hazardous substances required to bear a label.
2. The additional word POISON and the skull and crossbones symbol on highly toxic and other specifically named substances.
3. A description of the principal hazard involved in using the product, such as VAPOR HARMFUL, FLAMMABLE, etc.
4. A statement of measures the user should take to avoid the hazard, such as USE ONLY IN A WELL-VENTILATED AREA.
5. A list of common names of the hazardous ingredients. If a hazardous substance has no common name, the chemical name will be used.
6. If necessary, instructions for safe handling and storage.
7. First-aid instructions.
8. Name and location of the manufacturer, distributor or repacker.
9. The statement KEEP OUT OF THE REACH OF CHILDREN or the equivalent.
10. Any additional information the commission finds necessary to protect the public health.

Pesticides are regulated by the U.S. Environmental Protection Agency (EPA). Pesticides include products designed to kill insects (insecticides), weeds (herbicides), fungi (fungicides), rodents (rodenticides), and bacteria (disinfectants, including chlorine bleach). Mildew removers and wood preservatives are also included in this category. Pesticide labels must contain an EPA registration number, as well as signal words (*caution*, *warning*, or *danger*) that indicate the level of toxicity of the product (*danger* being the most toxic, *caution* the least). They must indicate the health and environmental hazards of the product, and identify and give the percentage of the active ingredients, those which actually perform the intended function of the product.

Detailed information on how to use, store and dispose the product also must be included.

However, the disposal instructions, particularly on old pesticide containers, may be in conflict with local policies or laws. In many areas, unused pesticides must not be placed in the trash or dumped down the drain, but taken to a hazardous waste collection facility.

The Food and Drug Administration (FDA) regulates the labeling of food, cosmetics and personal care products that you put in or on your body. FDA requires that products under its jurisdiction list all ingredients, in decreasing order of amount. FDA does not have a hierarchy of signal words with different meanings. However, manufacturers often will include safety information if some hazard exists.

APPENDIX G

Hazards on the Homefront Washington State Essential Academic Learning Requirements Grade Level Expectations for Grades 6-12

Appendices


Lesson	1	2	3	4	5	6	7	8	9
COMMUNICATION									
1.2.2 Analyze and evaluate bias and the use of persuasive techniques in mass media.	√	√							√
2.2.1 Use communication skills that demonstrate respect.	√	√	√	√	√	√	√	√	√
2.2.2 Apply skills to contribute responsibly in a group setting.	√	√	√	√	√	√	√	√	√
3.1.1 Apply skills to plan for effective oral communication and presentation.	√						√		
3.3.1 Apply skills and strategies for the delivery of effective oral communication and presentations.	√						√		
HEALTH AND FITNESS									
2.3.2 Develop skills that prevent and control non-communicable diseases.		√	√	√	√	√		√	√
3.1.2 Analyze how environmental factors impact health.	√	√	√					√	
3.2.3 Create health and fitness messages in media.									√
4.1.1 Analyze daily health and fitness habits.								√	
MATH									
8.5A Analyze a problem situation to determine the question(s) to be answered.								√	
M1.5C Use and evaluate the accuracy of summary statistics to describe and compare data sets.			√		√	√			
M1.8A Analyze a problem situation and represent it mathematically.			√		√	√			
READING									
1.2.2 Apply strategies to comprehend words and ideas.	√	√							√
1.3.1 Understand and apply new vocabulary.	√	√	√	√	√	√	√	√	√
1.4.2 Apply fluency to enhance comprehension.	√	√					√		√
2.1.3 Apply comprehension monitoring strategies during and after reading; determine importance using theme, main ideas, and supporting details in grade-level informational/expository text and or literary/narrative text.	√	√							
2.1.4 Apply comprehension monitoring strategies for informational and technical materials, complex narratives, and expositions; use prior knowledge.	√	√			√				

Appendices



Lesson	1	2	3	4	5	6	7	8	9
2.1.6 Apply comprehension monitoring strategies for informational and technical materials, complex narratives, and expositions; monitor for meaning, create mental images, and generate and answer questions.	√	√							
2.3.1 Analyze informational/expository text and literary/narrative text for similarities and differences and cause and effect relationships.	√	√							√
2.3.3 Evaluate the author's use of literary devices to enhance comprehension.									√
2.4.1 Analyze informational/expository text and literary/narrative text to draw conclusions and develop insights.	√	√							√
2.4.4 Analyze and evaluate the effectiveness of the author's use of persuasive devices to influence an audience.									√
3.2.2 Apply understanding of a variety of functional documents to perform a task.		√							√
SCIENCE									
6-8 LS1F - Evaluate how lifestyle choices and living environments affect parts of the human body and the organism as a whole.	√	√		√		√	√	√	
6-8 LS2B – Analyze the flow of energy in a local ecosystem. Energy flows through an ecosystem from producers to consumers to decomposers.			√						
6-8 LS2D - Predict what may happen to an ecosystem if nonliving factors change (e.g., the amount of light, range of temperatures, or availability of water), or if one or more populations are removed from or added to the ecosystem.			√		√	√	√		
6-8 LS2E - Investigate a local environmental issue by defining the problem, researching possible causative factors, understanding the underlying science, and evaluating the benefits and risks of alternative solutions.	√		√		√	√	√	√	
6-8 INQA - Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question.	√	√	√	√	√	√	√	√	



Lesson	1	2	3	4	5	6	7	8	9
6-8 INQB - Plan and conduct a scientific investigation that is appropriate for the question being asked. Propose a hypothesis and give a reason for the hypothesis and explain how the planned investigation will test the hypothesis. Work collaboratively with other students to carry out the investigations.			√		√	√	√		
6-8 INQH - Recognize flaws in scientific claims, such as uncontrolled variables, overgeneralizations from limited data, and experimenter bias. Listen actively and respectfully to research reports by other students. Critique presentations respectfully, using logical argument and evidence. Engage in reflection and self-evaluation.							√		
9-12 INQB - Plan and conduct a scientific investigation, choosing a method appropriate to the question being asked. Collect, analyze, and display data using calculators, computers, or other technical devices when available.			√		√	√	√		
9-12 INQC - Draw conclusions supported by evidence from the investigation and consistent with established scientific knowledge. Analyze alternative explanations and decide which best fits the data.			√		√	√			
9-12 INQD - Write a detailed laboratory report that includes the question that motivated the study, a justification for the kind of investigation chosen, hypotheses (if any), a description of what was done, a summary of data in tables and graphs, and a conclusion, based on the evidence, that responds to the question.			√		√	√	√		
9-12 INQE - Formulate one or more hypotheses based on a model or theory of a causal relationship. Demonstrate creativity and critical thinking to formulate and evaluate the hypotheses.			√		√	√		√	
6-8 APPE - Collaborate with other students to generate creative solutions to a problem, and apply methods for making trade-offs to choose the best solution.	√	√	√	√	√	√	√	√	√
6-8 APPF - Test the best solution by building a model or other representation, and using it with the intended audience. Redesign if necessary. Present the recommended design using models or drawings and an engaging presentation.					√				

Appendices



Lesson	1	2	3	4	5	6	7	8	9
9-12 APPE - Analyze a societal issue that may be addressed through science and/or technology. Compare alternative solutions by considering trade-offs and unintended consequences.		√	√	√	√	√	√	√	√
9-12 APPF - Critically analyze scientific information in current events to make personal choices, or to inform public-policy decisions.	√					√			
6-8 SYSA - Given a system, identify subsystems and a larger encompassing system (e.g., the heart is a system made up of tissues and cells, and is part of the larger circulatory system).			√			√			
6-8 SYSB - Explain how the boundaries of a system can be drawn to fit the purpose of the study (e.g., to study how insect populations change, a system might be a forest, a meadow in the forest, or a single tree).			√			√			
6-8 SYSC - Give an example of how output of matter or energy from a system can become input for another system (e.g., household waste goes to a landfill).			√		√	√			
SOCIAL STUDIES									
3.2.1 Analyze and evaluate human interaction with the environment across the world in the past or present.	√		√			√			
3.3.1 Understand that learning about the geography of the world helps us understand the global issue of sustainability.			√						
4.2.3 Evaluate the ethics of current and future uses of technology based on how technology has shaped history.		√							√
4.4.1 Analyze how an understanding of world history can help us prevent problems today.	√				√				
WRITING									
1.1.1 Analyze and select effective strategies for generating ideas and planning writing.	√						√		
1.6.2 Use collaborative skills to adapt writing process.	√						√		
3.3.1 Use legible handwriting.	√	√	√	√	√	√	√	√	√



APPENDIX H

The Multiple Intelligences Connection

Howard Gardner's Theory of Multiple Intelligences

Howard Gardner, an education professor at Harvard University is credited with helping change the way educators look at how children learn. Gardner's research has resulted in his theory of multiple intelligences, a critique of the notion that there exists only a single human intelligence that can be assessed by standard testing. He has authored many books including *Multiple Intelligences: Theory into Practice* and *The Disciplined Mind*.

Gardner defines intelligence as the biological ability to solve problems or fashion products that are valued in a particular culture and community. This perspective provides educators with a totally different concept of what "smart" means. No longer can we be content with providing for just the mathematically and linguistically talented child. All children can be successful if they are provided multiple learning opportunities.

Each person utilizes each of the eight identified intelligences to some degree in various ways.

EIGHT INTELLIGENCES

- **Linguistic** - The ability to recognize and compose meaning in words.
- **Logical/Mathematical** - Learning through numbers, order and reasoning.
- **Visual/Spatial** - The ability to create visual images and transform them.
- **Musical** - The ability to learn, create and communicate through rhythm, rhymes and patterns.
- **Bodily/Kinesthetic** - Learning by using the body in highly differentiated and skilled ways.
- **Naturalist** - The ability to understand the patterns, relationships and connections in nature.
- **Interpersonal** - The ability to work with and understand others.
- **Intrapersonal** - The intelligence of self-knowledge.

Appendices



APPENDIX I

List of Slides

Lesson 1 - What is Household Hazardous Waste Anyway?

Hazardous Waste Headlines (create from collected news articles)

1.1 Hazardous Waste Headlines: Article-Guiding Questions

Lesson 2 - Analyzing Labels

2.0 Stand Up If...

2.1 What is a Household Hazardous Product?

2.2 Toxic/Poisonous

2.3 Corrosive

2.4 Reactive

2.5 Flammable/Combustible

2.6 Signal Words

2.7 How to Read the Label

Lesson 3 - Routes to the Environment

3.1 Routes to the Environment

3.2 Bioaccumulation: Fate of an Organism

3.3 Bioaccumulation

3.4 Bioaccumulation in the Orca in Puget Sound

Lesson 4 - If We Throw It Away, Will It Go Away?

2.2 Toxic/Poisonous

2.3 Corrosive

2.4 Reactive

2.5 Flammable/Combustible

2.6 Signal Words

4.1 Household Hazardous Product Disposal Options

4.2 Items Accepted at Household Hazardous Waste Collection Facilities

4.3 Place These Items in Your Trash

Lesson 5 - Safer Substitutes

No Slides

Lesson 6 - Consumer Choice...Buy Only What You Need

6.1 Think About It

Lesson 7 - Discovery Quest

No Slides

Lesson 8 - Exposed: My Life with Chemicals

2.1 What is a Household Hazardous Product?

2.2 Toxic/Poisonous

2.3 Corrosive

2.4 Reactive

2.5 Flammable/Combustible

2.6 Signal Words

8.1 Sample Household Products That May Be Hazardous

8.2 Strange but True...or False? answer key

8.3–8.6 Routes to Exposure

8.7 What Determines If a Product is Hazardous to Me?

8.8 Exposed: My Life with Chemicals answer key

8.9 Precautionary Principle

Lesson 9 - The Advertising of Household Hazardous Products

2.1 What is a Household Hazardous Product?

2.2 Toxic/Poisonous

2.3 Corrosive

2.4 Reactive

2.5 Flammable/Combustible

2.6 Signal Words

9.1 Advertising Techniques

9.2 Bandwagon Technique

9.3 Celebrity Endorsement Technique

9.4 Image Technique

9.5 Time and Money Technique

9.6 Humor Technique

9.7 Fear Technique