

Workplace Safety – Learn It and Teach It
Lesson Packet #4 – May 2015
***The Change Agent* <changeagent.nelrc.org>**

Introduction:

This lesson is designed to increase reading, math, and presentation skills in the context of materials that explain health and safety laws as well as specific practices that workers – particularly those in environmental services or housekeeping – can use to stay safe on the job. Since one of the best ways to learn something is to teach it, this lesson plan includes the opportunity for students to teach what they have learned.

In Advance:

Order or print out the OSHA poster available here: <https://www.osha.gov/Publications/poster.html>

And/or order or print out this OSHA pamphlet: <https://www.osha.gov/Publications/osha3021.pdf>

Objectives:

- Students will practice close reading of magazine articles and real-world documents for details and information.
- Students will learn about health and safety rights and protections on the job.
- Students will practice math in the context of using chemicals and other cleaning products safely.
- Students will learn presentation skills by teaching what they learn to others.

This lesson addresses the following CCR standards for reading and writing:

- Read closely to determine what the text says; cite specific textual evidence when writing or speaking to support conclusions drawn from the text. (R.CCR.1)
- Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words. (R.CCR.7)
- Model with mathematics (MP.4) – especially solve problems arising in everyday life, eg. the workplace.
- Use ratio and rate reasoning to solve real-world and mathematical problems (6.RP.3)
- Apply and extend previous understandings of multiplication to multiply a fraction (4.NF.4a)
- Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. (SL.CCR.4)
- CCR Anchor 5: Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations. (SL.CCR.5)

Materials:

- This sheet (both sides)
- Five pieces from *The Change Agent*
 - “I Got Sick from My Job” by anon. – Level 4 (from “Health” issue of *The Change Agent*, #28)
 - “Health and Safety Checklist” MassCOSH – Level 8 (from the “Staying Safe in a Toxic World” issue of *The Change Agent*, #32)
 - “Custodians Organize for Safer Cleaners” – Level 9 (from the “Staying Safe in a Toxic World” issue of *The Change Agent*, #32)
 - “Less is More: How Ratios Can Help You use Cleaning Products Safely” – Level 7 (from the “Staying Safe in a Toxic World” issue of *The Change Agent*, #32)
 - “Clean Up Quiz” (from the “Staying Safe in a Toxic World” issue of *The Change Agent*, #32)
- OSHA video “Know Your Rights” (no words; just images) available at: <https://www.osha.gov>
- OSHA materials. Choose one or both of the following:

- This “Workers’ Rights” OSHA pamphlet <https://www.osha.gov/Publications/osha3021.pdf>
- This OSHA poster: <https://www.osha.gov/Publications/poster.html> (which you can print out or request a free copy)

Steps:

- 1) To warm up, read “I Got Sick from My Job” and take the Workers’ Rights Quiz on that page.
- 2) Read “Health and Safety Checklist.” As a pre-reading exercise, discuss and collect students’ strategies for staying safe and healthy on the job.
- 3) Read “Custodians Organize...” and “Less is More” and do the activities on those pages.
- 4) Take the “Clean Up Quiz.” Share and discuss your answers.
- 5) View the 1.5-minute video “Know Your Rights,” available at <https://www.osha.gov>
- 6) Study the OSHA poster (and/or pamphlet) mentioned above. Re-write employees’ key rights in your own words.
- 7) Make a power point (or choose another form of presentation) to share what you have learned with other students in the program. Use graphics from the Internet and embed the OSHA video or other educational videos; you might also develop your own quiz or way for other students to assess their learning.
- 8) After you are finished, evaluate the lesson. What skills did you learn? What did you learn about your rights as workers?

Find more *Change Agent* lesson packets at <changeagent.nelrc.org>, as well as PDFs of magazines on a wide variety of themes, articles in audio, CCR-aligned activities, and more. All of that is available for the price of an online subscription: \$20 per teacher per year.

I Got Sick from my Job

Anonymous

I work in room service in a hotel. One day, my friend was cleaning trays with a cleaning solution. The smell was strong. It hurt my nose. I felt the fumes in my throat. That was eight years ago, and ever since then I have had allergies. I never had allergies before.

I am embarrassed because I have to blow my nose every few seconds. I cannot breathe through my nose. My eyes get wet and red like I am crying. I get a headache and back pain.

Now, whether I'm at work or at home, there are so many things that make my allergies worse. I chop onion and garlic. I use vinegar and many spices. The smells are too strong for me. I use flour, and it makes me sneeze. Laundry detergent, gel, lotions, and all kinds of



products make me sneeze and give me watery eyes.



The doctors have not helped me. My doctor told me I would suffer from allergies my whole life. She told me to buy allergy medicine at the drug store. I tried many different medicines, but they never helped me. The allergy attacks kept coming. I have to bring tissues with me wherever I go. Then she gave me a spray to put in my nose. It was very strong. It burned.

In my childhood, I did not have good nutrition. Maybe poor nutrition gave me a weak immune system. I am trying to treat my allergies by making my immune system stronger. I am taking Echinacea and vitamins. Echinacea is an herb that helps make your immune system stronger. I am trying to eat a healthy diet to make me stronger.

The author of this piece works in a major hotel.

Workers' Rights Quiz: True or False?

1	There is a government agency that is supposed to protect most workers from health and safety hazards.	True False
2	You have the right to a workplace that is free of known hazards.	True False
3	Your boss does not have to give you information about safety and health hazards on the job.	True False
4	You have the right to refuse dangerous work if you believe that you could be immediately hurt or killed <i>and</i> you asked your boss to eliminate the danger <i>and</i> there was no safer way to do the job.	True False
5	Your boss can punish you for using your health and safety rights.	True False

Print out a list of your rights and your employer's responsibilities at: <www.cpcs.umb.edu/lep/documents/OSHARights.pdf>. Undocumented workers also have rights. See: <www.cpcs.umb.edu/lep/UndocChart.pdf>. Find a local health and safety organization at: <www.coshnetwork.org/COSHGroupslist>.

Answers: 1. True. 2. True. 3. True. 4. True. 5. False.



Health and Safety Checklist

Massachusetts Coalition for Occupational Safety and Health

Check this list before you use chemicals. Do you follow some or all of the advice below? To find out more about federal and state laws that protect you on the job, visit www.osha.gov.

Know what is in the product

You have a right to know what hazardous chemicals are in the products you use and how to use them safely. Your employer must have a Material Safety Data Sheet (MSDS) for each product and let you read it. Your employer must give you training about how to use chemicals safely.

Find a safer product

There are many products that are safer (for the environment and for you!) than the usual cleaning products. Make sure to use the right product for the job. Not all surfaces need a heavy duty cleaner or disinfectant.

Use as little as possible

Using more does not mean the product will work better. Less exposure to chemicals is better. Dis-

pense the product using a “stream” instead of a spray. This reduces the amount of chemical that gets in the air around you.

Get the right personal protective equipment (PPE)

Use the right PPE for the type of work you are doing and the particular chemical you use. The MSDS will tell you what PPE is needed (for example: a respirator, gloves, or goggles).

Set up good ventilation

Chemicals can build up in enclosed areas with little or no air movement (like bathrooms, hallways, and storage closets). If you can't get good ventilation, use a fan to move fumes away from you. If you work outside, stand so the wind is blowing the chemical fumes away from you – not toward you.

Give people nearby a warning

Post notices to warn people when you are using chemicals. Block off the work area or use the chemical when there are fewer people around.

Protect your family from work hazards

Change your clothes right away if they get wet with chemicals or covered with dust. Don't bring contaminated clothes or shoes inside your home. They can expose your family to chemicals. When working around chemicals or dust, wash your hands before you eat or drink. No one hand cleaner is best for all chemicals – the best thing is to prevent them from getting on your skin in the first place!

Custodians, Chemicals, and Kids

A single custodian uses an average of 194 pounds of chemicals each year.

25% of these are hazardous substances.

Custodians experience one of the highest rates of occupational asthma.

Asthma is the #1 chronic illness of children attending public schools and the #1 reason why kids stay in the hospital.

Interview a custodian you know and ask him or her if s/he has experienced any health problems related to their work.

MassCOSH is a non-profit organization that brings together workers and allies to organize and advocate for safe, secure jobs and healthy communities throughout eastern Massachusetts.

Custodians Organize for Safer Cleaners

A Success Story

In 2005, custodians in four Boston Public Schools tried something new. They used “green” cleaning products instead of cleansers with hazardous ingredients. They hoped that if their experiment with green cleaners was a success, then all the schools could switch to green cleaning products.

“Custodians care about the health of children and teachers, and about their own health and safety,” said Michael Lafferty, a representative of the School Custodial Union. “We hope that we can have green cleaners in all public school buildings.”

In 2006, Boston Public Schools announced that it would start buying only green cleaning products. The custodians’ project was a success!



This article was adapted by Cynthia Peters from <www.masscosh.org>. Photo (by Ethan Contini-Field) is of Albeiro Salazar, the custodian at a building in Cambridge, MA.

Working Together

Talk about a time you have worked together with others. When does it make sense to work with others? When does it make sense to work alone?

Four organizations worked together to make this project a success. They included:

1. MA Coalition for Occupational Safety & Health
2. Boston Urban Asthma Coalition
3. Boston Custodial Union
4. Boston Public Schools

If you want to get green cleaners in your city’s schools, who could you contact? List some organizations in your area.

Find out what you can do to make schools healthier for kids and workers. Visit <www.healthyschools.org>.

For change to take place, you need the important players on board. For this story: who took action? _____

who decided? _____

who paid? _____

who won? _____

Pick another issue from the magazine or from your community, and answer the above questions.

Less is More

How Ratios Can Help You Use Cleaning Products Safely

PRE-READING

CONCENTRATED: the manufacturer has taken most of the water out of the product. *This orange juice is **concentrated**. You have to add water.*

DILUTE: to add water. *Don't drink that concentrated orange juice. You should **dilute** it first with water.*

RATIO: the measure of one thing relative to another. *For every can of orange juice, you should add three cans of water. The **ratio** of orange juice to water is one to three or 1 : 3.*

The good thing about concentrated products is the package can be smaller. You get *more* product in *less* packaging. A smaller container means less trash. *But* you have to carefully check the label. If it says "concentrate" or "dilute with water," you must add water to use the product safely.



Mix It Up!

The directions on some packages tell you how to mix up a gallon. What if you want more or less than a gallon? You'll have to scale up or down, keeping the ratios the same. Use the chart below to practice scaling up and down.

	Cleanser	Water
The directions say:	¼ cup	1 gallon
To make half that amount, combine:		
To make a quarter of that amount, combine:		
To make five times that amount, combine:		



Water	Cleanser	
1/2 gallon	1/8 cup	half
1 quart	1/16 cup	quarter
5 gallons	1 ¼ cups	twice

Answer key

Clean Up Quiz

Check Your Understanding (of pp. 36-39)

1. What does MSDS stand for? What do they tell you?

2. What does PPE stand for? What does it do?

3. If a worker does have the right protection, answer:

Who pays? _____

Who wins? _____

Who decides? _____

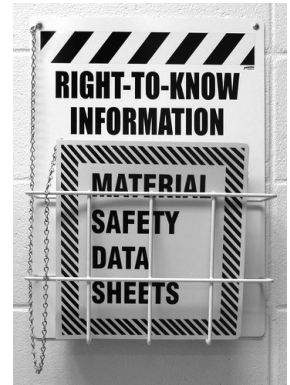
4. If a worker does not have the right protection, answer:

Who pays? _____

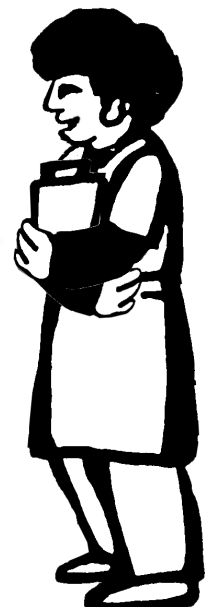
Who wins? _____

Who decides? _____

5. If you have to use dangerous chemicals, name 3 things you can do to protect yourself and others.



Window Cleaner	Window Cleaner	Window Cleaner
<i>1/2 cup cornstarch</i> <i>2 quarts warm water</i>		



6. In the blank recipe cards, double the recipe and halve the recipe. Keep the ingredients in balance.

7. Share your own recipe for a home-made cleaning solution.