IN THE AIR

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Connecting Activity #4

"Belief Statement Four: Airborne Toxics Are A Serious Problem, But I'm Not Responsible"

9-12 EDUCATION MODULE

EPA

Missouri Botanical Garden

Correlation with Education Standards Summary

Connecting Activity #4
"Belief Statement Four: Airborne Toxics Are a Serious Problem, But *I'm* Not Responsible"

For a narrative description of these standards, please refer to the Teacher's Guide.

National Standards

SOURCE: www.education-world.com/standards

NA-T.9-12 .2 .3 .4 .5
NPH-H.9-12 .7
NL-ENG.K-12 .3 .4 .7 .8
NM-PROB.REP.PK-12.3
NS.9-12 .1 .6
NSS-C.9-12 .5
NCSS Strands VIII, IX, X
NT.K-12 .2

Missouri Show-Me Standards

SOURCE: www.dese.mo.gov/standards

Performance Standards:
GOAL 1: 1, 2, 4, 7, 8
GOAL 2: 1, 2, 3, 5, 7
GOAL 3: 1, 6
GOAL 4: 1, 3, 6

Knowledge Standards:
CA 1, 4, 5, 6
FA 1
HPE 5, 6
SC 5, 8
SS 2, 5

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Connecting Activity #4

"Belief Statement Four: Airborne Toxics Are a Serious Problem, but I'm Not Responsible"

Overview

Denying responsibility is a common human reaction when confronted with social problems in general, and airborne toxics in particular. No doubt, some people sincerely believe they are not responsible, while others deny responsibility to make themselves feel better or escape having to do something about it. In this activity students construct a continuum of responsibility for airborne toxics and perform a serio-comic skit that challenges the dichotomy between them (the polluters) and us (the victims).

Recommended Grade Level:

9-12

Preparation Time:

Approximately 30 minutes will be needed to make copies and review the activity and skit.

Additional time is needed to assemble tools, scenery materials, and props for production of the skit.

Presentation Time:

- One 45-50 minute class period for introduction; varying times for the skit according to which option is chosen for presentation. See procedure #10.

Goals

- To examine the validity of the polluter/non-polluter dichotomy by constructing a continuum
- To raise student consciousness about personal accountability for clean air
- To demonstrate how theatrical techniques may highlight social issues

Objectives

When this activity is completed, students will be able to do the following:

- Define dichotomy and continuum and explain the difference between the two.
- Give reasons for the following points made in the skit about personal accountability: Smoking, burning trash, using certain kinds of pressurized spray cans with pesticides and other chemicals, driving vehicles powered by fossil fuels, and avoiding water and soil contamination from airborne pollutants.

Materials

- Copies of the student worksheet, Airborne Toxics—How Much Human Accountability? One per student.
- Four copies of the skit, "Who Me? *I'm* Not Responsible for Air Pollution... ."
- Props and set-ups for skit.

Vocabulary List

Accountability:
The condition of being responsible or accountable for one's actions.

Continuum: [con TIN u um]
A graphic model that describes two contradictory poles (ideas) with a range of possible steps between the two poles.

Dichotomy: [die COT uh me]
The division of an idea (or thing) into two parts between which no middle ground exists.

Procedures

1. To begin this activity, play a visual word association game. Ask students to close their eyes and take note of the first mental picture that pops into their minds when you say the words, airborne toxics.
2. Allow students to discuss their mental pictures, noting whether they tend to see industrial images, such as factory smoke stacks, or people images such as someone burning leaves, smoking, driving a car. Chances are, industrial images will prevail.
3. Point out that many people fail to see how their personal lifestyles contribute to airborne toxics problems. Of course, it would not matter so much if only a few people were on the earth, but that is not the case.
4. If the classroom has Internet access, ask a student to look up current world population statistics at http://www.census.gov/main/www/popclock.html. The world's population is rapidly approaching six and a half billion, and America's population is nearly three hundred million.
5. Who is to blame for the earth's deteriorating air quality? Review the concepts of dichotomy and continuum. (See Core Activity.) Many people view airborne toxics problems as a dichotomy, a description of opposites between which no middle ground exists. In this view, only "good guys" do not pollute, and "bad guys" are responsible for all the unpleasant stuff in the air. However, most human behaviors are more accurately illustrated on a continuum, a graphic device that describes two opposite ideas, behaviors, etc. with a range of possible steps between the two poles.
6. Hand each student a copy of the worksheet Airborne Toxics—How Much Human Accountability.
7. Have them choose a partner or form a small group to construct a continuum of human accountability for airborne toxics.
8. Go over the instructions together. Stress that the purpose of this exercise is not to pass judgment on any particular human activity but to illustrate the difference between a dichotomy and a continuum. (For assistance, see the teacher's copy of the continuum.)
9. After a suitable time, allow students to present their ideas in an open forum. During the discussion, construct a continuum on the chalkboard that will reflect students' ideas.
10. Perform the Skit "Who Me? I'm Not Responsible for Air Pollution..." The skit involves theatrical techniques to dramatize viewpoints from the accountability continuum. You may use it in various ways depending upon time and other constraints:
    - Hand out copies of the skit and do a read-through in the classroom with students taking the parts. Do no staging. (45-50 minutes)

- Stage and perform the skit in the classroom with a minimum of props. (45-50 minutes preparation, 45-50 minutes presentation)
- Put on a full-scale production and perform it for other classes or at appropriate communityfunctions. A full production gives more students an opportunity to be involved, not only in acting, but also in set designing, props, special effects, and publicity. (Variable blocks of time)
- In performing the skit, students may want to set the rhymes to a rhythmic beat. Better still, they may create their own rhyming skits based on their own experiences.

11. After the skit actors and other class members involved in the production engage the audience in an open discussion of what they have just seen and heard about personal responsibility for air pollution. Students must be able to back up ideas presented in the skit with accurate information. For assistance, see For Further Reading And Research.

Conclusion

Recognition that everybody contributes to airborne toxics problems is the first step in becoming personally accountable for air quality. With a world population nearing six and a half billion people, individual contributions taken together quickly rise to staggering proportions.

Masters

- Skit, “Who Me? *I’m* not Responsible for Air Pollution...”
- Air-borne toxics—How Much Human Accountability? (Student Worksheet)
- Air-borne toxics—How Much Human Accountability? (Teacher Copy)

For Further Reading and Research

Accountability for Airborne Toxics -

Natural Causes:

- For the eruption of Mt. St. Helens, see http://www.olywa.net/radu/valerie/StHelens.html.

Ignorance of Consequences:

- For a chronology of American nuclear testing and effects beginning in the mid-1940s in the Marshall Islands, see http://www.rmiembassyus.org/nuclear/chronology.html.

Major Accidents From Airborne Toxics:

- Bhopal: To read about a medical/spiritual organization that assists victims of the Bhopal pesticide disaster, see http://www.bhopal.org/.
- Chernobyl: For different links to various aspects of the Chernobyl disaster, see http://www-bcf.usc.edu/~meshkati/chernobyl.html.
  For estimated statistics of the death toll, see news.bbc.co.uk/hi/english/world/europe/newsid_722000/722533.stm.

Websites That Cover Points Made in the Skit -

Smoking:

- http://www.tobacco.org/resources/health/healthinfo.html.
- For statistics and the secondary effects of smoking on other people and on the environment, see http://www.nyu.edu/education/ot/nosmoking.htm
- The smoker's viewpoint: http://www.forces.org/index.htm.

Aerosols:

- For a short history of the invention and use of aerosol cans and how they were redesigned for environmental protection, see http://www.nocfcs.org/.
- For information from the Aerosol Research Branch of the National Aeronautics and Space Administration (NASA), see http://www-rab.larc.nasa.gov/ . For a special section on K-12 projects in atmospheric science, see http://www-sage3.larc.nasa.gov/solar/.

Vehicles Powered by Fossil Fuels:

- A straightforward, easily understood explanation of vehicular fossil fuels: their properties, the dangers they pose, and what is being done to reduce emissions. See http://www.epa.gov/OMSWWW/05-autos.htm.
- For the Green Car Club, see http://www.greencarclub.org/.

Soil and Water Contamination from Airborne Pollutants:

- To discover how wildlife is affected by airborne toxics, see http://www.aqd.nps.gov/ard/fwspost/.
- For theories that codfish contain dangerous amounts of contaminants from air and soil pollutants, see http://archive.greenpeace.org/~comms/cod/cod.html.

Who Me?
I'm Not Responsible for Air Pollution...

(A Skit In One Act)

CAST OF CHARACTERS

Clothing should suggest a camp setting.

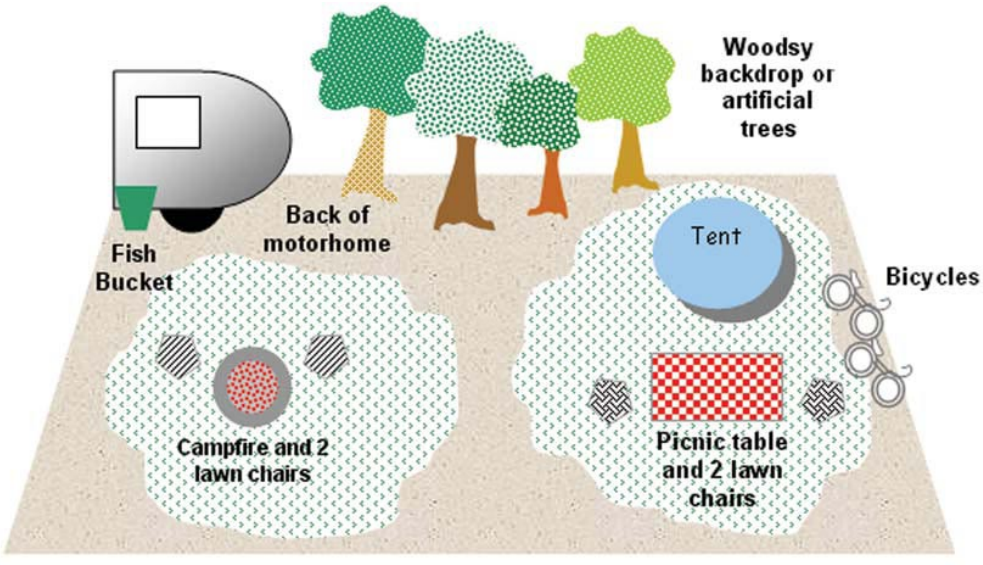
- John Q. Public
- Jane Q. Public
- Jack Jones
- Jill Jones

(***NOTE:*** *The names above were chosen for their "Everyman/Everywoman" meaning in American culture. They may be changed to suit other circumstances.)*

PROPS & MATERIALS REQUIRED

All props and set pieces may also be pantomimed.

- Two-person tent
- 4 lawn chairs
- 2 bicycles
- Cardboard cutout of the front of a motor home
- Make-believe campfire
- Small camp stove
- Coffee pot and 4 cups
- Small table (for picnic table)
- Large fake cans of hair and insect sprays
- Large fake cigar
- Fishing pole or rod
- String of 3 or 4 fake fish
- Fish bucket
- Bag of "trash"
- Four copies of the script
- "Don't Pollute Our Air!" sign



Action!

(John enters from stage left carrying a fishing pole and a bucket. He is dressed in outdoor clothing and wearing a hat. He walks over to the lawn chair, puts the fishing pole and bucket down beside it and stretches his arms luxuriously.)

John:
What a glorious day to be out of the city.
Where the smog and the smoke make living a pity.
It's me--John Q. Public, and Jane *(she's my wife)*,
In our 40-foot motor home—now this is the life!
I've just been out fishing and look what I got—
(Holds up a string of small fish)
They're trout and I like 'em, I like 'em a lot!
'Course the sign said, "Don't eat fish from out of this brook,"
But why not? --The water's clear—just take a look.
(Nods his head toward the backdrop and hums a little tune as he pretends to light up a large cigar. He sits down, then looks offstage and calls out.)
Oh Honey, I'm back now--come smell this fresh air!

Jane: *(Calls out from offstage)*
I can't come out now, dear, I'm fixing my hair.
I'll be there in a minute, just a little delay,
I can't seem to find my big can of hair spray.
(Jane comes out of the motor home and sits in the one of the lawn chairs)
Well, I finally found it, I'm happy to say--
You never know whom you may meet on the way.
(Jane fluffs up her hair and pretends to spray it with exaggerated motions.)

John:
Excuse me a minute, Jane. Cover your eyes.
(Picks up a large can of insect spray sitting beside his lawn chair)
I need to get rid of these gnats and these flies.
(Walks around the set pretending to spray insects. Then he sits down in his chair, leans back and closes his eyes.)

Jane: *(Looks at her watch)*
Now don't go to sleep, Dear, we've got to get hopping—
I want to go down to the lodge for some shopping.
I don't feel like cooking, and I just have a hunch
That the staff at the lodge will be offering brunch.

John: *(Stretches and stands up)*
That sounds like a plan, but the rules here require
That before we take off, I must put out the fire.

Jane: *(Jumps up from her chair)*
Oh, wait just a minute; I'll be back in a flash,
While the coals are still hot, we can burn up our trash.
(Goes off stage while John tends to the fire. Jane returns quickly with a bag of trash and puts it on the fire. Then the two stand watching it.)

(A loud coughing sound is heard from the tent on the adjoining campsite. A man stumbles out of the tent looking disheveled and grumpy. He continues coughing for a moment and then glares over at John and Jane.)

John: *(Looking over at Jack with concern)*
Sorry if we woke you with all of our chatter--
You've got a bad cough there—is something the matter?

Jack: *(Sarcastically)*
Oh, no, Sir, your chatter's not why I awoke—
And it's not why I feel like I'm going to choke.
In case you don't know it, you're fouling the air,
And she's making me nauseous with spray for her hair!

John: *(Bristling)*
Now look here, Ole Buddy, you talkin' to us?
Calling us polluters? Well, I don't want to fuss,
But to give us that label is really a joke—
We don't own a factory that's belching out smoke.
We don't run a company that's fouling the breeze,
We don't drive a semi, we don't cut down trees.
You know what I'm saying? It's not just a whim,
Polluters aren't US, Man, polluters are THEM!

Jack:
Oh yeah? May I ask you, do you drive a car?
And how many times do you light a cigar?
Do you use household toxics whatever their flaws?
Buy products from companies that break clean air laws?

(John is just about to retort when a woman comes out of the tent wearing a sweat suit. She comes up to Jack and lays her hand on his arm.)

Jill:
I must have been dreaming--I thought I heard shouting.
(Looks at John and Jane)
Oh, Hello there, I hope you're enjoying your outing—
My name is Jill Jones and my husband is Jack—

Jack: *(In a conciliatory tone)*
Excuse my bad manners, I just have a knack
Of making my feelings about the air plain--
Come join us for coffee and let me explain.

(John and Jane hesitate for a moment, then they pick up their lawn chairs and follow Jack and Jill. When they all have their backs turned, John looks at his cigar, then goes back, throws it in the fire, and pantomimes dousing the fire. Then he joins the others. John, Jane, and Jack sit down at the picnic table beside the tent as Jill makes coffee on a small camp stove.)

Jack:
You see—
My job is to monitor air quality
(And there's worse problems out there with that I'll agree),
But each of us needs to consider the role
We play in polluting the air as a whole.

John:
(Speaks reluctantly)
Well—
You may have a point there—I hear what you're saying,
It's not just one person that makes it dismaying . . .

Jane:
(Picks up on John's sentence)
. . . But the millions of us who are doing likewise,
Are also to blame for polluting the skies.

John:
But that's no excuse for all of those folk
Whose businesses billow out gases and smoke!

Jill:
(Comes to the table with the coffee pot and pretends to pour the coffee)
Of course not—
It's just that Jack feels duty bound to remind us,
That to put our air problems completely behind us,
We all have to see that it's US, not just THEM—
We all breathe the same air--we all sink or swim.

(Everyone nods and drink coffee. They all murmur politely in undertones for a few seconds.)

John: *(Rising from his chair)*
Well, thanks for the coffee, but I promised my sweet
That we'd go to the lodge to get something to eat.

(They all stand, shake hands, and say goodbyes. John and Jane start to leave, but John turns back for a moment.)

The fish that I caught, Jack—the sign said don't cook 'em,
But the water was clear at the place where I took 'em.

Jack:
It may seem that way, John, but looking won't tell
What dangerous stuff on this area fell,
And tainted the soil and the fish in the streams.
They may look okay, but they're not what they seem.
(They shake hands again. John and Jane go back to their camping space. Jack and Jill sit down at their table.)

John:
(Speaking to Jane and gesturing toward Jack and Jill)
They turned out to be pretty nice after all.

Jane:
Yes—after you almost got into a brawl!

John:
I guess I learned something I never thought through.

Jane:
You're not alone, Dear; I guess I did, too.
(Clutches John's arm as if suddenly inspired)
Let's not take our car, John, let's walk to the lodge.

John:
(Looks at the audience and shrugs)
I guess that's a task that I'm not gonna dodge!
(John and Jane laugh, lock arms and exit. Jack and Jill rise and come center stage.)

Jack:
They turned out to be pretty nice after all.

Jill:
Yes—after you almost got into a brawl!

Jack:
Please spare me the lecture. I know that you're right—
It's better to reason than look for a fight.

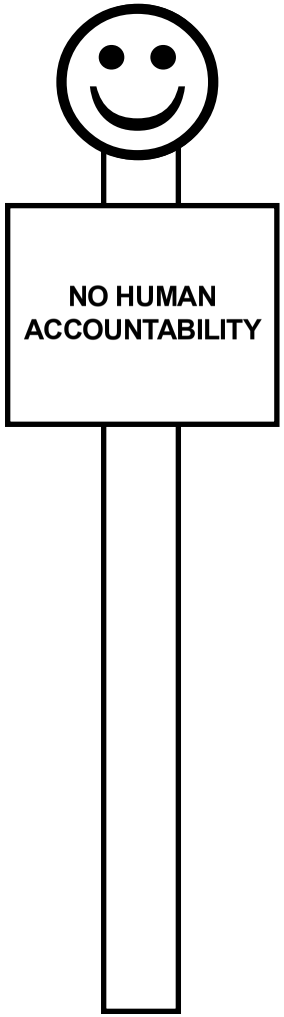
Jill:
Well, most of the time, Jack, I think that is true,
But sometimes, for clean air, you have to fight, too!
(She runs to the tent and comes back with a sign reading, "DON'T POLLUTE OUR AIR!)
There's a rally today *(it goes on for a week)*,
At the plant whose emissions are fouling this creek.

Jack:
Then it's off to the rally and while at the forum,
I solemnly promise to act with decorum!
But I'll still make it plain that I really do care
About the environment—especially the air!
(Jack and Jill wave goodbye to the audience, then ride or push their bicycles offstage.)

(Curtain)

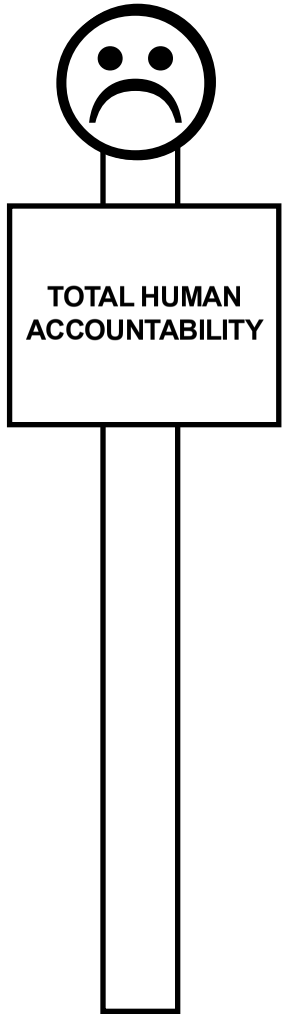
Airborne Toxics - How Much Human Accountability?

Not all airborne toxics are created by humans. However, all humans generate airborne toxics to one degree or another. On the continuum below, fill in degrees of accountability between natural causes over which humans have no control and the opposite pole of total human accountability. Give examples of each type. (Some blanks are filled in to get you started. This is not a test with no definitive answers, so let your mind roam freely.)



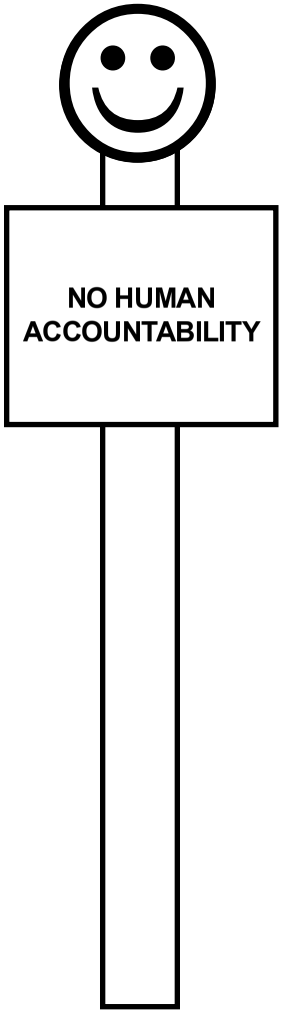
Degrees of Accountability

Natural Causes	Ignorance of consequences	Accidents	Consumerism Personal Choices	Deliberate Acts
Examples	Examples	Examples	Examples	Examples
Forest fires caused by lightning	Use of asbestos and lead-based paint in building materials			



Airborne Toxics - How Much Human Accountability?

The following are suggestions only. You and your students may want to generate other categories and examples.



Degrees of Accountability

Natural Causes	Ignorance of consequences	Accidents	Consumerism Personal Choices	Deliberate Acts
Examples	Examples	Examples	Examples	Examples
Forest fires caused by lightning Volcanic action Dust storms (those not caused by human impact on the land)	Use of asbestos and lead-based paint in building materials Early nuclear testing without adequate protection for observers	Chlorine leak from railroad tanker drives residents from their homes at Crystal City, Missouri, August 14, 2002 Nuclear power plant meltdown in Chernobyl, Russia, in 1986 Mass deaths after gas escapes from plant in Bhopal, India, in 1984	Manufacturing or buying consumer goods with a high potential for air pollution Manufacturing or buying unrecyclable products Driving gasoline-powered cars, trucks, and recreational vehicles Stripping furniture with solvents such as methylene chloride Burning trash, leaves, brush, etc. Smoking Using perfumes Choosing not to recycle	Withholding vital information from the public about airborne toxics Flagrant violation of clean air laws Drug and medical experiments on humans without knowledge or consent Governmental failure to develop mass transit and voters defeating mass transit proposals Criminal acts such as arson and mailing anthrax powder Chemical and germ warfare