



## PowerPoint Speaking Notes

### **Slide 1:** **Introduction**

Hello boys and girls. My name is: \_\_\_\_\_

I am from (name department): \_\_\_\_\_  
(If you - the speaker - are a health professional, explain your work a bit. If you are an environmental professional, explain what you do.)

Today we are going to talk about open burning and how it affects the air we breathe.

### **Slide 2:** Today we are going to discuss:

- What we mean by “open burning.”
- Why the things we often burn today are not the same as those our grandparents or great-grandparents burned.
- How open burning can trigger an asthma attack or a wildfire.
- What we can do with our trash instead of burning it.

What do you think is meant by the phrase “open burning?”

### **Slide 3:** **Definition**

Read the definition of open burning.

Ask the children:  
What is an air pollutant?

What does “emitted” mean?

### **Slide 4:** **The Past**

In the past, many people burned their trash.

Talk about how common open burning was on farms and in backyards of small towns when our grandparents or great-grandparents were young.

Ask the students why they think it was so common.

**Slide 5:**

Talk with the students about country living in the olden days,

- horse and buggy transportation
- dirt roads
- lack of recycling centers.

Explain that there was no road-side trash pick-up nor recycling centers where you could go and drop off your recyclables.

If you have an old photo of your grandparents on their farm (with horse and buggy), bring it along to share.

**Slide 6:**

Talk about the smaller population -- In the past there were fewer people to burn trash.

Emphasize that there was also less trash being burned in part due to less consumption and less packaging.

So there was less pollution produced from burning trash.

And there was less pollution for another important reason...

Hint: Does anyone know what items were burned in the past?

**Slide 7:**

Here are some examples:

- Untreated wood and logs
- Glass
- Old clothing (made of natural fibers like cotton & wool)
- Paper

So what makes open burning worse today than in the past?

**Slide 8:**

**The Present**

Today there are more people burning (almost 500,000 in Wisconsin alone).

+ There is more trash being burned (due to more consumption and packaging).

+ Many items being burned are synthetics. Does anyone know what a synthetic is? (Plastic, polyester, items not found in nature, but manufactured with chemical processes and components).

= So if you add it all up, it equals more air pollution.

Ask the students to name some items they've seen being burned today (e.g., in a burn barrel or campfire).

**Slide 9:**

Talk about these items and how they are "synthetic."

- Metals
- Disposable (synthetic) diapers
- Plastic bottles
- Batteries
- Tires
- Aerosol cans
- Treated wood

Ask the students what happens when these items are burned. Hint: how does heat change the chemistry?

**Slide 10:**

**Chemicals**

Burning synthetic items like the ones you've talked about can add polluting chemicals into the surrounding air (use chemistry poster for visual).

Ask students: What is a chemical?

Can they name one?

Hint: H<sub>2</sub>O is the chemical name for water.

Does anyone know any of the chemicals released from synthetics by open burning?

**Slide 11:**

Depending on the students' ability, talk about some or all of these chemicals and why they are harmful when they are in the air we breathe. Slides on two of these follow next.

- |  |                  |
|--|------------------|
| Heavy metals                             | Acid gases (HCl) |
| Dioxins (see slide #12)                  | Arsenic (As)     |
| Carbon monoxide (CO)                     | Lead (Pb)        |
| Particulate matter (PM) (see slide # 13) |                  |

So we know these chemicals are emitted into the air when we burn outdoors, but how do they affect us?

**Slide 12:**

For example, let's use dioxin.

Explain that hydrocarbons are gases formed by incomplete combustion of garbage, yard waste, wood, etc. These gases irritate the eyes, nose, throat and lungs. Some may even cause cancer.

Dioxin is a family of invisible odorless chemicals that form when any material containing chlorine is burned. Burn barrels and open fires burn at low temperatures that are optimal for dioxins to form. When we burn trash, dioxin goes up into the air and is transported. Then dioxin lands on the ground or in the water. When dioxin lands in the water, it can stay there for a long time. When dioxin falls on the earth, plants absorb this chemical.

**Slide 13:**

Animals, like cows, pigs, fish, and ducks, drink water or eat plants that have dioxins in them. The dioxins stay in their bodies for a very long time and can make them sick.

Then, if we eat these plants or animals, we bring dioxins into our bodies.

So what do dioxins do to us? Some can make us feel very ill, and others can even cause cancer.

**Slide 14:**

How about Particulate Matter (PM)?

PM's are very small particles that when breathed in, can reach deep into lungs and cause you to cough, and have problems breathing. It is very easy to breathe in PM's while burning trash.

Particulates can trigger an asthma attack.

Ask the students what other asthma triggers they know about.

Hint: indoor triggers include pet dander, cigarette smoke, dust mites. Outdoor triggers include air pollutants like diesel exhaust from a school bus, ozone and carbon monoxide.

**Slide 15:**

**Asthma**

Raise your hands if you or someone that you know has asthma.

Distribute small cocktail straws and let the students breathe through them to "feel" an asthmatic attack. (See activity #5 in "Give Burn Barrels the Boot.")

**Slide 16:**

So what is asthma?

Asthma is a chronic (Who knows what chronic means? It means you have it all of the time.) illness that causes breathing problems such as wheezing, breathlessness, and tightness in the chest.

Use the Asthma and Air Quality poster (See activity #6 in “Give Burn Barrels the Boot.”) to show the difference between a healthy and an asthmatic lung.

Asthma can be controlled with medicine and choices of environment, like an air conditioned home or fresh, clean outdoor air. This is one reason it's important to protect the quality of our air.

**Slide 17:**

What triggers an asthma attack?

Asthmatic people do not have problems breathing all of the time. There are certain things that an asthmatic person can come into contact with that starts an allergic reaction. These items are called triggers. The allergic reaction from triggers is what makes breathing difficult. Different people react to different triggers, “their” trigger.

Some triggers are: pollen, dust, air pollution, smoke, and diesel exhaust.

When an asthmatic person comes into contact with their trigger, they may have an asthma attack.

**Slide 18:**

An asthma attack is an allergic reaction.

An allergen, something that irritates the body, triggers the attack.

The body then goes into a fighting mode to ward off the irritant.

During the fight, the body produces a chemical to discourage the pollutant from entering any further into the body. This chemical causes swelling of the airways and extra mucus buildup to block the allergen. When swelling occurs in the lungs, the body has trouble breathing

**Slide 19:**

**Wildfire**

So we know that open burning affects people and the environment by the pollutants emitted from the fire.

Another concern to think about is what happens when we burn leaves in the backyard or burn trash in a barrel, and it gets out of control. For example, have you ever run from sparks flying from a fire?

1/3 of Wisconsin's wildfires are started from open burning that gets out of control. Wildfires can destroy the homes of animals and people.

So remember, open burning is dangerous for people, animals, and the environment.

**Slide 20:**  
**Alternatives**

Ask the children: What can we do with our trash instead of burning it?

**Slide 21:**

We can recycle. (Speaker: bring some examples of recyclable objects.)

If you don't have road-side pick up, find a recycling center close to your house. Collect all of your recyclables in containers in your house, and make a trip to the recycling center when your bins are full.

You can recycle:

- Glass (all colors and all sizes),
- Plastic (most centers will take #1 & #2. Call ahead to see if your center will take #3 through #7),
- Paper (separate your newspaper, office paper, and coated paper),
- Metal (soup and vegetable cans, soda pop cans, etc).

**Slide 22:**

Composting is a great option!

Ask your parents to help you make a compost bin where you can dump organic matter like leaves, lawn clippings, and vegetable food scraps.

**Slide 23:**

And you can try "vermicomposting."

(Bring and distribute gummy worms for the fun of it!)

This type of composting uses real worms, not gummy worms. The worms eat vegetable food scraps, leaves, and other organic materials you put into the bin. After a few weeks, you have wonderful compost to spread in your garden. How your vegetables will grow!

**Slide 24:**

Try reducing the total amount of trash that you produce.

Explain with kids what “bulk” means. Bring in some examples of bulk packaging and some smaller retail sizes. Ask the kids to measure the differences in packaging material.

Buy in bulk! Help your parents pick products with less packaging. They will save money while producing less trash!

**Slide 25:**

Reuse any items you can.

Ask the children for examples of reusing, like building a tree house from old wood or a swing from an old tire.

Don't toss out your lunch bag everyday! Bring it home and reuse it again.

Give the clothes that you've grown out of, and the books that you've already read, to siblings or an organization that can make good use of them.

**Slide 26:**

And don't forget the landfill. Unfortunately we produce some waste that cannot be recycled, reused, or composted. This waste needs to go to the landfill.

Ask the kids to come up with some examples. Some good ones are:

- plastic coated milk or juice containers
- air filters from cars
- oil or gas cans
- asphalt shingles
- plastic diapers

**Slide 27:**

I hope we have learned today what open burning is, how it affects humans and the environment, and what some alternatives to open burning are.

What did you learn today that surprised you the most?

What puzzles you the most?

Does anyone have any other questions?

**Slide 28:**

Thank You.