

EnviroEddie: The Air Out There

A Teacher's Resource

Thank you for inviting Eddie into your classroom and we hope you enjoyed *Eddie and the Air Out There!* Air quality is a complex topic for young age groups but we hope that through our creative methods you will have an opportunity to help the children make a connection between energy use and the quality of our air.

The presentation, game (EnviroEddie: Air Out There) and the resource materials are curriculum aligned in most provinces and territories for the primary grades.

It is recommended that this guide be used as soon as possible to ensure the presentation material is still fresh in their minds. Within it are some fun ways you can get your students thinking about air that can be scientific as well as *artistic*, and reproducible pages may be copied for education purposes. Printable materials will offer a "Clean, Air Friendly Option". If you have any comments or questions about the presentation, game or resource please contact EnviroEd at Clean: EnviroEd@clean.ns.ca

For further information on air quality or to see the Air Quality Health Index please visit the Health Canada Website at: www.airhealth.ca

To access the EnviroEddie: Air Out There game you can visit our website (www.clean.ns.ca) or you can download the Android or iTunes App.

- Activity 1 - Air Quality Quiz**
Curriculum aligned to: Literacy
Answers: 1.B 2.C 3.B 4.A 5.B 6.T 7.T 8.T 9.F 10.F
- Activity 2 - Be 'Super' and Write to Eddie**
Curriculum aligned to: Literacy
- Activity 3 - Senses make Sense of the Air**
Curriculum aligned to: Science, Health
- Activity 4 - Counting Power**
Curriculum aligned to: Math, Science, Health
- Activity 5 - Saving Electricity**
Curriculum aligned to: Literacy, Art
- Activity 6 - A 'Cool' Discussion**
Curriculum aligned to: Science, Health
- Activity 7 - The Dirt on Air**
Curriculum aligned to: Health, Art, Community
- Activity 8 - Green can Clean**
Curriculum aligned to: Literacy, Science, Health
- Activity 9 - Colouring Activity**
Curriculum aligned to: Literacy, Art
- Activity 10 - Sing with Eddie**
Curriculum aligned to: Music



Activity 1 - Air Quality Quiz

Clean, Air Friendly Option: Instead of printing this quiz, read it aloud to students and tally their response!

1. What health problem did Chipper the Woodpecker have that made it hard to breathe?
A. Alligators B. Asthma C. Arthritis
2. What do we call dirty air? It is a word that starts with the letter 'P'.
A. Polka-pants B. Popcorn C. Pollution
3. What are those organs inside your chest that take in air and feed it to your body?
A. Lupins B. Lungs C. Vacuums
4. Robert Plant gets his energy from *this* special thing up in the sky:
A. Sun B. Seagulls C. Clouds
5. Air pollution + asthma equals:
1) Plasma B. Trouble C. 100 cats
6. True or False?
When we burn fossil fuels like coal or oil, they make the air very dirty.
7. True or False?
Riding bikes or walking to nearby places is better for the air than driving a car.
8. True or False?
A power meter in your home or school tracks how much electricity you use each day.
9. True or False?
Turning on a light or a television for hours and hours can help clean the air. (False! Because we often burn fossil fuels to make the electricity that powers our lights and televisions.)
10. True or False?
Windy Wendy makes renewable energy by using the flow of water. (False! She uses the wind but water energy is called hydropower and there's sun energy too; it is called solar power.)

Activity 2 - Be 'Super' and Write to Eddie!

Eddie loves to receive mail! *And he loves to send mail too*, especially special surprises!

Have students write or draw Eddie a letter about how they can be environmental super heroes and let him know how you will work to keep the air clean. This can be done as a whole class or as individual student letters, and make great literacy assessments!

Letters can be mailed **Attn: Eddie the Superhero Cat**
Clean Foundation, 126 Portland Street, Dartmouth NS, B2Y 1H8.

Activity 3 - Senses make Sense of the Air!

Discuss what you can't see! We breathe the air every second of every day but how do we know that it is really there? Use your senses to bring air to life. Have the children identify which of the five senses they can use to sense the air around us.

Sense of sight: What do we see that tells us that the wind is blowing? Examples: moving tree branches/leaves, long hair blowing around, Windy Wendy the wind turbine is spinning! Note: If there isn't a tree moving about in the wind outside your window, you can use a pinwheel to prove that air is all around us. Alternatively you can have a child blow bubbles into a glass of water with a straw (straight from their little pink lungs!).

Sense of hearing: Can you hear the wind blowing? What does it sound like? Can you hear someone breathing or a pet snoring? Have you ever heard the wind make a whistling sound when it moves around a building or in a tunnel?

Sense of touch: What does the air feel like on your skin? If it is cold, do the hairs on your arm stand up? If you wave your hand back and forth, can you feel the air? If you blow across your fingers do you feel or hear anything?

Sense of smell: Sometimes the air has a scent depending on what is around you. Many scents won't hurt your lungs but that's not always the case for people with asthma. Things like strong perfumes or air fresheners can do more harm than good. Can you think of scents in the air that are okay to breathe? Have you ever smelled the rain? Does the air smell like trees when you walk through a wooded area? Other examples: Flowers, various types of cooking/baking, salt water.

Sense of taste: Can you taste the air? Perhaps our sense of taste should be left to the food we eat!

Activity 4 - Counting Power

Big Foot learned that you can save power by turning things off such as a light that isn't being used in your home. What about a classroom?

1. How many light switches are in...
 - (a) Your classroom?
 - (b) Your bedroom?
 - (c) Your house?
2. How many lights are in...
 - (a) Your classroom?
 - (b) Your bedroom?
 - (c) Your house?
3. Draw a picture of yourself turning out a light in your home.
4. What other things need electricity in...
 - (a) Your classroom? How many?
 - (b) Your bedroom? How many?
 - (c) Your kitchen? How many?
5. In teams, walk around the school and take note of any rooms that are empty and have their lights off. Take note of any empty rooms that have their lights on. Are there any teachers that are using sunlight to light up their classrooms?

Activity 5 - Saving Electricity

What are three things you can do for fun that use no electricity at all?

This activity can be done in a multitude of ways.

- Students can draw/write out their ideas
- You can host a classroom discussion, brainstorm or knowledge building circle
- Students can work in small groups to generate ideas and create with short skits depicting bored children looking for something fun to do that doesn't use power. "I know! We could..." • Read a book • Play a board game • Write a story about Eddie • Colour a picture • Dance • Ride a bike • Have a foot race • Skip • Play with toys using your imagination • Play a sport • Play an instrument that doesn't need to be plugged in • Help an adult in the garden etc.

Activity 6 - A 'Cool' Discussion

Can air be different temperatures? You bet! Do a classroom exploration of air temperature.

You will need ice, hot water and two or more bowls. Fill one bowl with ice and one with hot water (careful!) and have them nearby. You may choose to have the students in groups, in that case prepare one bowl of each for each group.

Start with a classroom discussion around whether you can feel the air:

- Where do you feel hot air? Can you change the temperature of the air?
Examples: Turn on a blow dryer; parents turn on the oven; open the door and let hot summer air into your home.
- Where do you feel cold air? Can you make the air cold?
Examples: Air in a freezer; air in a shady corner; air on a cold winter day. You can also turn on an air conditioner or open a window to cool down a warm room.

Have students place their hands near, but not touching the hot water. What do they feel?

Have students place their hands near, but not touching the ice. What do they feel?

Have students place one hand near, but not touching each bowl at the same time. What do they feel?

Ask students to complete the observation page (next).

Clean Air Friendly Option: Complete the observations on the board as a class.

Wrap up the discussion with the following question.

If your home feels a bit cool, what can you do to warm up that doesn't require using electricity?

Examples: Put on a sweater or warmer clothes; wrap yourself up in a blanket; do some exercise to warm up your body; sit in a sunny part of your home.

Sometimes it can be warmer outside in the sunshine so **get outside and play!**

Activity 6 - A 'Cool' Discussion – Observation Page

Ice or Water	Observation Words	Drawing
Hand Over Hot Water		
Hand Over Ice Cubes		
One Hand Over Each		
What can you do at home to warm up without using electricity?		

Activity 7 - The Dirt on Air

This is an opportunity to talk about your own local environment. What we breathe in a city might be different from what we breathe in a rural area. At the primary level it may be worth talking about what the students 'see' such as smoke stacks at a nearby factory or diesel burning vehicles driving through their town.

How do you know if the air is dirty?

- You can use the Air Quality Health Index as mentioned in the game (<http://www.airhealth.ca>).
- You can use your senses to tell you if it is dirty or if there are any dangers nearby. A camp fire is a good example that most children will relate to in order to understand what it is like to breathe dirty air. It will also remind them of how their body reacts to the smoke.

Using old magazines, cut out and collage products that have a scent or could make the air dirty. Examples: Perfume/cologne, vehicles (including boats and airplanes), houses, air fresheners, scented cleaning products/personal care products.

Activity 8 - Green Can Clean!

Eddie says that trees and plants can actually clean our air. This is important when we think of how many vehicles are running and burning fossil fuels at any given minute of the day. Is there an opportunity to plant a new tree on the school property? If you do please send Eddie pictures! Clean Foundation, 126 Portland Street, Dartmouth NS B2Y 1H8

If you have a large tree or several trees/plants (perhaps Robert Plant is out there too!) on your school property, walk outside to take a look at them and think about all the things trees do for people and critters. Enjoy the fresh air while you are out there! Shout a big 'thank you' to the tree for cleaning the air. Have the students draw pictures of one of your trees as an 'air cleaning superhero' or depending on their age, write a love poem to the tree. Share your poems and pictures with Eddie too! He loves letters. Clean Foundation, 126 Portland Street, Dartmouth NS B2Y 1H8. Or create a mini video of your class celebrating how green can clean and send it to EnviroEd@clean.ns.ca

If you can't get outside on a cold/wet day, have your students think about all the plants and trees that may be growing near to where they live. Maybe you have a plant in your classroom or plants around the school. Take a walk through the hallways to find them. Remember that plants need lots of love and attention to keep them healthy. If they are neglected they may start growing mold and that would be bad for your indoor air quality.

Activity 9 - Colouring Sheet

Point out the three types of renewable energy in the picture (wind, solar and hydropower) then go back to the game and learn more from Windy Wendy, Solar Power Sam and Hydropower Henry!

Activity 10 - Sing with Eddie

After playing the game, try to sing the Air Quality Health Index song! Go to www.airhealth.ca to find out the quality of the air in your part of the country. We hope you will be singing "1-2-3 Air's good for me!" Take a deep breath, your lungs need clean air to sing!

THE AIR QUALITY HEALTH INDEX SONG

1-2-3 - Air's good for me!
4-5-6 - It's a bit of a mix.
7-8-9 - Air's not so fine.
10 or more - Stay in for sure.

Use the numbers 1 through 10
To help you decide: go out, or stay in!
If the air outside is clean, it's a good air day!
See the numbers 1, 2, 3, you can go
outside and play.

1-2-3 - Air's good for me!
4-5-6 - It's a bit of a mix.
7-8-9 - Air's not so fine.
10 or more - Stay in for sure.

If numbers 4, 5, 6, appear on your screen,
Check with mom or dad to make sure the
air is clean.
If you see the numbers 7, 8, 9 or 10,
It's best to stay inside and play indoors
with a friend.

1-2-3 - Air's good for me!
4-5-6 - It's a bit of a mix.
7-8-9 - Air's not so fine.
10 or more - Stay in for sure!

FOSSIL FUELS VS. RENEWABLE ENERGY: AN OPERETTA

Rrrrenewable, rrrreusable energy
There to use for everyone like you and you
and me!
Rrrrenewable, rrrreusable energy
I hope you all remember it and use it happily

Coal, gas and oil are on their way out
We need clean air, there is no doubt
Wind, sun and water are on their way in
Open your minds and let new thoughts begin

Rrrrenewable, rrrreusable energy
There to use for everyone like you and you
and me!
Rrrrenewable, rrrreusable energy
I hope you all remember it and use it happily

Help Eddie plant a 'superhero tree' to clean the air!

Colour the three types of Renewable and Reusable Energy in the background.



Clean



Thank you for learning about keeping our air clean and why clean air is important for everyone, even cats!

Teachers, you may notice a difference in Eddie's handsome looks between our logo above and the video game. The game is an extension of our existing Eddie's Road Tours presentations which have been presented in schools across Nova Scotia to over 37,000 students since 2009.

The original **Eddie's Litterless Road Tour** (litter and waste abatement) was followed by **Eddie's Dripless Road Tour** (water conservation), **Eddie and the Air Out There**, and most recently **Eddie's Waste-Less Lunch Challenge** and we are always developing more. We currently offer programming on all sorts of environmental and sustainability topics for Primary through Senior students across Nova Scotia!

If you would like information on receiving one of our educational puppet shows, please contact us! EnviroEd@clean.ns.ca

Eddie and the Air Out There is presented by:



Eddie and the Air Out There is supported by:



Health Canada Santé
Canada Canada



Eddie and The Air Out There - Teacher Resource
Created by EnviroEd, Clean Foundation clean.ns.ca EnviroEd@clean.ns.ca