

HOW DOES AIR QUALITY MONITORING HELP US CARE FOR THE AIR?



INTRODUCTION

Air contaminants impact our health, contribute to climate change and affect the visual quality of our air. While we enjoy relatively good air quality in the Metro Vancouver region, data shows there is room for improvement.

Air contaminants, as tiny particles and gasses, are released into the air across Metro Vancouver every day from thousands of sources, including our cars and homes, as well as industrial sources like ships and industrial operations.

Metro Vancouver monitors air quality through a network of Air Quality Monitoring Stations that collect data about the amounts and types of contaminants in the air. Every five years, Metro Vancouver compiles an “emissions inventory” to track how the quantity of contaminants emitted to the air have changed over time and to project how they are expected to change in the future.

This activity explores how and why air quality across Metro Vancouver is monitored to guide decisions to help us clear the air. This will support our health, reduce climate change-causing emissions and ensure we breath cleaner air every day.

ACTIVITY

INTRODUCTION

1. Ask students to think of a time when they experienced poor air quality and consider the following:
 - Where were you? What was happening? How did you feel?
 - What do you think was causing this air pollution?
2. Brainstorm and make a list of sources or activities that create air pollution in our region. Share and discuss your list in partners or small groups.



[Metro Vancouver Satellite Map](#)

PART I:

HOW DO WE MONITOR AIR QUALITY IN THE METRO VANCOUVER REGION?

1. Explore the [Metro Vancouver Satellite Map](#) and discuss these questions:
 - How many air quality monitoring stations are there in Metro Vancouver? Where are they located?
 - What patterns do you notice about their locations around the region?
2. Visit the [Metro Vancouver AirMap](#), select the Air Quality Health Index from the menu (left side) and explore the map for more information. Consider the following questions as you explore the AirMap:
 - What does the map show? How is this information useful?
 - What is the Air Quality Health Index for your community today?
 - What other questions do you have about the map and data provided?



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ACTIVITY

PART II:

WHAT ARE THE CONTAMINANTS IN YOUR AIR?

1. Explore the [Current Air Quality Data Map](#) and consider the following questions:
 - What specific contaminants do we monitor in Metro Vancouver and B.C.?
 - What are PM_{2.5}, PM₁₀, O₃, NO₂, SO₂, and CO?
 - Which contaminants impact our health, our climate and/ or how clear our air looks? What other contaminants can be found in our air?
2. Explore the [Real-time Air Quality Index](#) information available for our region. Search for your community or use the map to find air quality information about different places throughout Metro Vancouver. Record data about a selected place, including:
 - Where is the air quality monitoring station? When was it last updated?
 - What are the primary air contaminants at this time?
 - What are the weather and wind conditions at this time?
 - How do weather and wind effect air quality?
 - What other questions do you have about air quality in our region?

CLOSURE

1. Revisit the [Metro Vancouver Satellite Map](#) and your list of activities that might cause air contaminants in our region (from the Introduction). Challenge students to consider the following:
 - What can you do in your daily life to produce fewer air contaminants?
 - What would you like to learn more about?

EXTENSION QUESTIONS

- Explore the [How's the Air Out There?](#) factsheet and consider the following questions:
 - What is an airshed?
 - What is the airshed for Metro Vancouver?
 - What are the air quality objectives for our region?
- Investigate the primary air contaminants in our region, including PM_{2.5}, PM₁₀, O₃, NO₂, SO₂, and CO. Choose one of these contaminants and conduct further research using the factsheets at [Metro Vancouver Air Quality Basics](#). What are that contaminant's primary sources (or activities that cause this emission)? What are its impacts on health and the environment? What are some suggested strategies to reduce its prevalence in Metro Vancouver's airshed?

LEARN MORE!

Visit [Metro Vancouver Air Quality & Climate Change](#):

Learn more about air quality and climate change in our region.



METRO VANCOUVER DEVELOPS AND IMPLEMENTS PLANS, POLICIES, REGULATIONS AND PROJECTS THAT IMPROVE AIR QUALITY AND REDUCE GREENHOUSE GAS EMISSIONS.