

Science Connections: Air, Health & the Environment

Connecting transportation choices to air quality, health, and physical science

These activities connect active transportation to environmental science and health. Pair with the math worksheets for cross-curricular learning.

Activity 1: What Comes Out?

Compare what comes out of a car's tailpipe to what happens in a person's body when they walk. This is a scientific comparison, not a judgment — both modes have real trade-offs.

"A car engine burns gasoline and produces exhaust — carbon dioxide, water vapor, and other gases. What does YOUR body produce when you walk? (CO₂ from breathing, heat, sweat.)"

"Both produce carbon dioxide. What's the difference in scale?"

"The walker gets exercise, fresh air, and time outdoors. The driver gets speed, shelter from weather, and the ability to carry things. Both have trade-offs."

Note: Frame as scientific comparison, not moral judgment.

MA Framework: 3-LS4-4 (claims about solutions to problems), 5-ESS3-1 (ways communities use science to protect resources)

Activity 2: The Air Quality Walk

Take a short walk near the school. Stop at two locations: one near a busy road, one in a park or quiet area. Students observe and record what they see, smell, hear, and feel at each location.

Back in the classroom, compare observations. Discuss why they might be different.

MA Framework: 3-ESS2-1 (represent data about weather/environmental conditions), 5-PS1-3 (identify materials based on properties)

Activity 3: How Does Movement Help Your Body?

Students research one health benefit of physical activity (heart health, bone strength, brain focus, mood, sleep) and present a 1-minute report to the class.

"What happens inside your body when you walk for 15 minutes?"

"How does being active in the morning affect how you feel during class?"

MA Framework: 4-LS1-1 (internal and external structures of plants and animals), applicable to human body systems