

Lesson Plan

Activity Name	Idle-Free Schools – Data Collection and Calculation
Grade	Grade 5-8
Time	30-45 minutes
Summary	Calculate the average CO2 emissions from idling vehicles.
Curriculum Connections Accessed Online	Science and Technology Grade 5: B1.1, B1.2, C1.2, E1.1, E1.2 Grade 7: B1.1, B1.2, E1.2 Mathematics Grade 5-8: Number Sense and Numeration, Measurement
Learning Goals	By the end of this activity, students will: <ul style="list-style-type: none"> • Understand what vehicle idling is and why it's harmful to health and the environment. • Learn how idling contributes to air pollution and greenhouse gas emissions. • Develop observation, data collection, and communication skills. • Collaborate to measure idling at their school and create awareness messages to share results with their community. • Recognize their role in promoting active and sustainable school travel.
Materials Needed	<ul style="list-style-type: none"> • PowerPoint presentation: <i>Idle-Free Schools Activity Presentation</i> • Kiss & Ride Idling Data Worksheet (one per group) • Clipboards or hard surfaces for writing • Pencils or pens • Stopwatch or timer (optional) • Calculator (optional for data calculations) • Cards for parent engagement • Chart paper or poster materials for sharing results
Instructions for Activity	1. Prepare the classroom before starting: <ul style="list-style-type: none"> • Display the PowerPoint presentation on a screen or projector.

	<ul style="list-style-type: none"> • Print copies of the <i>Kiss & Ride Idling Data Worksheet</i> for each student group. • Ensure clipboards, pencils, and stopwatches (if available) are ready for use outdoors. <p>2. Introduce the topic using the PowerPoint.</p> <ul style="list-style-type: none"> • The presentation will guide discussion, define idling, explain its impact, and outline the steps for the observation activity. • Use the built-in reflection questions to encourage participation and critical thinking.
<p>Setting the Stage</p>	<ol style="list-style-type: none"> 1. Begin by asking students: <ul style="list-style-type: none"> • “How do you get to school each day?” • “What do you notice about cars and buses during drop-off or pick-up times?” 2. Define Anti-Idling 3. Play an interactive video: Idle Free for the Kids Video
<p>Introduction of Activity</p>	<ol style="list-style-type: none"> 1. Explain that students will become Idle-Free Ambassadors. 2. Discuss why idling is harmful: <ul style="list-style-type: none"> • It wastes fuel and money. • It releases pollution that affects the air children breathe. • It adds unnecessary greenhouse gases that harm the planet. 2. Explain that the class will measure how much idling happens around the school and then design a campaign to encourage parents to reduce it.
<p>Core Activity</p>	<p>Step 1: Observe and Record</p> <ul style="list-style-type: none"> • Head outside between 3:00 and 3:30 PM (or another busy pickup time). • Assign student groups to different areas of the school zone (e.g., Kiss & Ride, bus loading zone, side street). • Each group counts the number of cars or buses that are idling and records approximate idling times using the worksheet. <p><i>Can be done the next day:</i></p> <p>Step 2: Calculate and Analyze</p>

	<ul style="list-style-type: none"> • Back in class, use the conversion factors on the worksheet to estimate: Total fuel wasted and Total CO₂ emitted • Example statement: “During a 10-minute observation, 12 cars idled for 5 minutes each — wasting 1.5 L of fuel and releasing 3.6 kg of CO₂!” <p>Step 3: Create and Communicate (Next day)</p> <ul style="list-style-type: none"> • In small groups, design awareness messages to share results with parents and staff. • Options: Posters, announcements, or digital campaigns.
<p>Reflection and Discussion</p>	<p>Bring the class together to discuss:</p> <ul style="list-style-type: none"> • What surprised you about your observations? • How does idling affect your health and your environment? • What small actions can everyone take to make a difference? • How might your results inspire change at our school or in your community? <p>Encourage students to connect the findings to broader environmental goals, such as reducing greenhouse gases or promoting active travel.</p>
<p>Tips for Success</p>	<ul style="list-style-type: none"> • Choose a clear, safe observation area with teacher or volunteer supervision. • Remind students to stay on sidewalks and to not approach vehicles. • Emphasize teamwork — each group member can have a role (timer, counter, recorder). • Encourage creativity in how students share results (e.g., posters, morning announcements, short skits). • Celebrate progress — even small reductions in idling make a big impact!
<p>Contact Information</p>	<p>For more information or any questions, contact us here: http://activesaferoutes.ca/contact-us/</p>