

**ecoMentors Lesson Plan Template: Helping kids explore the planet! www.ecomentors.ca**

**Title: Anti-Idling**

**Grade Level(s): 3 -4**

**Time/Date:**

**School:**

**Teacher:**

**Directions to school, class:**

**Contact Info:**

Vocabulary: Words & Concepts your class may be learning, look these up yourself too!

**Idle** - To pass (time) without working or while avoiding work

**Emission** – something that is given or sent out

**Vehicle** - a machine or object that helps us get from one place to another

**Global warming** - An increase in the temperature of the Earth, sufficient to cause climatic change.

Materials and Equipment: List these before and while you plan and revise so you're prepared.

Pieces of (recycled) paper.

Pens, crayons, other coloring material

What is your class accomplishing?: Learning & Activity Goals, Objectives

- **Understand how idling affects air quality.**
- **Understand and communicate facts on idling.**
- **Identify sustainable transportation options.**

**PROCEDURE**

The Spark: Introductions, Demonstrations, Show and Tell, Topic Intro (Break the ice!) ~5-10min

Ask the students to introduce themselves along with the most interesting form of transportation they've ever taken.

*What are other forms of transportation?*

Brainstorming, Getting ideas, Connecting ideas (assess their knowledge!) ~10-20min

*What does 'idle' mean? How do you spell it? Use it in a sentence?*

*What does 'emission' mean? How do you spell it? Use it in a sentence?*

*What is the harmful substance in car emissions? **Green house gasses, one of them is Carbon Dioxide***

*How do car emissions affect the air? **Little particles of the fuel get into the air and can be harmful for our lungs.***

*What other effects do car emissions have on the environment? **Acid rains and... Global warming!***

*Does anyone know what Global warming means? Can you think of some problems in the environment that are related to global warming and climate change? **Melting of Arctic Ice! Species are in danger.***

*What does 'vehicle' mean? How do you spell it? What are some vehicles?*

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play ~10-30mins

**Anti-Idling Trivia**

Divide the class in four groups. Let the 4 teams think of a name for their own team and each team should select a student as a recorder. Hand out pieces of (recycled) paper. Have the students write down their team name and write down the numbers from 1-12 on the left hand margin. Ask the class the 10 questions below, let teams discuss for 30 seconds per question to come up with an answer (count down at 10 seconds for dramatics). They must write the answer on the piece of paper and present all answers at the end of the trivia.

After the trivia; discuss the answers. If they get the answer right, it's one point for their team. Correct answers are bold. Ask some reflection questions while giving the correct answers of the quiz questions. Have the students circulate the sheets so that groups are correcting each other's answers. Go over the answers with them discussing any issues that may arise from answers and ask the reflection questions to the class. Collect the sheets and appoint the winners! Return the sheets to the right groups.

Q1: *Canadian motorists idle their cars:* A. 2-5mins/day, **B. 5-10mins/day**, C. 10-15mins/day

Reflection Question: *When and Where do people idle their cars?*

Q2: *Percent of parents that idle their vehicles while waiting to pick up their children:* A. 15-20%, B.25-35%, **C. 35-45%**

R Q: *How can we make laws or rules to help stop this?*

Q3: *How much carbon dioxide gets into our air if we let a car idle for 10 minutes?* A. 2,4 gram carbon dioxide B. 24 gram carbon dioxide **C. 240 grams carbon dioxide**

R Q: If 10 minutes of idling = 0.1 L of gasoline and 1 L of gasoline = 2.4 kg of carbon dioxide then how much carbon dioxide gets in the air when you idle... 10 minutes? **240 grams** 20 minutes? **480 grams**

Q4: People most vulnerable to air pollution are: A. Teachers, B. Teenagers, **C. Children**

RQ: Why are children more vulnerable? **(they breathe faster than adults and inhale more air per pound of body weight)**

Q5: Turn your engine off if you are parked for more than: **A. 10seconds**, B. 20 seconds, C. 30 seconds

R Q: Who knows this already?

Q6: The time needed to properly warm up your engine: **A. 30seconds**, B. 60seconds, C. 3minutes

R Q: How can we cut down on the time we leave the engine on to warm up?

Q7: If every driver of a light-duty vehicle in Canada avoided idling for just five minutes per day, we would save more than A. \$ 20,000, **B. \$1.2 million**, C. \$3.5 billion

R Q: What would you do with \$1.2 million to protect the environment?

Q8: The largest source of greenhouse gas emissions in Canada is from transportation. **True** or False?

Q9: Write down the most common reasons for idling (1 point per reason). **1. doing an errand, 2. warming up the car, 3. waiting for someone, 4. personal comfort, 5. listening to the radio 6. parking illegally 7. convenience**

R Q: How can we overcome these reasons?

Q10: How does idling damage the car's engine? Write down the answer. **The engine isn't working at its peak operating temperature. The fuel undergoes incomplete combustion. This leaves fuel residues that can contaminate engine oil and damage engine parts. (or anything close to this will do)**

Q11: Greenhouse Gases cause climate change by: A. Dissolving cloud cover B. Making cows and pigs fart **C. Trapping heat near the earth's surface.**

R Q: What are some effects of climate change?

Q12: Some towns have anti-idling laws, where cars are not allowed to idle for more than 2 minutes. However there are a lot of exceptions, in which a vehicle is allowed to idle. Name as many exceptions as you can come up with (1 point for each exception) Give 5 minutes for this exercise. **Exceptions are: police, fire & ambulance vehicles while in the middle of an operation or training, vehicles assisting in emergencies, to repair vehicles, vehicles that are standing still because of emergency, funeral or traffic, busses and other public transport while passengers are getting on and off, when the vehicle is really cold or really hot.**

Activity, Game, Exercise, Debate, Puzzles, Problem Solving, Role Play(Pt. II or Cont...) ~10-30mins

**Anti Idling Campaign:** How can we reduce Idling?

Let the students make a poster in which they promote an anti idling campaign. They can use slogans, pictures, warnings, whatever they want to use to promote anti idling.

The only requirement is that their posters have to convince people not to idle.

They can work alone, in pairs or in groups.

Contingency, Plan B, extra game or activity (Back up plan) ~5-10mins

**Anti Idling Campaign 2**

Have students work in groups of 4. Using the facts from the trivia game. Give them 10-15 minutes to write 10 morning announcements for their school. Each announcement should be no more than a couple sentences.

These announcements should include: 1. Facts about car emissions and how they affect our health and the environment. 2. The effects of global warming 3. Facts about idling 4. Tips to prevent unnecessary idling 5. Reasons why we should not idle 6. A tip how we could get as many people supporting the anti idling campaign (how to spread the word)

Presentation of Findings ~5-15mins

Have students present their morning announcements to the class

Review, Conclusion and steps towards continued action ~5-10mins

Ask the students: *What did you learn today? How will you take action against idling in your own life?*

References

<http://www5.mississauga.ca/idlefree/campaign.htm>

Newmarket Idle-free campaign - [http://www.newmarket.ca/userfiles/HTML/nts\\_1\\_359\\_1.html](http://www.newmarket.ca/userfiles/HTML/nts_1_359_1.html)

Great work ecoMentor! After use of Lesson Plan, revise, add ideas and repeat!