



# *DRIVEN TO SUSTAIN*

# Driven to Sustain

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## *Educational Resource Material: Teacher's Guide*

### **What is Driven to Sustain?**

**Mission:** To create awareness and inspire individuals to realize their personal power in forming individualized choice and a role in nature."

**Synopsis:** We are working to raise individual awareness of our planet's current environmental situation and how YOU as an individual control its future.

Face it; the majority of the western civilization population has one role in society: consumer. You (among billions of others) are the driving force for governments and corporations. You "vote" them into power through elections and by purchasing products that determine the market. We are reaching a critical point in time when you as an individual must decide if you are a part of the solution or against it.

Daily, the average consumer is bombarded by environmental issues in the media. One buzz word, "global warming," is repeated countless times, over and over, along with the pressure for you to do something about it. The solution to global warming is then conveniently presented to you in the form of a product. The solution to global warming is not in a product, not within your governments hands, nor is it a developing technology. The solution to global warming and all other connected environmental issues depend on your behaviour. We hope to capture your attention. In turn you will save money, act towards a solution for a healthier planet, and live a healthier mental and physical existence.

How will we possibly reach so many people? A massive public display. We plan on breaking the current world record for "Longest Journey by Car on Alternative Fuel." Waste Vegetable Oil (WVO) will power our vehicle across Canada, the US, and possibly Mexico. We will be visiting sustainable initiatives along the way and will then deliver what we know and learn on sustainability through public discussion, lectures in schools, radio and television media broadcasting, newspaper and magazine publications, websites, podcasts, internet broadcasting, video documentary, and possibly a TV series. We are preparing to drive more than forty-five thousand kilometres by car on alternative fuel using WVO to surpass the current world record of 38,137 kilometres.

**Objective:** To drive 45,000 Km using waste vegetable oil as fuel.

To educators, we offer an opportunity to engage students in a real-world exploration of critical issues relating to the environment and sustainability. Join us.

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## *Education Program Guide*

How can you and your students get involved? There are several opportunities.

### **ELEMENTARY TEACHERS:**

Participate in our inquiry journal letter-writing project.

Connect with Tyson and Cloe, the faces and minds behind this historic feat. Your students can write to the founders of Driven to Sustain and drivers of the van and ask questions, and Tyson and Cloe will write back with informative and age-appropriate personal letters to your class!

Intrigued? See the lesson on **page 4**. Send your students' work to [learn@driventosustain.ca](mailto:learn@driventosustain.ca)

### **OR:**

Track the Driven to Sustain team using the GPS tracking tool on their website. Virtually visit some of the biggest and most influential movers and shakers in sustainable living and energy across North America.

Interested? Visit [www.driventosustain.com](http://www.driventosustain.com) and check out Blog, Video and GPS Tracking.

### **SECONDARY TEACHERS:**

Participate in an environmental design inquiry project, with cross-curricular connections to the Sciences, Arts and English. We have developed projects to meet the needs of diverse learners through application of Gardner's Multiple Intelligences theory. Each project has a real-world connection and empowers youth to use their strengths to solve the problems associated with environmental challenges and change.

Intrigued? See the lesson on **page 7**. Send your students' work to [learn@driventosustain.ca](mailto:learn@driventosustain.ca)

### **OR:**

Motivate your students to consider the five essential questions (**on page 11**) of the Driven to Sustain project using interactive, thematically-based lesson plans developed by the **Sierra Club** to meet the needs of learners across the secondary curriculum.

Interested? Engage your students by introducing them to the Sustainable High Schools Project. You can find all three sections [here](#).

### **CURRICULUM CONNECTIONS**

As this is a nationwide project, our ability to target the specific curricular needs of all provincial and territorial ministries of education is limited. Environmental education is a valuable curricular area and is recognised by most educational bodies. We hope that you find our resources to be effective "ways in" to your curriculum.

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## *Educational Resource Material: Elementary Inquiry Project*

This lesson is best integrated into a unit on environmental education. Students will need to understand basic concepts in environmental preservation.

### **Introduction:**

1. Assess previous knowledge.

#### **Activity 1: Method: think/pair/share**

- a. Ask students: Who do you know that is doing something to help our earth? What are they doing? Encourage students to think about both small and large-scale actions.
- b. Give students one minute to compile a list.
- c. When students have made their list, have them partner up with the student beside them, to share their knowledge and experience for one minute.
- d. Ask partners to write five people from their lists on the board.
- e. Read through the list, and have students raise their hands when their people are called. Ask students to share with the class what the people they recorded are doing to help the earth.

#### **Activity 2: Method: large group discussion**

- a. Show students a copy of the Guinness World Records. Survey the class to see who has ever seen it before. Explain and share some examples.

### **2. Connect to student experiences.**

Activity 3: Method: Journal-writing

Ask students to respond to the following question (writing volume and other expectations are of course level-dependent):

“If your name was in the Guinness Book of World Records, what accomplishment would you want to have been recognised for?”

*Continued on next page...*

### 3. Introduce new context and information.

Show students the introductory video available on the LEARN sub-site of [www.driventosustain.ca](http://www.driventosustain.ca). Explain to students that Tyson and Cloe are two young Canadians who are trying to set a world record for the longest drive using waste fuel. The video will do the rest of the explaining!

### 4. Connect and conclude.

Ask students to write five questions each that they have for Tyson and Cloe. Explain to them that they will be given the chance to write to them and hear back about their trip.

\*\*\*Please be aware (and make your students aware) that not all classes will be sent personal feedback. This is due to time constraints and our busy driving schedule as we strive to connect to communities across North America.

*Make sure you send home the following permission slip to parents and guardians before writing.*

*Following this introductory lesson, your class will begin a weekly letter-writing program with Tyson and Cloe. The age, level, and language ability of your class will determine how you choose to participate. We welcome all letters on the following topics:*

- *What we are doing*
- *Where we are going*
- *Why we are doing this*
- *How we will accomplish our goal*
- *Who we are*
- *What other people we are visiting along our journey are doing to promote a sustainable future*
- *What we have experienced on our trip*
- *Why we believe in our goal*

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[your school's letterhead]

[date]

Dear Parents and Guardians,

Your son/daughter/ward's class has the unique opportunity to participate in a letter-writing program with two young Canadians who are attempting to break a world record for the longest trip made by a vehicle using alternative fuel. This inquiry project will supplement daily learning about the earth, environmental stewardship and sustainability. We always want to ensure that our students have the permission of their parents/guardians before initiating projects that involve contacts with adults outside of the regular school environment. We are asking for your consideration of this project and permission for your child/ward to participate. All letters incoming and outgoing will be read for suitability by the classroom teacher.

Please call me at [your school phone number] should you have any questions or concerns, and visit [www.driventosustain.ca](http://www.driventosustain.ca) for more information about this exciting project.

Yours in education,

[your signature]

[your name]

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Please detach and return to the school by [date].

\_\_\_\_\_ has my permission to participate in the letter-writing  
Student's name

program with Driven to Sustain.

\_\_\_\_\_  
Signature of parent or guardian

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## *Educational Resource Material: Secondary Environmental Design Inquiry Project*

The following is an inquiry-based design project that engages students' multiple intelligences by offering them various "ways in" to the concept of environmental sustainability. It can be used across the curriculum.

Evaluation criteria for the inquiry projects should be based upon the provincial curriculum for your grade level and subject.

### **Lesson Preparation:**

1. Ensure that you have a teaching environment with computers with internet access for all students.
2. Set up and check links to the hyperlinked sites within the following lesson.
3. Print off the multiple intelligences assignments or save them to a folder available to all students (save paper!)

### **Introduction:**

1. Assess preconceptions about intelligence.

#### **Activity 1: Journal**

- a. Post the following question to students verbally and visually (for example, on the blackboard):

#### **Are you smart?**

- b. Give students 20 minutes to free-write in their journals. See the rules for free-writing on page, and review them with your students if this is not a familiar activity in your program.
- c. When 20 minutes are up, have students share their journals with the class. This should be a voluntary activity.
- d. You may have found through student responses that most students identify their intelligence with very traditional, outmoded and exclusionary measures. This will be addressed and deconstructed in the following activity.

### **Main lesson:**

1. Using the multiple intelligences assessment tool available at [http://www.jobsetc.ca/toolbox/quizzes/mi\\_quiz.do?lang=e](http://www.jobsetc.ca/toolbox/quizzes/mi_quiz.do?lang=e), have students discover their strongest area of intelligence. Write the following intelligences on the board, and have students sign their names under the one or two intelligences on which they scored the highest.
2. Explain to students that each person has an area of strength that can be used towards solving a problem. Explain that as one persistent and complex problem in the world right now is the health of our environment, that students will be working on an environmental design project that utilises their greatest strength.

3. Show students the program website, available at [www.driventosustain.ca](http://www.driventosustain.ca). Give them time to navigate and ask them to list the 5Ws for this project (Who, What, When, Where, Why). Record answers on the board.
4. Explain to students that they will be responsible for providing alternate solutions to Tyson and Cloe, who will pass them on to the people they meet on their journey.
5. Invite students to choose a project based on their strongest area of intelligence. Give them the corresponding challenge below.
6. Together, decide upon a group due date to compile the inquiry projects.
7. On that date, have each student share their solutions with the class. You can also consider sending their results to [learn@driventosustain.ca](mailto:learn@driventosustain.ca) for feedback and dialogue with Tyson and Cloe. \*\*Please be aware that not all classes will be sent personal feedback. This is due to time constraints and our busy driving schedule as we strive to connect to communities across North America.

### Verbal/Linguistic

1. Research environmental sustainability using the resources available on [www.driventosustain.ca](http://www.driventosustain.ca). Write an essay of 500-1000 words that concisely and powerfully argues either:
    - a. The importance of sustaining the environment, from the perspective of an endangered species
    - b. That business and commerce are of greater value to humanity than taking steps to make our practices more sustainable.
- OR
2. Write a satire of 500-1000 words about environmental sustainability from an ironic perspective.
- OR
3. Write a short story of 800-1200 words that explains sustainability to children.

### Logical/Mathematical

1. Choose an area of human life (i.e. food, transportation, shelter). Choose a traditional and non-sustainable energy source and an alternative, sustainable solution. Graph differences of energy and resource consumption on a chart in the method you find most suitable.
- OR
2. Use the carbon footprint calculator available at: [www.zerofootprint.net/one\\_minute/earthour](http://www.zerofootprint.net/one_minute/earthour). Using the data available from your own household, propose a solution to reduce your footprint. Write a one-year schedule for reducing your family's footprint.

### Musical

1. Compose a song to perform to your class on sustainable living.
- OR
2. Make a compilation of songs throughout history that have either promoted sustainability or taken a negative approach to the environment.
- OR
3. Write a convincing letter to appeal to the support of a band or musical artist who you can prove is concerned with environmental sustainability.

### Bodily/Kinaesthetic

1. Develop an outdoor game for children or youth to play that will teach them about environmental sustainability.  
OR
2. Choreograph an expressive dance or movement piece that communicates the principle of sustainability.  
OR
3. Develop and perform a play that teaches its audience about sustainability.

### **Visual/Spatial**

1. Create a work of art that conveys the concept of sustainability.  
OR
2. Author a children's book on sustainability with educational illustrations.  
OR
3. Build a model for a sustainable home.

### **Interpersonal**

1. Plan an event to raise money for an environmental sustainability initiative. Include a budget, event details, and promotional materials.  
OR
2. Write a letter to your member of parliament or the editor of your local newspaper addressing a regional issue of environmental sustainability that is relevant to your life.

### **Intrapersonal**

1. Choose a specific personal goal related to sustainability (i.e. biking to school instead of driving a car). Every day, write a journal of 100-200 words reflecting on your progress and the way you feel at the end of each day of change. Continue for two weeks. At the end of two weeks, write a summative journal that reflects upon your experience and your success.  
OR
2. Develop a resource (pamphlet, Powerpoint presentation with survey etc) that people can use to self-assess their environmental footprint. Distribute to classmates. Collect completed assessments and reflect in writing on your findings.

### **Naturalistic**

1. Using a still or video camera, document an area of local environmental concern (i.e. polluted river). Present your documentary work to the class visually as an exhibit or as an oral presentation with visual aids.  
OR
2. Develop a map for a nature walk around your area. Include highlights of significant successes and areas that need further work in terms of sustainability in your community.

For more information on the multiple intelligences, see [http://projects.coe.uga.edu/epltt/index.php?title=Multiple\\_Intelligences\\_and\\_Learning\\_Styles#Naturalistic](http://projects.coe.uga.edu/epltt/index.php?title=Multiple_Intelligences_and_Learning_Styles#Naturalistic)

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## *Educational Resource Material: Curriculum Connections*

We welcome collaboration from teachers to develop a bank of curriculum connections across provinces and territories and subject areas. Please send the connections you have made to [educate@driventosustain.ca](mailto:educate@driventosustain.ca) and we will add them here.

Example:

<b>Province or Territory</b>	ON
<b>Subject and Grade</b>	Visual Arts, Grade 12, University/College Preparation
<b>Multiple Intelligence Project</b>	Visual/Spatial
<b>Curriculum Expectations</b>	



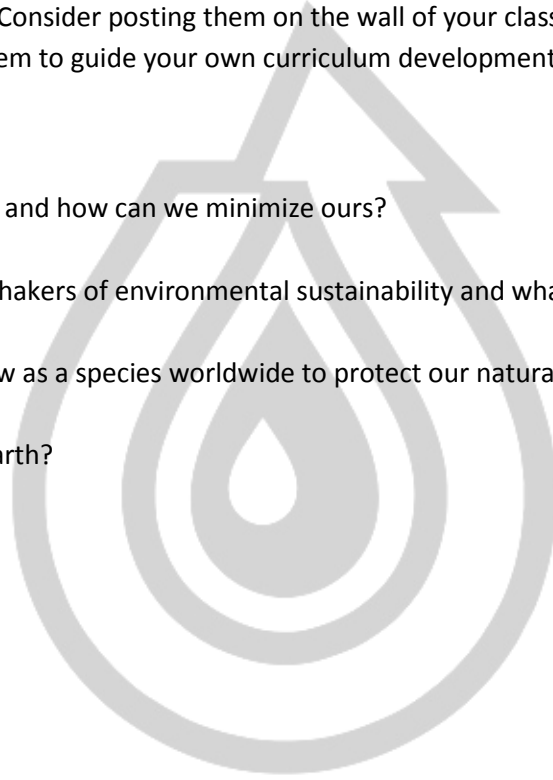
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## *Educational Resource Material: Essential Questions*

The following questions are meant to engage your students in critical inquiry as they move through the activities and projects offered in this resource. Consider posting them on the wall of your classroom, posing them to students as problems to be solved, or using them to guide your own curriculum development.

1. What is sustainability?
2. What is a carbon footprint and how can we minimize ours?
3. Who are the movers and shakers of environmental sustainability and what are they doing to help our earth?
4. How can we learn and grow as a species worldwide to protect our natural resources?
5. What is the value of the earth?



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## *Educational Resource Material: External Resources*

### [Campsite 24 for Teachers](#)

Bring Ontario's parks and protected areas into your classroom with these lesson plans based on the Ontario Curriculum Guidelines for Grades 2 to 6.

### [EcoKids](#)

Download and printables, learning resources, classroom visitors, forum and more, covering environmental matters.

### [nature.ca](#)

In the "Teacher Zone" of the Canadian Museum of Nature, you'll find almost 100 workshops, lesson plans, activities and games for exploring the natural world with your students. Whether planning a visit to the museum or preparing for a lesson in your classroom, our curriculum-based resources can be useful tools.

### [Nature Challenge for Kids: Teachers/Parents pages](#)

Information and resources for David Suzuki's "Nature Challenge" program as tailored for youngsters.

### [Ontario's Greenbelt: A Resource for Teachers](#)

*Ontario's Greenbelt: A Resource for Teachers* contains learning experiences through which students develop and apply critical thinking skills as they learn about the role of Ontario's Greenbelt and its impact today and in the future.

### [Statistics Canada Learning Resources for Teachers](#)

Lesson plans, articles, brochures, teachers' kits, student projects and more.

### [Zerofootprint](#)

Teaching resources developed by the Sierra Club for understanding ecological footprints and carbon use.

### [Ontario ecoSCHOOLS](#)

Resources that link to elementary and secondary curriculum, as well as a school certification program.

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*Educational Resource Material: Ontario Curriculum Scope and Sequence for Environmental Education Across the Curriculum*

[Environmental Education Curriculum Links](#): Ontario Curriculum Scope & Sequence

This resource connects curriculum expectations across disciplines to environmental education. More provinces and territories to be added soon.



***DRIVEN, TO SUSTAIN***



Bring environmental and sustainability education to life with your students by connecting it to their lives and their communities in their time. Start now.

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