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A play by Michele Riml
Study Guide by Sunita Pierce



www.greenthumb.bc.ca

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Study Guide Usage

This Study Guide will help you decide how to prepare your students to see the play. Included here are suggestions on how to work the performance into your curriculum and ideas on how to promote classroom discussion about global warming and reducing our carbon footprint.

Preparing Students for the Play



When young people attend a live theatrical performance for the first time they often do not realize how different it is from watching a movie or television show.

A live presentation is riskier for performers because anything could happen and affect their performance. Mistakes cannot be edited out! This makes for a more dynamic experience for both performers and the audience.

Please remind students of the following:

- ☞ It is disruptive to talk, eat and drink during the play.*
- ☞ Photos or recordings are not allowed.*
- ☞ Excessive movement can be distracting to others watching the play.*

Active Viewing

Making the most of watching a live performance

Please encourage your students to:

Not only watch the play for the story, but also pay attention to the **set, costumes, music** and **lighting**. These aspects are an important part of a live performance and will enhance later discussions about the play and the students' experiences watching it.

After the Play

Asking Questions After the Play

The following activities are provided as suggestions and starting points for further exploration into the themes brought up in "Tree Boy". Activity sections are divided by grade purely based on suggested suitability but are not necessarily limited to each age group.

Near the end of this guide are several pull-out worksheets that investigate aspects of the performance. All are in keeping with the BC Ministry of Education Curriculum Guidelines.



Synopsis

10 year-old Avery Adamson discovers that his father is going to cut down his favourite tree. In protest, he enrolls his best friend to live with him in the yard (No TV! No video games! Nothing!). But when a heated debate over soccer and global warming goes sour, Avery questions if he has the guts to be an Enviro-Man or is he merely, as his sister calls him, a Tree Boy.

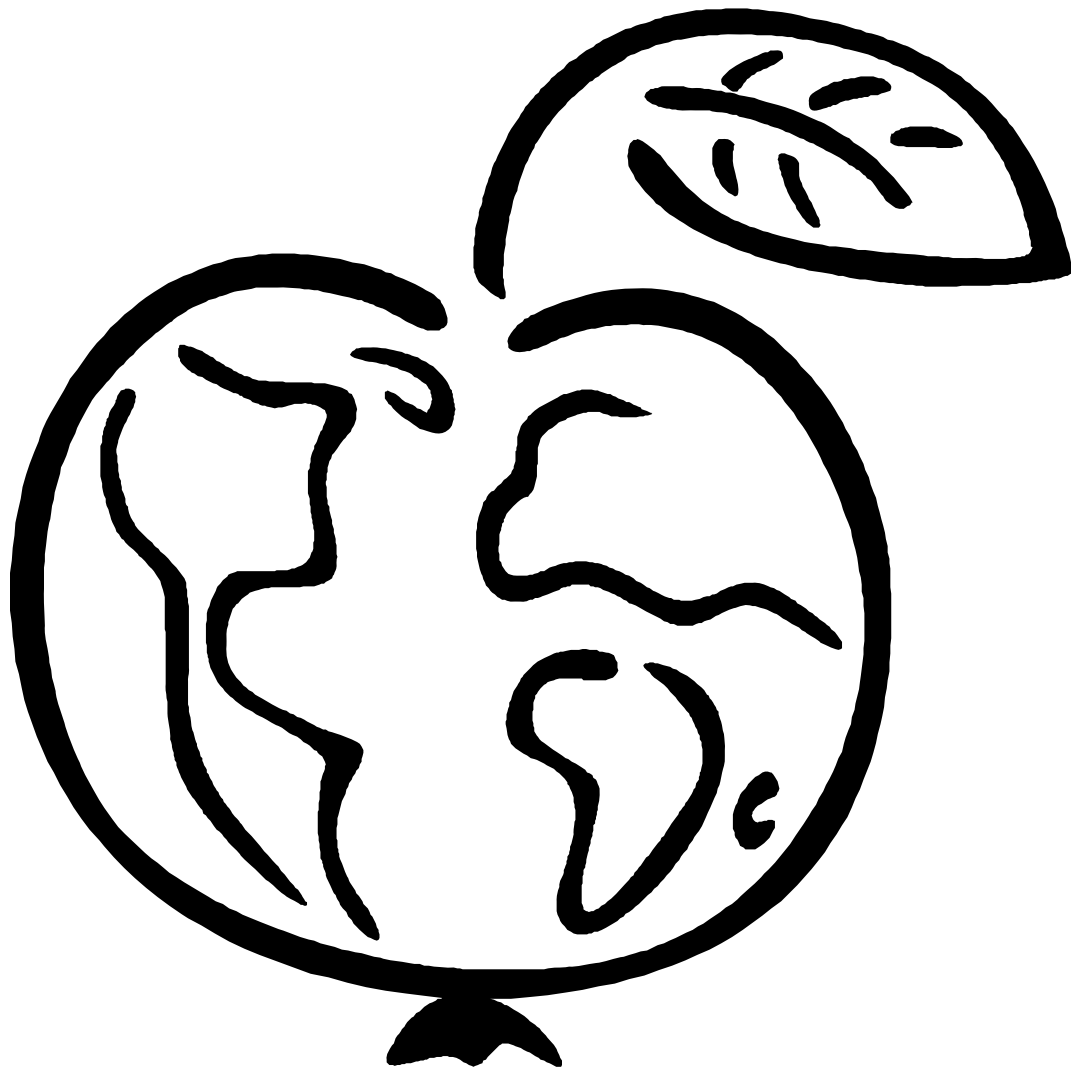


Photo courtesy of David Cooper Photography.

Characters

Avery	<i>a ten year old boy</i>
Sam	<i>a ten year old girl. Avery's best friend</i>
Janine	<i>Avery's older sister</i>
Mr. Adamson	<i>Avery's Dad</i>
Mrs. Adamson	<i>Avery's Mom</i>
Chris	<i>next door neighbour</i>

Curriculum Connections



Kindergarten

The following activities are provided as suggestions and starting points for further exploration into the themes brought up in “Tree Boy”. Activity sections are divided by grade purely based on suggested suitability but are not necessarily limited to each age group.

Near the end of this guide are several pull-out worksheets that explore aspects of the performance. All are in keeping with the BC Ministry of Education Curriculum Guidelines.

These suggestions address the Standards of Science, Social Responsibility and Language Arts Curricula



Curriculum

Science – Earth & Space Science: Surroundings
Properties of Objects and Materials: Recycling
Life Science: Characteristics of Living Things

Personal Planning – Personal Development
(Mental Well-Being & Healthy Living)

Language Arts – Self and Society (Personal Awareness,
Comprehend and Respond and Working Together)



Discussion

Who was your favorite character? Why?

Which character didn't you like and why?

Why was Avery living in a tree?

What was funny about the play? What was sad?



Activities (found in “Activities and Worksheet” section)

Nature Walk ● Recycling ● On Your Feet: The Cooperation Machine

Grade 1 & 2

The following activities are provided as suggestions and starting points for further exploration into the themes brought up in “Tree Boy”. Activity sections are divided by grade purely based on suggested suitability but are not necessarily limited to each age group.

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These suggestions address the Standards of Science, Writing and Social Responsibility, Language Arts and Math Curricula



Curriculum

Science – Process of Science: Communicating (Recording), Needs of Living Things, Earth & Space Science

Math – Measurement, Statistics/Data Analysis

Personal Planning – Personal Development (Mental Well-Being & Healthy Living)

Language Arts – Self and Society (Personal Awareness, Comprehend and Respond and Working Together)



Discussion

What’s the story about?

Why did Avery not want his dad to cut the tree down?

Who was your favourite character? Why?

What did you think of the set?



Activities (found in “Activities and Worksheet” section)

Graphing: How Green Are You ● Low Litter Lunch Day ● Art Capture
Make Your Own Green Cleaner ● In the Computer Lab

Grades 3 to 5

The following activities are provided as suggestions and starting points for further exploration into the themes brought up in “Tree Boy”. Activity sections are divided by grade purely based on suggested suitability but are not necessarily limited to each age group.

Near the end of this guide are several pull-out worksheets that investigate aspects of the performance. All are in keeping with the BC Ministry of Education Curriculum Guidelines.

These suggestions address the Standards of Science, Writing and Social Responsibility, Language Arts and Fine Arts Curricula.



Curriculum

Science - Earth & Space

Math - Statistics/Data Analysis

Personal Planning – Personal Development
(Mental Well-Being & Healthy Living)

Language Arts – Self and Society
(Personal Awareness & Working Together)

Fine Arts – Exploration & Imagination, Context

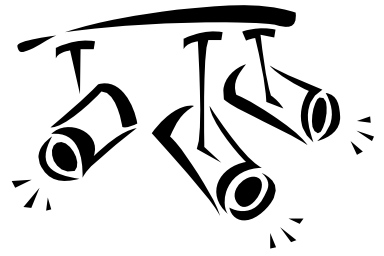


Activities (found in “Activities and Worksheet” section)






- Make Your Own Green Cleaner! ● Low Litter Lunch Day ● Word Scrambler
- In the Computer Lab ● Green Quiz

Grades 3 to 5

Springboard for Discussion



Tree Boy Post Discussion

-  Discuss the production. How did the set/costumes/sound/acting/writing/directing get the story across?
-  What worked? What didn't? Why?
-  Why did Avery disagree with his dad about whether or not to cut the tree down?
-  In your opinion, did Avery respond appropriately to his dad's decision to cut down the tree? Why or why not?
-  Do you think Sam was an important character?

Class Discussion - *Carbon Footprint*

Carbon Footprint: a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.



Class Discussion - *Global Warming*

What are some words that come to mind when students think about the environment and global warming? Using a word map or idea tree as a visual aid will help students explore these subjects.

Grades 3 to 5

Class Project - Green Websites

At the end of this study guide is a list of websites about the environment. Students (in a group or on their own) can use them as research to create a poster that promotes and lists 10 ways we can fight global warming.

★ *See the Grade 6 & 7 section for Power Point - Project Green.*



Grades 6 & 7

The following activities are provided as suggestions and starting points for further exploration into the themes brought up in “Tree Boy”. Activity sections are divided by grade purely based on suggested suitability but are not necessarily limited to each age group.

Near the end of this guide are several pull-out worksheets that investigate aspects of the performance. All are in keeping with the BC Ministry of Education Curriculum Guidelines.

These suggestions address the Standards of Science Writing and Social Responsibility, Language Arts, Social Studies and Fine Arts Curricula.



Curriculum

Science – Life Science

Personal Planning – Personal Development
(Mental Well-Being & Healthy Living)

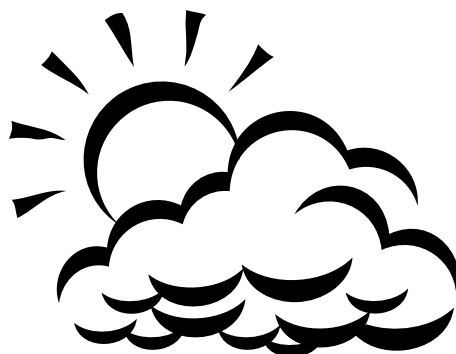
Language Arts – Self and Society
(Personal Awareness & Working Together)



Activities (found in “Activities and Worksheet” section)

Make Your Own Green Cleaner! ● Word Scrambler ● Green Quiz





On Your Feet: The Cooperation Machine



Grades 6 & 7

Springboard for Discussion

Tree Boy - Post Discussion

-  Discuss the production. How did the set/costumes/sound/acting/writing/directing get the story across?
-  What worked? What didn't? Why?
-  Why is Avery protesting against his dad cutting down their tree? How does this connect to environmentalist ideas?
-  Do you think that Avery's protest was worthwhile? Why or why not?

Classroom Discussion - *Carbon Footprint*

Carbon Footprint: a measure of the impact human activities have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.

Writing Exercise - *Your Hero*



Dr. David Suzuki is Avery's hero. Research your favourite real life hero and share your findings with your class.

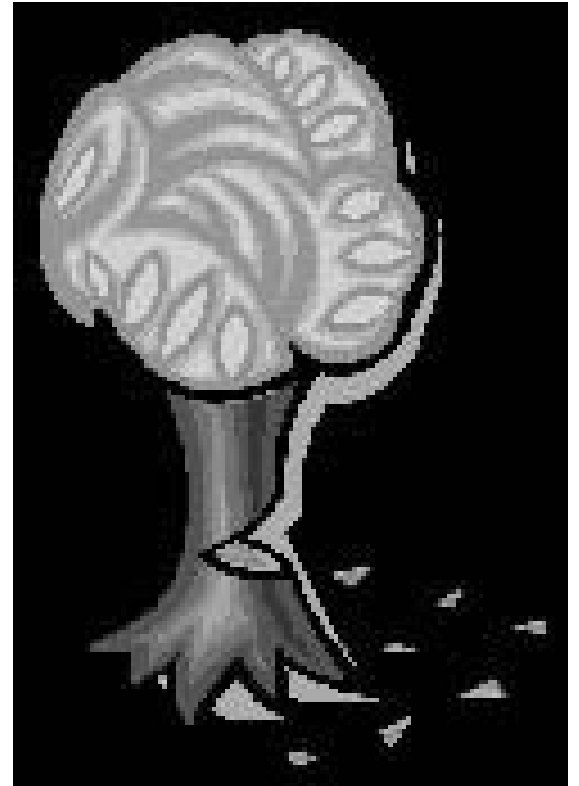
Grades 6 & 7

Writing Exercise & Project

Writing Exercise - *Avery wrote the following poem:*

An Ode to My Tree by Avery Adamsonn

Who but me cares for this tree?
My father who will cut its trunk, not he.
My sister who cares only for junk, not she.
Even the robin has left its nest
Leaving me to pass the test
And face the dark in my tree.
Just like my hero David Suzuki.

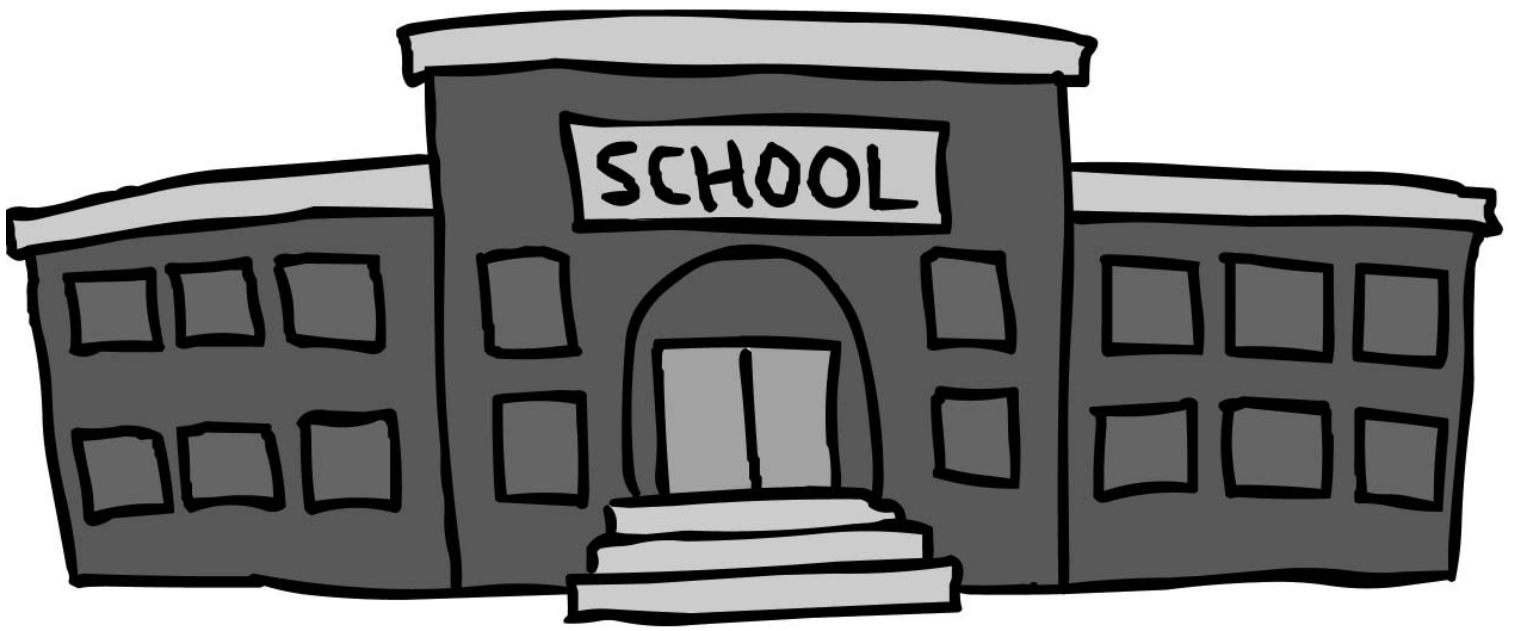


Now it's your turn! Write a poem about the environment!

Power Point - *Project Green*

Using the “In the Computer Lab” suggested websites, students can create Power Point Slideshow on any of the following topics: *What is Global Warming & How It Works?, The Effects of Global Warming or What can I do about Global Warming?*

Classroom Activities



On Your Feet: The Cooperation Machine

All Grades including Kindergarten

The object of this game is to form a machine with all students participating. Cooperation and listening to each other is key!

1. One person starts by miming a steady, repeatable motion and a rhythmic sound. The simpler, the better.
2. Another person joins in, adding their own sound and motion to the machine.
3. Keep doing this until everyone is a part of the machine. Allow students to really “feel” the machine before moving on to the last step.
4. Once the machine has grown to capacity, the leader/teacher can direct the machine to speed up and explode, slow down and break down or one by one, pull people out of the machine and in doing so change the sound and look of the machine.
5. As students begin to feel more comfortable doing this, smaller independent groups could be formed to make their own machines and present them to the class!



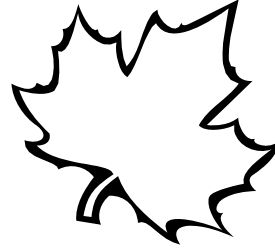
Nature Walk & Recycling

Kindergarten

Nature Walk

Before going outside, have a brief discussion about living things.

How do we know if something is living?



Take a walk around the school ground or nearby park.

Ask students to look for things that are living.

On returning to the classroom, students draw something that they saw (trees, grass, birds etc...)

Do a gallery walk so everyone can appreciate each other's art!

Recycled Art

Discuss the idea of "reuse" and "recycle". With class input, decide what classroom materials can be reused/recycled and set up areas in the classroom for this to be done.

For example:

Decorate a box to hold to paper to be reused.

A juicebox cleaning station by the sink with safety scissors (to properly cut open and rinse) and a receptacle to put used, clean juiceboxes into for recycling.



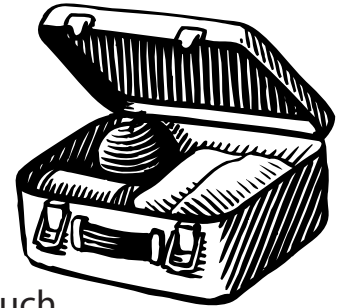
Low Litter Lunch Day

Grades 1 to 7

Here's a project Avery, Sam and Dr. Suzuki would be proud to participate in. Your class can even enter data into a Log Book, just like Avery!

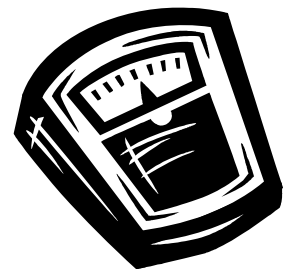
DAY ONE – REGULAR LUNCH

1. After a regular lunch, your class will need to weigh, using a scale, how much garbage has accumulated in your class garbage cans. (It's important that recess garbage be thrown in other cans that day so that we only have lunch garbage).
2. Record this number and take note in your log book of how much and what kind of garbage you see in the can.
3. As a class, brainstorm ideas on how to choose and pack lunches that do not create unnecessary garbage.



DAY TWO – LOW LITTER LUNCH

1. Today, everyone will have brought a low litter lunch and tried to use some of the environmentally friendly packaging ideas you came up with the day before.
2. After lunch (remember, recess garbage should not be mixed up with lunch garbage) weigh your garbage cans. Is there a difference? Look closely at what is in the can compared to a regular lunch day. Do you notice anything? Enter your data and observations in your Log Book.
3. What about what's in the garbage in the can...can you think of better ways you may be able to dispose of, for example, apple cores?
4. What do you conclude from these two lunch days? Enter it in your Log Book.



Low Litter Lunch Day - Continued

Grades 1 to 7

Extension

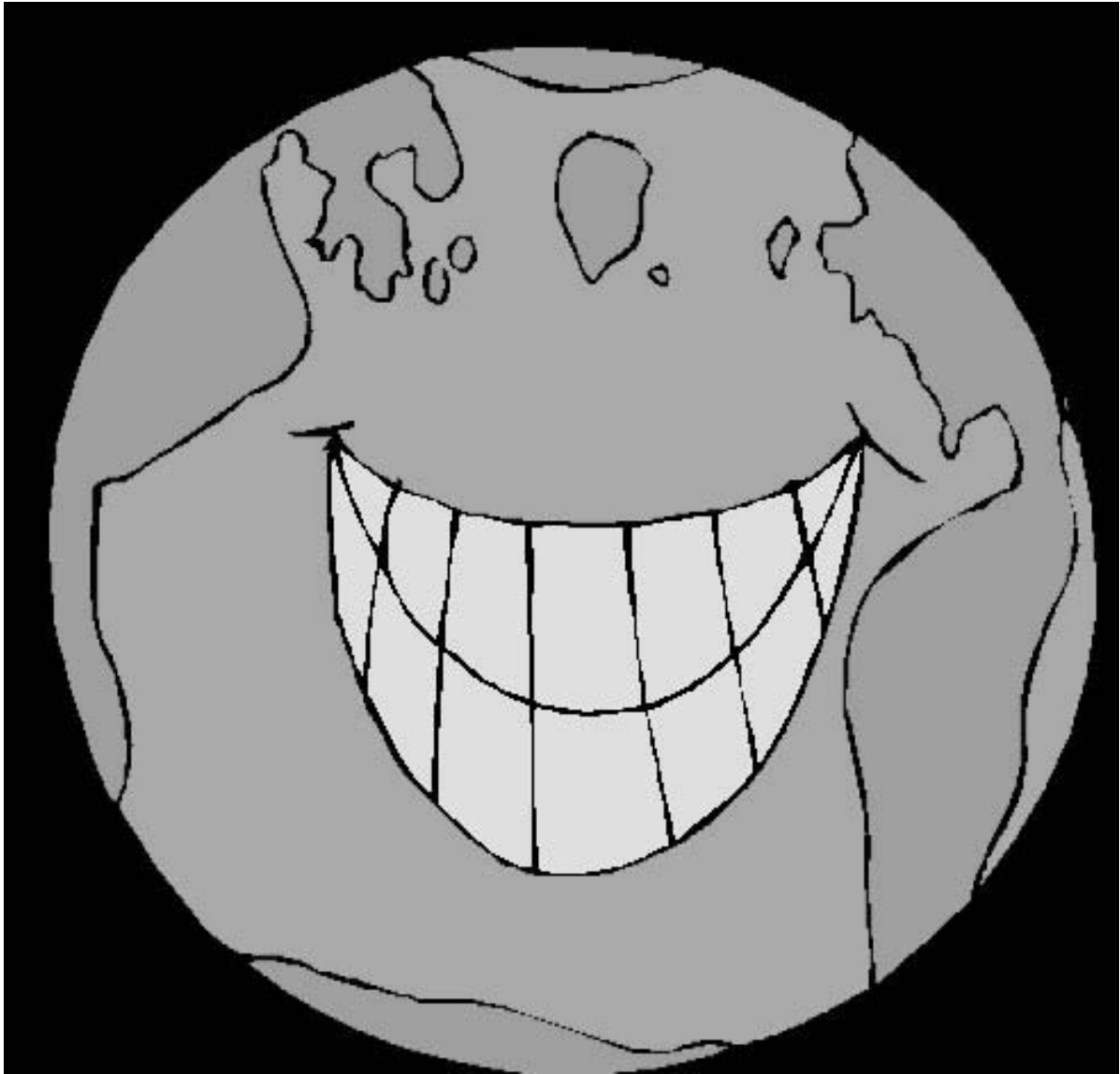
Your class could work with another class and compare your results. You can share your green ideas with each other!

Challenge!

See if you can reduce garbage at home! One really smart way to use your garbage to help green the environment is composting. Ask your parents to get in touch with your city garbage and recycling programs. Many cities offer composting bins for free or for a small fee. This will cut down on your waste and also create some great material to add to your garden!



Work Sheets



How Green Are You?

Grades 1 to 2

1. Using the websites listed on the “In The Computer Lab” page, research ways in which you can be more “green”.
2. As a class, choose at least 5 really important green habits you would like to practice.
3. Create a graph on the board with enough lines for each student and each green habit written out. See the example below.
4. Find out how many people practice each green habit and colour in the graph accordingly with coloured chalk.
5. Once you are done and everyone has voted for each habit, analyze your results. What does the graph tell you? What is practiced the least? What is practiced the most? Why do you think that is? Are some things easier to do than others? Can we do something about that?

★ *You might want to copy your class graph down for yourself and then conduct another survey later in the year and see if anything has changed!*

X			
X		X	
X	X	X	
X	X	X	X

I recycle paper

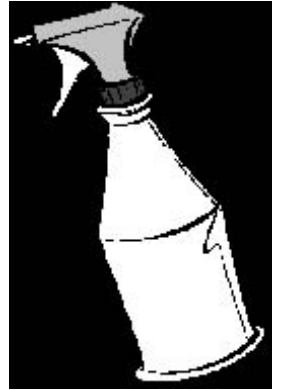
I switch off lights when I
leave a room

I walk to school

I only turn the tap on when I
need water while I brush my
teeth

Make Your Own Green Cleaner

In the play "Tree Boy", Avery's best friend, Sam, has asthma. Asthma is an illness that involves our respiratory system and makes it hard for someone to breathe well. There is evidence that air pollution has contributed to the growth of asthma in young people.



Air pollution is caused by many things and one of them is our use of chemicals found in cleaning products! There are greener cleaning products for sale that you can buy but you also make your own...why not try this recipe for homemade window cleaner and brighten up your school!

Work in groups of two or more:

- ✓ *1/4 cup white vinegar,*
- ✓ *1 tablespoon cornstarch*
- ✓ *4 cups warm water*
- ✓ *2 measuring cups (one to mix in and one for measuring)
one mixing spoon*
- ✓ *one very clean, recycled spray bottle per person (you can also purchase one at a store, just make sure that it is recyclable by looking for the recycling triangle)*
- ✓ *some old newspaper*

1. Mix the cornstarch with the vinegar then add the warm water. Mix well.
2. Pour into your clean, recycled spray bottle.
3. Clean your school! Try it out on a window or mirror and wipe dry with crumpled newspaper, buff to a shine.
4. Using crumpled newspaper instead of paper towels is more environmentally friendly.



Green Quiz

Name _____

Some questions may have more than one correct answer! Circle every one that you think is correct.

1. What is the Greenhouse Effect?

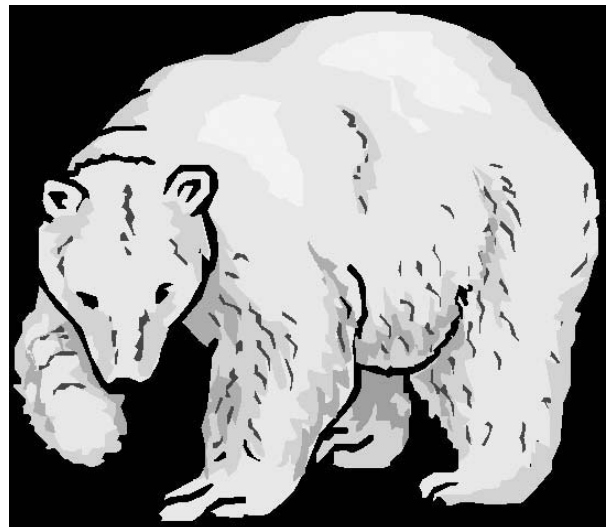
- a) Something that happens in your garden
- b) An Environmentalist rock band
- c) A Superhero
- d) Gases building up in the atmosphere

2. You can recycle

- a) glass jars
- b) grass clippings
- c) certain plastic bags
- d) juice boxes

3. Polar Bears are endangered because

- a) their ice is melting
- b) some people think that they live with penguins
- c) of climate change
- d) grizzly bears are moving North



4. Composting can

- a) reduce the amount of garbage going to the dump
- b) help you to have healthier soil and a more productive garden
- c) make a great spread for you to put on your toast
- d) only be done by farmers

5. What should you do with your old clothes?

- a) Throw them away
- b) Dig a hole, plant them and wait for newer clothes to grow
- c) Donate them to a charity
- d) Go to the store where you bought them and ask for a refund



Continued on next page

Green Quiz - *Continued*

6. A smart way to conserve water at home is

- a) to never, ever wash yourself again
- b) "If it's yellow, let it mellow. If it's brown, flush it down!" (that means, only flush the toilet when you absolutely have to)
- c) switch the tap off while you are brushing your teeth and only turn it on when you actually need the water
- d) have showers instead of baths

7. How much water is wasted by running a tap?

- a) 1 litre per minute
- b) half a litre per minute
- c) 15 litres per minute
- d) 6 litres per minute



8. How long does it take for a pop can to break down in a landfill?

- a) 20-30 years
- b) 2-5 years
- c) It never will
- d) 80-100 years

9. Which of the following are examples of renewable sources of energy?

- a) Oil
- b) Solar
- c) Wind
- d) Coal

10. How much has the Earth's sea level risen in the past 100 years?

- a) None at all
- b) 5-10 cm
- c) Just over 1 ft
- d) 15-20 cm



Word Scrambler

Name _____

Here are some key words and terms from Green Thumb Theatre's play "Tree Boy". By rearranging the letters, can you find the words?

1. OLGALB GRAMIWN - _____
2. RD IUSKUZ - _____
3. SIFLOS LUFE - _____
4. REYNEG - _____
5. LAMITEC HACGEN - _____
6. DICA INAR - _____
7. AMS - _____
8. CECLRYE - _____
9. VINROMENTEN - _____
10. REYVA - _____
11. 11. LOTIONLUP - _____
12. 12. EGERN - _____



1. Global Warming 2. Dr. Suzuki 3. Fossil Fuel 4. Energy 5. Climate Change
6. Acid Rain 7. Sam 8. Recycle 9. Environment 10. Avery 11. Pollution 12. Green

Library & Web Resources



Global Vocabulary

Global Warming - Global Warming is the phenomenon in which the density in the atmosphere of gases such as carbon dioxide rise and in turn cause the air temperature to rise.

Acid Rain – Rain polluted by chemicals in the air.

Protest – A public demonstration expressing opposition to or support for an event or situation.

Climate Change – In this play, climate change refers to the significant variations in the Earth’s global climate over time.

Environment - The living things, climate, soil, air, and other factors that surround an organism.

Environmentalist – A person who tries to protect the environment.

Asthma – A chronic inflammatory disease of the airways.

Fossil Fuel - Fossil fuels are the non-renewable remains of plant and animal life that are used to provide energy by combustion. For example, coal, oil, natural gas.

Energy-efficient – Using energy responsibly, without waste.



Global Warming

The term “global warming” refers to the gradual warming of the Earth’s atmosphere. This warming is a natural cycle but it has sped up considerably.

This acceleration of warming (climate change) is due to the buildup of greenhouse gases from human activities, especially the use of fossil fuels to generate electricity.



Evidence and impact of Global Warming

- ☞ Since the beginning of the 20th century, the mean surface temperature of the earth has increased by about 1.1° F (0.6°Celsius)
- ☞ Over the last 40 years, which is the period with most reliable data, the temperature increased by about 0.5 ° F (0.2-0.3°Celsius).
- ☞ Warming in the 20th century is greater than at any time during the past 400-600 years.
- ☞ Seven of the ten warmest years in the 20th century occurred in the 1990s. 1998, with global temperatures spiking due to one of the strongest El Niños on record, was the hottest year since reliable instrumental temperature measurements began.
- ☞ Scientists report that mountain glaciers the world over are receding.
- ☞ The Arctic ice pack has lost about 40% of its thickness over the past four decades.
- ☞ The global sea level is rising about three times faster over the past 100 years compared to the previous 3,000 years.
- ☞ There are a growing number of studies that show plants and animals changing their range and behavior in response to shifts in climate.

Avery's Hero - Dr. David Suzuki

Avery's hero, Dr. David Suzuki was born in Vancouver, BC in 1936. During World War II, his family was one of many Japanese Canadian families forced into internment camps – Dr. Suzuki was only 6 years old.

He finished high school in Ontario and went on from college to earn a PhD in Zoology from the University of Chicago.

Dr. Suzuki is an award winning scientist, environmentalist and broadcaster. His popular series “The Nature of Things” has been delighting and educating Canadians for many years.

In 1990, he founded The David Suzuki Foundation, which is an environmental non-profit organization registered in Canada and the United States that “works towards balancing human needs with the Earth’s ability to sustain all life. Our goal is to find and communicate practical ways to achieve that balance.”















http://www.davidsuzuki.org/About_us/

You can also “friend” Dr. Suzuki on Facebook! Just search for David Suzuki and you’ll find him there, ready to challenge global warming with you!

In the Computer Lab

*Here are some great websites to explore when you are next in the computer lab or even at home!
They've got some great ideas, games and information.*

-  <http://www.davidsuzuki.org/kids/>
No list could be complete without Dr. David Suzuki's site especially for kids!
-  <http://www.bccf.com/ecoed/youth.php>
This website is especially for students in BC who want to do their bit for our environment.
-  <https://secure.wwf.ca/Kids/default.asp>
The Canadian chapter of the World Wildlife Fund has some great tips on how you can start your own environmental movement today!
-  <http://www.ene.gov.on.ca/en/ezone/climatechange/index.php?color=yellow>
This Canadian site has a Carbon Footprint calculator to help you figure what your personal impact is on our environment.
-  <http://www.epa.gov/climatechange/kids/>
-  <http://globalwarmingkids.net/>
-  <http://www.unep.org/Tunza/children/>
a United Nations organization...see what children around the world are doing about global warming!
-  <http://eo.ucar.edu/kids/green/warming1.htm>
-  http://www.ecokids.ca/pub/eco_info/topics/climate/warming_planet/index.cfm
This is a great site to learn more about the environment while having fun. This is an interactive detective game that focuses on Global Warming.
-  http://news.bbc.co.uk/cbbcnews/hi/newsid_1570000/newsid_1575400/1575441.stm
An informative website from The British Broadcasting Corporation (BBC), this site also explores what the world is doing about global warming and alternative energy sources.
-  <http://www.lickglobalwarming.org/learn.cfm>
From the makers of Ben & Jerry's Ice Cream, this site has an interactive world map that projects what global warming will do to our planet.
-  <http://www.nationalgeographic.com/ngkids/trythis/greenometer/greenometer.html>
A green quiz from National Geographic!

In the Library!

Fiction

The Water Hole

Graeme Base

The Day the Trash Came Out to Play

David M. Beadle

The Berenstain Bears Don't Pollute (Anymore)

Stan and Jan Berenstain

The Story of Frog Belly Rat Bone

Timothy Basil Ering

One World

Michael Forman

And Still the Turtle Watched

Sheila Madgill-Callahan

Just A Dream

Chris Van Allsburg



Non Fiction

Worms Eat Our Garbage: Classroom Activities for a Better Environment

Mary Appelhof, Mary Frances Fenton, Barbara Loss Harris, Daniel L. Dindal

Come Back, Salmon

Molly Cone

Fifty Simple Things Kids Can Do to Save the Earth

Earthworks Group, John Javna

Going Green: A Kid's Handbook to Saving the Planet

John Elkington, Julia Hailes, Douglas Hill and Joel Makower

Compost Critters

Bianca Lavies

Earth Book for Kids: Activities to Help Heal the Environment

Linda Schwartz

My First Green Book

Angela Wilkes



Green Thumb Theatre

www.greenthumb.bc.ca

Background

Green Thumb is a not-for-profit Theatre Company founded in 1975 to create and produce original Canadian work for young audiences. Since that time, Green Thumb has established an international reputation and has become British Columbia's largest theatre company for young people.

Green Thumb theatre continues to commission new plays and bring top quality productions to your school thanks to the generous aid of our corporate and government supporters.

Mission Statement

Green Thumb Theatre creates and produces plays that explore social issues relevant to the lives of children, youth and young adults.

We provide theatre that celebrates the language and stories of today's generation and culture to stimulate empathy, debate and critical thinking.

Join

Become a member of Green Thumb Theatre and have your voice heard about Green Thumb Theatre activities including new plays and services.

For more information visit www.greenthumb.bc.ca