## **EVERGREEN THEATRE PRESENTS**



A CANADIAN CLIMATE CHANGE ADVENTURE



# THIS PROJECT WAS MADE POSSIBLE WITH SUPPORT FROM THE FOLLOWING:













BIRCHCLIFF ENERGY





Neve is a small-town snowboarder with a big dream.

Better known on the boarding circuit by her nickname, Snow White, she desperately wants to make the national team someday, just like her nemesis the E-Ville Queen.

As she trains to qualify for the Alberta Winter Games, she finds herself struggling with changing weather conditions, and her own highly competitive nature.

With the help of some new pals from the seven regions of Canada, and her kooky sidekick smartphone, Snow White learns that we all benefit from working together to solve problems big and small!

Written by Jana O'Connor

This fun-filled environmental musical adventure is the latest installment in Evergreen Theatre's Eco-Tales series in which beloved traditional tales are retold featuring popular music parodies while educating students on current social and environmental issues.

#### **EDUCATIONAL THEMES:**



- Climate Change
- Greenhouse Gases
- Environmental Stewardship
- Canada's Physiographic Regions
- Canadian Geography
- Ecosystems & Interconnectedness Empathy & compassion
- Landscapes & Landforms

- Sustainability
- Weather
- Regional plants & animals
- Social Media literacy
- Interpersonal skills & relationships
- Musical parody & fairytale adaptations



## **SHOW VOCABULARY**



**Appalachian Region:** A mountainous region in eastern North America, stretching from Canada to the southeastern United States. The Appalachian Mountains are known for their scenic beauty, diverse ecosystems, and cultural heritage.

**Arctic Fox:** A small fox species native to the Arctic region. It is well-adapted to cold climates, with a thick fur coat that changes color with the seasons. Arctic foxes are omnivorous and mainly feed on small mammals, birds, and carrion.

**Arctic Region:** The northernmost region of the Earth, located around the North Pole. It includes the Arctic Ocean, sea ice, tundra, and various landmasses. The Arctic region is experiencing significant impacts from climate change, including melting ice, rising temperatures, and changes in ecosystems.

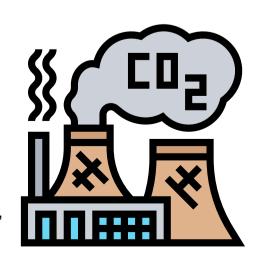
**Bark Beetle:** A type of beetle that feeds on the inner bark of trees, often causing damage and mortality. Bark beetles play a significant role in forest ecosystems, but outbreaks can lead to widespread tree mortality and forest degradation.

**Blue Whale**: The largest known animal on Earth, and also the largest species of whale. Blue whales are found in oceans around the world and are known for their massive size and distinctive blue-gray coloration.

**Canada Goose**: A large bird species native to North America, known for its distinctive black head and neck, white chinstrap, and honking call. It is a migratory species and can be found in various habitats, including wetlands and grasslands.

**Carbon Dioxide**: A colourless and odourless gas that is a greenhouse gas and a major contributor to climate change. It is released into the atmosphere through natural processes such as respiration and volcanic activity, as well as human activities like burning fossil fuels.

Climate Change: The long-term alteration of Earth's climate patterns, primarily caused by human activities such as the burning of fossil fuels, deforestation, and industrial processes, leading to global warming and other impacts.



## SHOW VOCABULARY CONTINUED

**Cordillera Region**: A geographical region characterized by a chain of mountain ranges, often associated with tectonic activity. The Cordillera region in North America includes the Rocky Mountains and the Pacific Coast Ranges.

**Decomposition:** The process by which organic matter, such as dead plants and animals, is broken down by bacteria, fungi, and other organisms into simpler substances and nutrients.

**Deforestation:** The clearing, removal, or destruction of forests, primarily for the conversion of land for agriculture, logging, urbanization, and other human activities. Deforestation has significant impacts on climate change, biodiversity loss, and ecosystem degradation.

**Dwarf Mistleto**e: A parasitic plant that grows on the branches of trees and shrubs. It obtains water and nutrients from the host plant and can cause deformities and reduced growth.

**Ecosystem:** A community of living organisms, including plants, animals, and microorganisms, interacting with each other and their physical environment.



**Emissions:** The release of pollutants or gases into the atmosphere, such as carbon dioxide, methane, and nitrogen oxides, which contribute to climate change and air pollution.

**Erosion:** The process of wearing away or removal of soil, rock, or other materials from the Earth's surface through natural forces such as wind, water, and ice.

**Heat wave:** A prolonged period of excessively hot weather, often accompanied by high humidity, that can have adverse effects on human health, agriculture, and ecosystems.

**Hudson Bay Lowlands:** A low-lying region in northeastern Canada, characterized by wetlands, bogs, and muskeg. It is located around Hudson Bay and is an important habitat for migratory birds and other wildlife

**Interior Plains Region:** A geographical region in North America that spans from the Gulf Coast to the Canadian Arctic characterized by flat or gently rolling terrain and is known for its agricultural productivity.

## SHOW VOCABULARY CONTINUED

**Matriarchal:** A social system or family structure in which the mother or female elder holds the central role in decision-making and authority.

**Methane**: A greenhouse gas that is produced through natural processes such as the decay of organic matter and the digestive processes of certain animals, as well as human activities such as the extraction and burning of fossil fuels. Methane is a potent greenhouse gas, and its emissions contribute to climate change.

**Nemesis:** A term used to describe a formidable opponent or rival, often associated with a sense of vengeance or retribution.

**Physiographic Regions**: Divisions of land based on their physical characteristics, such as topography, geology, and climate. Physiographic regions help to classify and study different landscapes and ecosystems based on their unique features.

**Pollution**: The introduction of harmful substances or contaminants into the environment, leading to adverse effects on ecosystems, human health, and the overall quality of air, water, and soil. Pollution can come from various sources, including industrial activities, transportation, agriculture, and waste disposal.

**Recycle**: The process of converting waste materials into reusable materials through various methods, such as sorting, processing, and transforming them into new products. Recycling helps to reduce the consumption of raw materials and conserve resources. Commonly recycled items include paper, plastic, glass, and metal.

**Reduce:** The act of minimizing or decreasing the amount of waste, energy, or resources used in order to lessen environmental impact and promote sustainability. This can be achieved through practices such as conservation, efficiency, and conscious consumption

**Reuse:** The practice of using an item or material again, either for its original purpose or for a different purpose,

instead of discarding it. Reusing helps to extend the lifespan of products and reduce waste generation. Examples of reusing include using cloth shopping bags instead of disposable plastic bags, repurposing glass jars for storage, and donating gently used items.

## SHOW VOCABULARY CONTINUED



**Repair:** The act of fixing or restoring something that is broken, damaged, or malfunctioning. Repairing items instead of replacing them can help to reduce waste and promote a more sustainable approach to consumption. Repairing can involve fixing electronics, appliances, clothing, furniture, and other items.

**Restore:** The process of returning something to its original or natural state, often with the goal of repairing or reviving ecosystems, habitats, or cultural heritage sites that have been degraded or damaged. Restoration projects can involve activities such as reforestation, wetland rehabilitation, and historic building

**Sustainability** refers to the practice of meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. It involves finding a balance between economic development, environmental protection, and social well-being in order to create a harmonious and enduring system.

**Wetlands** are areas of land where water covers the soil, either permanently or seasonally. They are transitional zones between aquatic and terrestrial environments and are characterized by specific types of hydrology, soil conditions, and vegetation







CHECK OUT THE VOCABULARY WORD SEARCHES AND CROSSWORD AT THE END OF THE GUIDE



### **CLIMATE CHANGE IN CANADA**

- Canada's climate is expected to warm more than the global average
- Canadian temperature has increased, and is projected to increase further, at almost double the rate of global mean temperature
- The intensification of precipitation extremes extent and duration of snow and ice cover, permafrost temperatures, freshwater availability, fire weather
- Extremes of weather and climate, sea level, and other properties of the oceans surrounding Canada



- Temperature has increased in all regions of the country and in the surrounding oceans. The greatest warming has occurred in winter.
- Temperature extremes are also changing, consistent with the increase in mean temperature. Extreme warm temperatures have become hotter, while extreme cold temperatures have become less cold
- Fall and spring snow cover and summer sea ice extent are decreasing; glaciers are losing extent and mass; and permafrost is warming
- Oceans surrounding Canada are projected to continue to warm over the 21st century, in response to past and future emissions of greenhouse gases,
- Daily extreme precipitation is projected to increase; thus, there
  is potential for a higher incidence of rain-generated local
  flooding, including in urban areas



Source: <u>Canada's Changing Climate Report</u>

CHECK OUT EVERGREEN'S EXTENSIVE BACKGROUNDER ABOUT CLIMATE CHANGE & CANADA'S PHYSIOGRAPHIC REGIONS ONLINE:

WWW.EVERGREENTHEATRE.COM/TOURING-SHOW

## DISCUSSION QUESTIONS & RESOURCES



- Why was Snow White looking for a different place to train?
- What were some of the regions that Snow visited?
- What province/cities are located in those regions?
- Which animals do you recall from the show and what part of Canada were they from?
- What were some of the climate change challenges in the various regions?

\*Check out the maps on Page 7 above & the **Regions and Climate Backgrounder** document on <u>Evergreen's website</u> for further reference info.

- The Richardson's Ground Squrirel said that <u>"water scarcity"</u> is the most serious climate risk in the prairie provinces. What does "scarcity" mean? Why is this such a big issue?
- What were some of the issues that the Pine Tree was facing in BC/Cordillera? (Pests)
- Why was the Arctic Fox afraid? (Reference)
- Why did the Blue Whale have so many "allergies"? (Plastic Pollution)





- The Canada Goose was concerned about the wetlands in the Hudson Bay Lowlands. Why are <u>wetlands important</u> and what is the connection between <u>wetlands and climate</u> change?
- What was the Maple Leaf worried about in the St. Lawrence Lowlands? (<u>Heat waves</u> & <u>air pollution</u>)
- The Leaf mentioned that Rock was experiencing problems in the Canadian Shield connected to <u>erosion</u> and <u>deforestation</u>. What do these terms mean? How does it impact people and ecosystems?

CLIMATE CHANGE VIDEOS FOR KIDS



- NASA Series Climate, Air Pollution, Sea Level etc.
- <u>Project Learning Tree</u> 12 videos for upper elementary & middle schoolers
- Climate change from a kid's perspective -<u>CBC Kids News</u>



## DISCUSSION QUESTIONS & RESOURCES PART TWO

#### **DISCUSSION: WHAT CAN KIDS DO?**

What were some of the actions suggested in the show or that you already do at school/home to protect the environment and help reduce the effects of climate change?

#### Resources for ideas:

- 1. National Geographic Kids/Climate Reality
- 2. <u>5 Step Guide to Addressing Climate</u> <u>Change With Kids</u>
- 3. Youth in Action United Nations



Check out these nature/science podcasts for kids

#### **SOCIAL MEDIA RESOURCES**

"MMIRI" (Magic Mirror Intelligent Response Interpreter) plays a significant role in the narrative.

- Why do you think the playwright chose to include a smart phone as a character in the show?
- What were some of the helpful/positive ways Snow used her phone/internet?
- Snow only knew of Sienna, the "E-Ville Queen" through social media posts. How did that influence her initial impression of her? How did that change over the course of the story?
- What are the pros/cons of social media?
- How do you know if something on the internet or social media is true?



- Calculate your Carbon Footprint
- Do an experiment to help you understand the <u>Greenhouse Effect</u>
- Investigate if <u>cow burps</u> actually have an impact on climate change
- Develop your own/class sustainability pledge
- Discover more about <u>traditional</u> <u>land acknowledgements</u> and/or <u>create one</u> together for your class
- Learn more about Indigenous Ways of Knowing and <u>Two-Eyed Seeing</u> approach to stewardship



It feels like social media isn't nobody is ever their true self on media.

Yeah, I guess we only know
what other people decide to tell
us and it's a good idea to
question what's true.



Media Literacy 101 Cyber Bullying

Savvy Cyber kids Social media: What parents should know

Youth and Media Activities and Guides

## EVERGREEN THEATRE "SNOW WHITE" SHOW VOCABULARY CROSSWORD



## **CROSSWORD CLUES**



#### **ACROSS**

- 2. The process of wearing away or removal of soil, rock, or other materials from the Earth's surface through natural forces such as wind, water, and ice.
- 3. The clearing, removal, or destruction of forests, primarily for the conversion of land for agriculture, logging, urbanization, and other human activities.
- 5. A prolonged period of excessively hot weather, often accompanied by high humidity, that can have adverse effects on human health, agriculture, and ecosystems. "\_\_\_\_\_" wave
- 8. Divisions of land based on their physical characteristics, such as topography,
- 12. The current state of the atmosphere at a specific time and place, including temperature, humidity, precipitation, wind speed, and atmospheric conditions.
- 14. A colourless and odourless gas that is a greenhouse gas and a major contributor to climate change released into the atmosphere through natural processes such as respiration and volcanic activity, as well as human activities like burning fossil fuels.
- 15. Areas of land that are saturated or flooded with water for at least part of the year.
- 16. The process of converting waste materials into reusable materials through various methods, such as sorting, processing, and transforming them into new products.

#### **DOWN**

- 1. The introduction of harmful substances or contaminants into the environment, leading to adverse effects on ecosystems, human health, and the overall quality of air, water, and soil.
- 4. The practice of meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. It involves balancing social, economic, and environmental factors to promote long-term well-being and resource conservation.
- 6. A community of living organisms, including plants, animals, and microorganisms, interacting with each other and their physical environment.
- 7. The release of pollutants or gases into the atmosphere, such as carbon dioxide, methane, and nitrogen oxides, which contribute to climate change and air pollution.
- 9. The long-term alteration of Earth's climate patterns, primarily caused by human activities such as the burning of fossil fuels, deforestation, and industrial processes, leading to global warming and other impacts.
- 10. The process by which organic matter, such as dead plants and animals, is broken down by bacteria, fungi, and other organisms into simpler substances and nutrients.
- 11. A greenhouse gas that is released into the atmosphere through natural processes such as the decay of organic matter and the digestive systems of animals and through human activities such as the production and transport of coal, oil, and natural gas.
- 13. A condition in which the available water resources in a region are insufficient to meet the demands of the population and ecosystems, leading to water stress and conflicts.



## EVERGREEN THEATRE "SNOW WHITE" CROSSWORD VOCABULARY LIST



CARBON DIOXIDE
CLIMATE CHANGE
DECOMPOSITION
DEFORESTATION

ECOSYSTEM EMISSIONS EROSION HEAT METHANE
PHYSIOGRAPHIC REGIONS
POLLUTION
RECYCLE

SUSTAINABILITY
WATER SCARCITY
WETLANDS
WEATHER

#### SHOW FOLLOW UP ACTIVITY

Write a letter/email to Evergreen Theatre. Include the following details:

- What was your favourite part/s of the "Snow White and the seven Regions" show?
- What did you learn from the show? (Facts, vocabulary etc)
- What are some steps you/your family can take to reduce the effects of climate change?
- Do you have any further comments, questions or suggestions for Evergreen Theatre?
- Draw a picture inspired by the show and include it with your letter/email





Write a poem and draw a picture about one of the following:

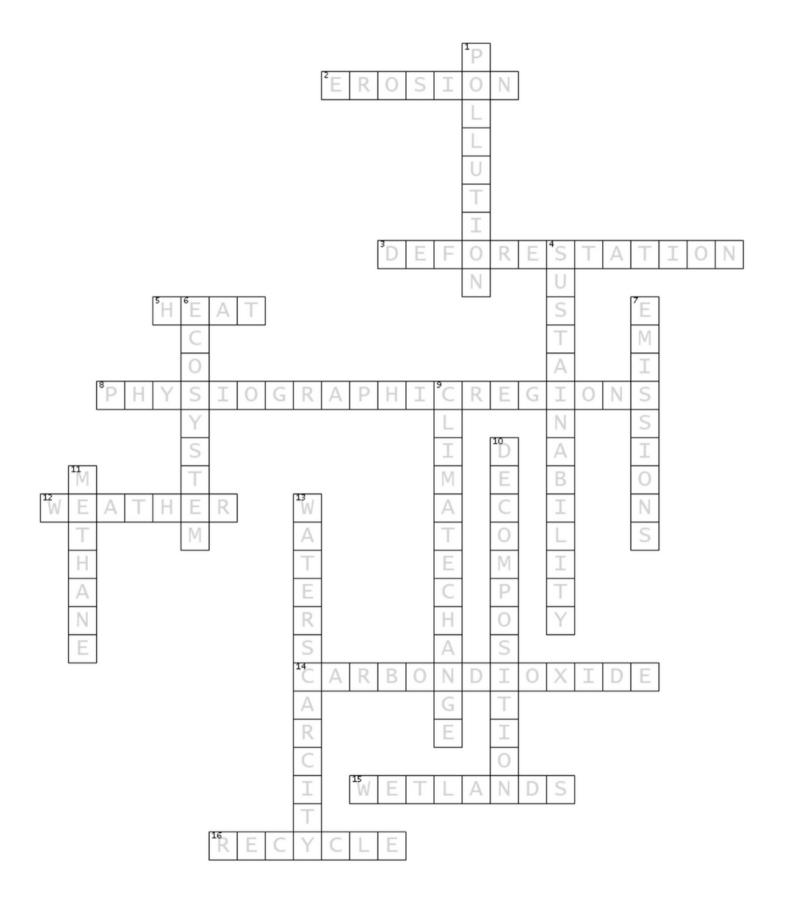
- Climate Change
- Environmental Stewardship/Sustainability
- One or more of Canada's physiographic regions
- An animal from the show such as Richardson Ground Squirrel, Arctic Fox, Canada Goose, Blue Whale
- Share your poem with Evergreen by email or mail

EMAIL: PROGRAMS[AT] EVERGREENTHEATRE.COM

EVERGREEN THEATRE SOCIETY #2, 1709 8 AVENUE NE CALGARY AB T2E 0S9



## **CROSSWORD SOLUTION**





### **EVERGREEN THEATRE "SNOW WHITE" VOCABULARY WORD SEARCH LEVEL 1**



**HEAT** 

REUSE

ROCK

SQUIRELL CLIMATE FOX

**ARCTIC** 

LEAF

SNOW

GOOSE CHANGE REDUCE

REPAIR

WEATHER RECYCLE WHALE CANADA WETLANDS

R	W	Ε	T	L	Α	N	D	S	M	Α	I	Α	Ε
G	С	S	N	M	С	Н	Ε	Α	T	L	U	Α	G
S	0	N	S	Q	U	Ι	R	Ε	L	L	F	D	N
Α	T	0	R	С	D	E	W	K	S	R	Q	Α	Α
R	W	W	S	E	K	T	E	C	С	R	0	N	Н
С	E	E	S	E	U	W	T	U	Υ	0	0	Α	С
T	Р	L	L	X	S	S	L	W	R	Н	R	C	Н
I	L	Α	Ε	0	I	E	Ε	C	Ε	R	Q	Α	Ε
С	E	Н	С	F	E	R	X	T	P	С	Α	D	С
W	Α	W	Α	C	E	S	L	D	Α	Α	С	C	U
0	F	D	E	C	E	T	Α	M	Ι	L	С	I	D
I	0	Ε	W	Ε	Α	T	Н	Ε	R	S	С	G	Ε
R	Ε	С	Y	С	L	Ε	Α	N	W	M	Α	T	R
Н	G	Н	P	Н	С	S	T	R	Α	Α	F	E	С

Bonus Challenge: Write out the words in alphabetical order

### **EVERGREEN THEATRE "SNOW WHITE" VOCABULARY WORD SEARCH LEVEL 2**



RESTORE **EMISSIONS** DECOMPOSITION **HEAT WAVE** CLIMATE CHANGE POLLUTION REUSE

REGIONS DEFORESTATION REDUCE WETLANDS CARBON DIOXIDE ECOSYSTEM

REPAIR **RECYCLE WEATHER METHANE EROSION** 



Α	Ε	G	N	Α	Н	С	Ε	Т	Α	М	I	L	С
D	Ε	F	0	R	Ε	S	Т	Α	Т	I	0	N	U
S	Α	G	S	N	0	I	S	S	I	M	Ε	G	Ι
С	Α	R	В	0	N	D	I	0	X	I	D	Ε	D
D	Р	0	С	D	R	E	G	I	0	N	S	E	G
N	0	I	Т	I	S	0	Р	M	0	С	Ε	D	E
I	L	Ε	E	I	Ε	R	0	S	I	0	N	R	F
R	L	W	Α	Ε	M	E	T	S	Υ	S	0	С	Ε
Ε	U	Ε	0	N	Α	D	0	Α	E	T	R	R	R
С	Т	Α	0	Α	Ε	U	D	R	S	٧	M	R	E
Υ	I	T	X	Н	L	С	R	E	Р	Α	I	R	U
С	0	Н	Ε	Т	I	Ε	R	N	G	Н	D	I	S
L	N	Ε	Н	Ε	Α	T	W	Α	٧	Ε	S	T	E
E	Н	R	Α	M	W	Ε	T	L	Α	N	D	S	S

Bonus Challenge: Try out the Crossword Puzzle!