Play Guide

SEATTLE REP

THE CHILDREN

BY LUCY KIRKWOOD

DIRECTED BY TIM BOND

TABLE OF CONTENTS

A NOTE FROM OUR

YOUTH ENGAGEMENT MANAGER

Dear Theatergoer,

Like many of our shows this season, *The Children* poses many difficult questions. Unlike other plays that I've seen produced in large regional theaters, Lucy Kirkwood's 2016 play quietly demands accountability and urges us—with wit, grace, and humor—to examine our part in the world that we'll leave behind for our children.

With the recent (and well deserved) media attention on youth environmental activists, I'm particularly excited to share this play with a young audience, and for the conversations that will inevitably follow. In this Play Guide, we hope to shed some light on complicated concepts and ideas explored in *The Children*, and questions of privilege, accountability, and social responsibility through a multigenerational lens.

I encourage you to dig in and ask hard questions, both of yourselves and of each other. The fact of the matter is, we're all in this together. So what can we do to leave this place cleaner than we found it?

See you at the theater!

Alex Lee Reed
Youth Engagement Manager

P.S. Teachers, look out for links between each section of this Play Guide with EALR and Common Core Standards!

MEET THE PLAYWRIGHT

LUCY KIRKWOOD

CCSS.ELA-LITERACY.RH.9-10.2 | CCSS.ELA-LITERACY.RI.9-10.2

Lucy Kirkwood is an acclaimed playwright and screenwriter. In 2009, Lucy's play *It Felt Empty When the Heart Went at First But It Is Alright Now* was produced by Clean Break Theatre Company at the Arcola Theatre. The play was nominated for an Evening Standard Award for Best Newcomer and made Lucy joint winner of the 2010 John Whiting Award. *NSFW* premiered at the Royal Court Theatre in 2012, starring Janie Dee and Julian Barratt. *Chimerica* premiered at the Almeida Theatre in 2013 and subsequently transferred to the West End, earning Best New Play at the 2014 Olivier and *Evening Standard* Awards, as well as the Critics Circle Award and the Susan Smith Blackburn Prize. Recent work includes *Mosquitoes* (presented by special arrangement with Manhattan Theatre Club), which opened at the National Theatre, London, in summer 2017; and *The Children*, which premiered at the Royal Court Theatre, London, in 2016. *The Children* opened on Broadway in December 2017. Lucy also writes for screen: she has written for "Skins" (Company Pictures); created and wrote "The Smoke" (Kudos/Sky 1); wrote and directed the short film *The Bringing*; and is developing projects with Raw TV, Cowboy Films, Clio Barnard, and Lenny Abrahamson. Her new six-part season "Adult Material" (Tiger Aspect Productions) and the mini-series of her play *Chimerica* (Playground Productions) have both recently been greenlit.

CONFRONTING OUR

ECO-LEGACY

A Conversation with Director Tim Bond

SEATTLE REP
What drew you to directing *The Children*?

TIM BOND
Lucy Kirkwood's astonishing play poses profound questions about our individual and collective agency in responding to the human-made environmental crisis we face on our planet. She has done so through a very tight-knit play that is often humorous, full of mystery, and asks profound questions about the eco-legacy our older generation will leave to our children. When Braden reached out to me about directing *The Children* I jumped at the opportunity.

SEATTLE REP
What excites you most about working with this cast?

TIM BOND
What a joy to work with three actors whose body of work I have admired for many years and who bring such mastery of their craft to this project. I feel like one of the luckiest directors in the world every day I step into the rehearsal hall to be working with this threesome—it's been a love fest! As artists who all share a similar number of decades on this planet, we have had many meaningful conversations about these characters who are all over the age of 60. It's been a thrill to watch them crack the mysteries imbedded in this piece and to have deep discussions about the ecological challenges we all care so much about.

SEATTLE REP
Without giving too much away, *The Children*'s plot is a bit of a slow burn. How have you approached directing this story?

TIM BOND
It's been a bit like working on a mystery or a thriller where certain bits of information or backstory of the characters are dropped like breadcrumbs for the audience to follow. The fantastic thing about this play is that the characters are so delightful and the dialogue is so funny. The play actually moves at lightning speed much of the time due to the underlying circumstances the characters find themselves in. So I have been alternately letting the scenes hurdle along at breakneck speed so we get a sense of the tempo and timing of the dialogue, and then go back and try to slow it way down so we can detail inside of the emotional arcs and clarify the arguments the characters make with each other. We have a loose rehearsal schedule that we try to keep to and keep finding ourselves exceeding the amount of work we planned to do. It's a very compelling piece of writing; we all seem to have a hard time stopping to get to the next clue.

SEATTLE REP
What do you see as the most relevant elements of *The Children* to today's world?

TIM BOND
I think Kirkwood has given us several elements to wrestle with as we experience this play. I am very moved by the question of what would a group of scientists do when faced with an environmental disaster like the earthquake and tsunami that caused the nuclear disaster at Fukushima Daiichi in Japan. What is our responsibility as the older generation who invented many of the systems and contraptions that are causing global warming? There is a very potent image of the town of Dunwich, England (the area near where the play takes place) eroding and falling into the ocean. It is mentioned that there is a legend that you can hear the bells from one of the churches that fell into the sea back in medieval times ringing under the water in the evening. In the poem "For Whom the Bell Tolls" by John Donne, he speaks of how all humans have a connection to one another. This sense of collective responsibility feels very relevant to me as we face our looming climate crisis. There is also the exploration of aging and how one continues to grow through the end of one's life that all of us will face some day.

SEATTLE REP
Could you speak to your thoughts on theater as a platform for social activism?

TIM BOND
Live theater can have a very immediate impact on how we see our self and others in the world. The empathetic response it evokes opens the human heart and our minds to feelings and thoughts that can be transformative and call us to action. I believe it is essential that our modern theater embrace the diversity of our nation and the world, and is inclusive of people from all of the various cultures, gender identities, abilities, and sexual orientations that make up our beautifully complex world. Hearing stories from diverse perspectives brings us all closer together in the human experience. The social issues we face across the globe can be brought home and we can motivate individuals to take action through theater that has opened our hearts.

SEATTLE REP
Who or what are your artistic inspirations?

TIM BOND
Lorraine Hansberry, August Wilson, Teatro Campesino, the anti-Apartheid theater movement, the Black Arts Movement, Jazz, The Expressionists, and Surrealists, just to name a few.

SEATTLE REP
You yourself have a history of professionally nurturing and supporting the next generation in your work with the University of Washington and elsewhere. What is one piece of advice you would like to leave with young people in the audience today?

TIM BOND
Bring your entire self, cultural legacy, beliefs, identity, to whatever it is you are collaborating on with the open heartedness of a lover, the fierceness of a warrior, and with the whimsy of the absurd. Embrace generosity and remain curious.

CLIMATE BY YANCI HUEZO

A WORD FOR THE YOUTH

CCSS.ELA-LITERACY.RST.9–10.4 | CCSS.ELA-LITERACY.RST.9–10.6 | CCSS.ELA-LITERACY.RST.9–10.10

Fires raging in the Amazon, hurricanes destroying Puerto Rico, fatal earthquakes in Mexico: Mother Nature is on a mission to take back what is hers. For as long as humans have been in existence, we have evolved with the help of our natural resources. Recently, the dynamic between these resources and humans has become toxic and deadly. We've been draining the earth of its natural fossil fuels, fracking into the ground, and disturbing the order of things for our own convenience. This disturbance has caused a systemic effect on our ecosystem. In an attempt to curb the affects of global warming, youth activists around the world have taken a stand by using different forms of media to broadcast their message and promote a healthier relationship between humanity and Mother Nature.

Merriam-Webster defines **global warming** as "an increase in the earth's atmospheric and oceanic temperatures widely predicted to occur due to an increase in the greenhouse effect resulting especially from pollution."

What does this mean, exactly? Essentially, it means that the planet is heating up because of our use and abuse of fossil fuels like coal and gasoline, which power modern society. Due to global warming, climates in regions around the globe are beginning to shift. The polar ice caps are melting, pushing many species of wildlife into areas they don't normally inhabit and forcing them towards extinction. This fluctuation of weather has been occurring at an increasingly alarming rate, which affects all humans and creatures that inhabit the planet. Though it's very late in the game, there is still hope to reduce the effect and impact of global warming. Advancements in science have fueled the research of alternative energies such as solar, wind, and electric power, to reduce carbon emissions.

The climate crisis we are currently facing has especially resonated with many youth in our country. Here are just a few examples of youth environmental activists making a difference in their communities and beyond:

- **Greta Thunberg** was outraged and terrified by our climate issues, so she decided to protest in front of the Swedish parliament every Friday instead of going to school. She went viral on social media, and just this past September spoke to world leaders at the U.N. Climate Action Summit. Greta was also nominated for a Nobel Peace Prize and spoke to congress in the 2018 case of *Aji P. v. Washington*, which charged the state for violating its Constitution and Public Health Doctrine through Washington's "deliberate indifference to their rights to life, liberty, property, and a healthful and pleasant environment, including a stable climate system."

- **Mari Copeny** (better known as "**Little Ms. Flint**"), at twelve years old, wrote to President Barack Obama in the hopes that he would do something about the lead levels in Flint, Michigan's drinking water that had been declared undrinkable by the Michigan Department of Environmental Quality and the Environmental Protection Agency. She spoke to the entire country on this issue when she appeared on "Good Morning America." With nearly 100,000 followers, Little Ms. Flint is on her way to changing her community and the world.

- **Xiuhtexcatl Martinez** is a young Native American Mexican who makes music that attempts to inspire youth to band together and save the planet while there is still time. He has written a book titled *We Rise: The Earth Guardians Guide to Building a Movement That Restores the Planet* and has won awards for his environmental activism, including the 2013 U.S. Volunteer Service Award presented to him by President Obama. Xiuhtexcatl was one of the 21 plaintiffs involved in the 2015 case of *Juliana v. United States*, which argued that the United States government "knowingly caused, and continues to cause, dangerous interference with our atmosphere and climate system."

- **Jamie Margolin** is a youth activist in Seattle. In 2017, when she was just 15, she started the youth climate action organization called Zero Hour, an organization led by youth dedicated to advocating for real solutions to our current climate problems. The organization holds adults accountable for our current state of inaction towards climate issues. Margolin also facilitates protests and talks (like T.E.D. Talks) to spread awareness. She has been named one of *People Magazine*'s "25 Women Changing the World" and also spoke at the hearing for *Aji P. v. Washington*.

These young people are often driven by fear, and rightfully so. They live in fear that they will not be able to survive on this planet in the coming years due to the damage that their predecessors have caused. The earth is warming at an alarming rate, and as can be seen in the recent increases in the number of wildfires worldwide (Australia, Oregon, California, Vancouver B.C., Siberia, to name a few), the world is already on fire. Scientists have found that the earth's "average surface temperature has already risen about 1.62 degrees Fahrenheit (0.9 degrees Celsius) since the late 19th century."

In *The Children*, the question is posed: who is responsible for addressing the climate crisos? Sadly, in real life it seems that the charge has landed in children's hands. We, the people able to fix the situation, need to do the work to become fluent in the subject and take action. What Greta, Mari, Xiuhtexcatl, Jamie, and I ask is that you learn about and speak up for your planet and your home. Speak loud and proud.

ACTIVITY

Research and fill in the chart with information about the court cases mentioned in the "A Word for the Youth" article. As a class, answer the following questions:

1. **What is a summary of the problem presented in each case?**
2. **What was the outcome for each case?**
3. **What does it mean?**

When you are done, use your own words and opinions to form an argument for or against climate action.

Court Case	The Problem	The Outcome
Aji P v. Washington		
Juliana v. the United States		

SOURCES

- climate.nasa.gov
- news.un.org
- npr.org/tags/125938077/climate-change
- ourworldindata.org/natural-disasters

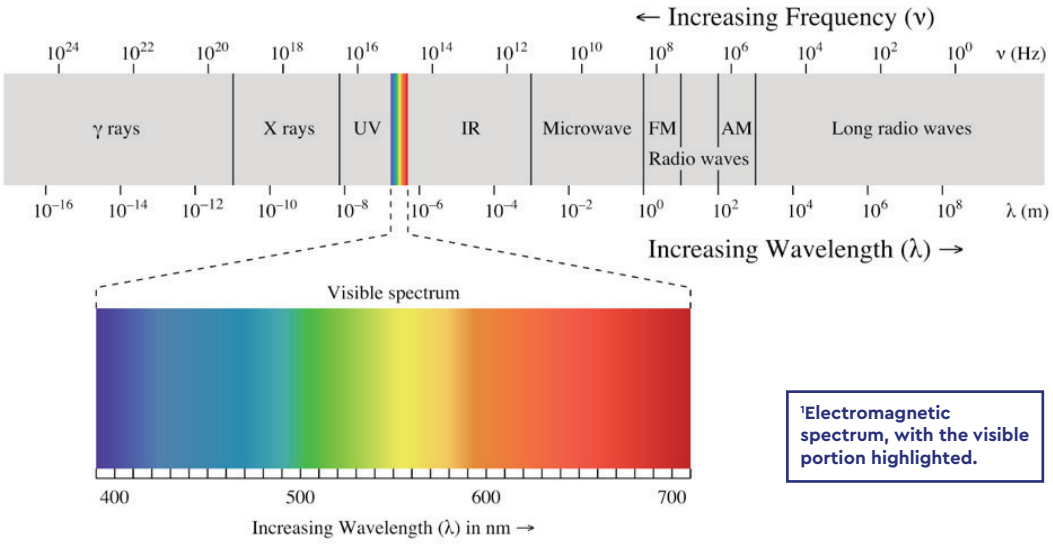
GLOSSARY CONCEPTS, WORDS, AND IDEAS

CCSS.ELA-LITERACY.RST.9–10.4 | CCSS.ELA-LITERACY.RST.9–10.7 | EALR 1 (SYS) | EALR 3 (APP) | EALR 4(PS1) | EALR 4 (PS3) | EALR 4 (ES2) | CCSS.ELA-LITERACY.RH.9–10.4

QUOTES AND IDEAS

"That's when I saw the tide had gone out. I mean it wasn't miles but it looked like miles, then I saw the wave, it didn't look like a wave, it looked like boiling milk and it just kept boiling and boiling..." p.11: A description of sea foam, sometimes seen during a tsunami (like the real tsunami that caused the disaster at Fukushima Daiichi in Japan, upon which the play is based). An undersea earthquake causes an initial suction of water toward the origin point of the earthquake. Sea foam is created when the wave approaches the shore, as described in this excerpt, if the wave is large and traveling fast enough.

"I could see it the radiation hanging in the air a sort of a sort of filthy glitter suspended. "[1] p.11: Humans cannot see nuclear radiation waves because they have a higher frequency than the optical spectrum of light (generally x-rays or gamma rays). The idea of radiation looking like glitter may come from the infamous phosphrescent radium paint that was used to paint watches in the early 20th century.



[1]Electromagnetic spectrum, with the visible portion highlighted.

"Besides, retired people are like nuclear power stations. We like to live by the sea." p.12: For every three units of energy produced by the reactor core of a nuclear power plant, two units are discharged to the environment as waste heat. Nuclear plants are built on the shores of lakes, rivers, and oceans because these bodies provide the large quantities of cooling water needed to handle the waste heat discharge.

"That great white dome like a boiled egg." p.13: The dome at a nuclear reactor is for containment. It is designed, in any emergency, to contain the escape of radioactive steam or gas, which is best achieved through a dome shape.

"Get off your horse and drink your milk." / "Sorry don't get it done, dude." p.22: Both quotes are attributed to actor and filmmaker John Wayne, seen by many as an American icon famous for starring in Western films. "Get off your horse and drink your milk" is a line attributed to Wayne but that he never actually said. "Sorry don't get it done, dude" is a Wayne line from the film *Rio Bravo* (1959).

"Archimedes running naked to the king, screaming 'eureka!'" p.19: In the 3rd century BC, the famous Greek mathematician, physicist, and astronomer Archimedes is said to have run to the king naked exclaiming "Eureka!" or "I have found it!" after discovering the physical law of buoyancy (also known as the Archimedes Principle) while taking a bath.

"Rich as Croesus," p.25: Croesus (595 BC - 547 BC) was the king of Lydia, an ancient kingdom in what is now Turkey. Croesus' legendary wealth led to the expression "rich as Croesus." According to Herodotus (a famous Greek historian), Croesus was the first monarch to mint gold and silver coins.

"Wouldn't touch you with a barge pole. You've aged very badly, Robin." p.41: A barge pole is a long pole used to propel a barge or fend off obstacles. This phrase in the U.K. is used to express that someone or something is so unappealing that one wouldn't want to go anywhere near.

WORDS AND CONCEPTS

Accreditation, p.17: The action or process of officially recognizing someone as having a particular status or being qualified to perform a particular activity.

Antichrist, p.26: A great antagonist expected to fill the world with wickedness, but to be conquered forever by Christ at his second coming. In modern language, the word's definition has been expanded to more generally describe someone who is overwhelmingly evil or someone who is a powerful enemy capable of one's destruction.

Cagoule, p.19: A lightweight, hooded, thigh-length waterproof jacket.

Customs agents, p.34: A government official whose job is to check that goods leaving or entering a country are legal.

$E = mc^2$, p.19: An equation discovered by Albert Einstein that asserts that **E**nergy is equal to **m**ass multiplied by the speed of light **(c)** squared **(2)**. It was the first equation that created a direct relationship between energy and mass, leading humans to be able to produce energy out of atoms through fission (nuclear energy).

East Coast of England: Setting of *The Children*. The East of England is historically a rural region of small capitals, market towns, and picturesque villages. The character of the relatively flat landscape has been heavily influenced by the people that live on it. Proximity to the capital city and good farming have long made the region relatively prosperous, and much of the southern area of the region now serves as a base for commuters to London.

Exclusion zone, p.11: An exclusion zone is a territory where a sanctioning body prohibits specific activities in a specific geographic area.

Existential crisis, p.56: A moment at which an individual questions if their life has meaning, purpose, or value.

Facetious, p.30: Treating serious issues with deliberately inappropriate humor.

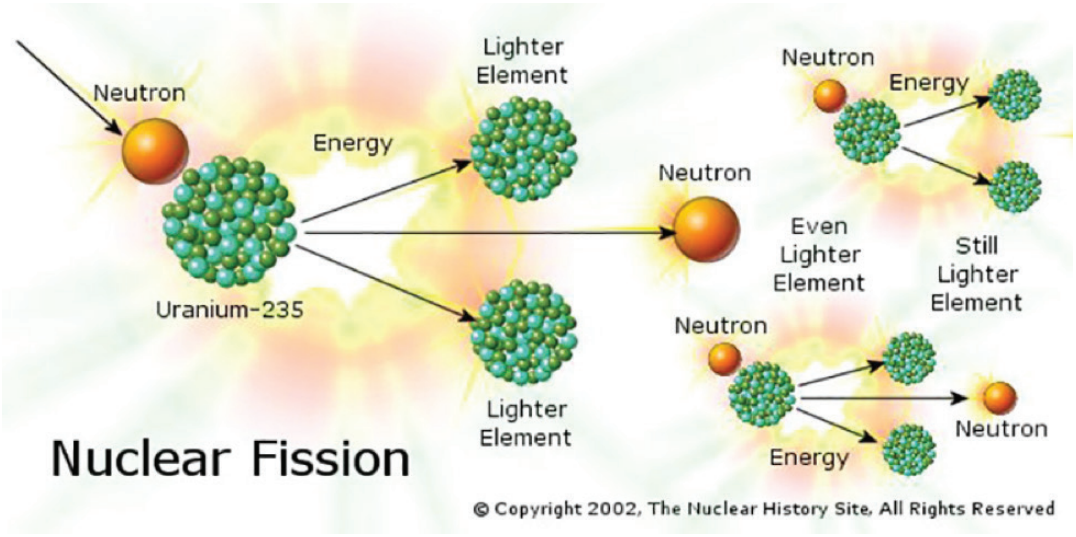
Fission, p.16: Fission is caused when a Uranium-235 atom is introduced to an outside neutron which it absorbs and causes its already unstable nucleus to split into lighter elements, releasing a large amount of energy in the process.

Nuclear power plants heat water to produce steam. The steam is used to spin large turbines that generate electricity. Nuclear power plants use heat produced during nuclear fission to heat water.

In nuclear fission, atoms are split apart to form smaller atoms, releasing energy. Fission takes place inside the **reactor** of a nuclear power plant. At the center of the reactor is the core, which contains uranium fuel.

The uranium fuel is formed into ceramic pellets. Each ceramic pellet produces about the same amount of energy as 150 gallons of oil. These energy-rich pellets are stacked end-to-end in 12-foot metal fuel rods. A bundle of fuel rods, some with hundreds of rods, is called a **fuel assembly**. A reactor core contains many fuel assemblies.

The heat produced during nuclear fission in the reactor core is used to boil water into steam, which turns the blades of a steam turbine. As the turbine blades turn, they drive generators that make electricity. Nuclear plants cool the steam back into water in a separate structure at the power plant called a **cooling tower**, or they use water from ponds, rivers, or the ocean. The cooled water is then reused to produce steam.



Source: U.S. Energy Information Administration

Fusion, p.30: It is a nuclear process, where energy is produced by smashing together light atoms. It is the opposite reaction of fission, where heavy isotopes are split apart. Nuclear fusion of light elements releases vast amounts of energy and is the fundamental energy-producing process in stars.

Geiger counter, p.23: Geiger counters are used to detect radioactive emissions, most commonly beta particles and gamma rays. The counter consists of a tube filled with an inert gas that becomes conductive of electricity when it is impacted by a high-energy particle. It displays the severity of radiation in a given area in micro-Sieverts per hour (uS/hr). For context, Los Angeles would read somewhere around 0.09 uS/hr while Chernobyl would read about 5.89 uS/hr.

Geneticist, p.15: An expert in or student of heredity and the variation of inherited characteristics.

Halitosis, p.23: Medical term for bad breath.

Heath, p.30: An area of open uncultivated land usually in Britain, with characteristic vegetation of heather, gorse, and coarse grasses.

Heisenberg, p.19: Werner Karl Heisenberg was a German theoretical physicist and one of the key pioneers of quantum (nuclear) mechanics in the early 20th century.

Irradiated, p.38: Exposed to radiation.

Jay cloth, p.36: A kind of absorbent cloth for washing dishes, mopping up spills, etc.

Jump leads, p.62: A pair of thick electric cables fitted with clips at either end, used for starting a vehicle by connecting its dead battery to the battery of another vehicle. Also known as a jumper cable.

Latchkey, p.31: A key of an outer door of a house.

Liability, p.25: The state of being responsible for something, especially by law.

Macerator, p.35: Maceration, in sewage treatment, is the use of a machine that reduces solids to small pieces in order to deal with rags and other solid waste. Macerating toilets use a grinding or blending mechanism to reduce human waste to a slurry, which can then be moved by pumping.

Millisieverts, p.42: A unit of measure for radiation levels. In the SI system , a millisievert (mSv) is defined as "the average accumulated background radiation dose to an individual for 1 year, exclusive of radon, in the United States." 1 mSv is the dose produced by exposure to 1 milligray (mG) of radiation.

Necrophiliac, p.55: A sexual attraction or sexual act which involves corpses

Nondenominational, p.16: A non-denominational person or organization is not restricted to any particular or specific religious branch.

Nuclear engineer, p.15: Nuclear engineers research and develop the processes, instruments, and systems used to derive benefits from nuclear energy and radiation.

Oestrogen/Estrogen, p.9: Any group of steroid hormones which promote the development and maintenance of female characteristics of the body. Such hormones are also produced artificially for use in oral contraceptives or to treat menopausal and menstrual disorders.

Pension, p.25: A regular payment made during a person's retirement from an investment fund to which that person or their employer has contributed during their working life.

Peperami, p.53: Peperami is a salami sausage snack manufactured by Jack Link's. It is manufactured in Ansbach, Germany and sold in the U.K. and Ireland.

Piccalilli, p.68: Piccalilli is an English interpretation of South Asian pickles, a relish of chopped pickled vegetables and spices. Regional recipes vary considerably.

Podiatrist, p.28: A person who treats the feet and their ailments.

Pram, p.22: A four-wheeled carriage for a baby, pushed by a person on foot. Also known as a baby carriage or stroller.

Prerogative, p.38: A right or privilege exclusive to a particular individual or class.

Red Nose Day, p.31: Comic Relief, a charity combatting poverty in the U.K, started Red Nose Day in 1985, a fundraising event held every-other-year that has raised $1.2 billion since its founding. In 2015, the event crossed over to the U.S. where it has become an annual event, with $150 million raised in its first four years. The charity event involves red foam noses sold as part of fundraising campaigns to fight child poverty around the world.

Scheiss, p.29: German word for "crap" or "shit."

Shingle, p.69: A mass of small rounded pebbles, especially on a sea shore.

Silt, p.18: Fine sand, clay, or other material carried by running water and deposited as sediment, especially in a channel or harbor.

Skol (also skål, skál, or skoal), p.24: A brand of inexpensive vodka. Also, an exclamation in a toasting ceremony

Smallholding, p.17: An agricultural holding smaller than a farm.

Socialist, p.56: A person who adheres to the practices of socialism, or the social and economic doctrine that calls for public rather than private ownership or control of property and natural resources. According to the socialist view, individuals do not live or work in isolation but live in cooperation with one another.

Squeamish, p.36: A person easily made to feel sick, faint, or disgusted, especially by unpleasant images, such as the sight of blood.

Trike, p.23: A three-wheeled bicycle for children (shortened name for a tricycle).

Up the duff, p.52: A euphemism for pregnant. It is used most commonly, although not exclusively, to describe unplanned pregnancy.

Vampire, p.33: A corpse supposed, in European folklore, to leave its grave at night to drink the blood of the living by biting their necks with long, pointed, canine teeth.

Wave power, p.65: The capture of the energy of wind waves (in a large body of water) to do useful work – for example, electricity generation, water desalination, or pumping water. A machine that exploits wave power is **a wave energy converter (WEC)**.

Weimar Berlin, p.26: The Weimar Republic is the unofficial name given to Germany in the interwar period from 1919 to 1933, between the defeat of Germany in the Great War in 1918 and Hitler's rise to power in 1933. During that time, Berlin became the intellectual and creative center of Europe, doing pioneering work in the modern movements of literature, theater, and the arts, and also in the fields of psychoanalysis, sociology, and science. This period in German history is often referred to as the "Weimar Renaissance" or the country's "Golden Years."

Wellies, p.55: Short for wellington: knee-length waterproof rubber or plastic boots. Also known as rain boots.

SOURCES

- www.atomicarchive.com/Effects/effects15.shtml
- atomic.lindahall.org/what-is-a-geiger-counter.html
- bellarmine.edu/learningcommunity/eureka/about/
- bls.gov
- Cambridge Dictionary: "Customs Agents"
- cdc.gov/nceh/radiation/emergencies/ars.htm
- cnet.com/news/inside-fukushima-daiichi-nuclear-power-station-nuclear-reactor-meltdown/
- eia.gov/energyexplained/nuclear/nuclear-power-plants.php
- Encyclopedia Brittanica: "Socialism"
- Grammarist: "Antichrist"
- livescience.com/13250-radiation-health-effects-japan-nuclear-reactor-cancer.html
- medium.com/social-innovation-japan/fukushimas-nuclear-exclusion-zone-7-years-on-5b1998a1d560
- Merriam Webster: "Antichrist"
- npr.org/sections/goatsandsoda/2019/05/22/725782062/red-nose-day-2019-how-does-it-work-why-is-it-being-criticized
- nuclearconnect.org/know-nuclear/science/nuclear-fusion
- open.edu/openlearn/history-the-arts/history/classical-studies/rich-croesus
- rednoseday.org/frequently-asked-questions
- scienceabc.com/innovation/what-is-a-geiger-counter-and-how-does-it-work.html
- telegraph.co.uk/news/picturegalleries/worldnews/11916879/Inside-Fukushimas-nuclear-disaster-exclusion-zone-in-pictures.html
- ucsusa.org/resources/nuclear-power-plant-cooling-water-needs
- U.S. State Department of Defense
- theculturetrip.com/europe/germany/articles/berlins-most-illustrious-decade-a-brief-history-of-weimar-culture/
- Wikipedia: "Electromagnetic spectrum," "Physics Stack Exchange," "Visible spectrum"
- wikitravel.org/en/East_of_England
- whatisnuclear.com/reactors.html

ALTERNATIVE ENERGY BY JOE LUSARDO

CCSS.ELA-LITERACY.RST.9–10.1 | CCSS.ELA-LITERACY.9–10.4 | CCSS.ELA-LITERACY.RST.9–10.5
CCSS.ELA-LITERACY.RST.9–10.6 | CCSS.ELA-LITERACY.RST.9–10.8 | CCSS.ELA-LITERACY.RST.9–10.10

The Children revolves around three retired nuclear physicists that spent their careers working at a nuclear power facility. After their retirement a tsunami struck the facility, which compromised not only the facility but the surrounding area as well, mirroring the real event that occurred in Fukushima, Japan in 2011. Two of the characters, Hazel and her husband Robin, settled just outside of the exclusion zone after the nuclear accident. The play begins with Rose, who moved to America after retiring, returning to the area after 38 years away.

The characters' complicated relationship with alternative energy has resulted in a rift between them, with some feeling as though nuclear is still their best energy option going forward, while others would prefer safer methods like wind power. Here in Washington, our state is the largest domestic producer of hydroelectric power, another potential alternative. Learn about the many forms of energy used in the world today:

Nuclear Power

While Hazel and Robin's aversion to nuclear power is understandable in the wake of the disaster, the fact that Rose still supports the idea of nuclear truly displays why, despite the potential for disaster, nuclear power is still an alternative worth pursuing. The two biggest reasons for that being that nuclear power is extremely efficient: a single 0.1-ounce pellet yields the equivalent of 120 gallons of oil. Also, that nuclear plants have extremely low carbon emissions.

Nuclear fission, the catalyst for nuclear power, occurs when heavy atomic nuclei split apart from lighter ones and simultaneously release energy. Once the fission occurs, some parts of the reactor are utilized to convert the thermal energy produced into electricity, while the other parts of the reactor ensure that none of the radioactive material is released into the environment. While these power plants currently require a nearby water outlet to absorb the heat waste created during fission, this is a common reality among traditional and alternative power plants.

Water use is clearly not the only drawback to nuclear plants. Their social identity is forever tied to three great disasters: Three Mile Island in the United States (1979), Chernobyl in the Ukranian USSR (1986), and Fukushima in Japan (2011). These disasters, especially Chernobyl, have at best altered—at worst hijacked—the discussion surrounding nuclear power. Playwright Lucy Kirkwood was inspired to write The Children based on the nuclear meltdown at Fukushima.

These disasters directly inform the first great obstacle surrounding the creation of new nuclear power plants: gaining public support. When the public only understands something through the lens of highly politicized disasters, it takes work to overcome that stigma and get the citizens of an area to approve of the creation of a plant. This work takes time and money, two things many politicians, especially domestically, are leery to spend on an investment that might never be approved—especially when oil companies have notoriously funneled enormous sums of money into the pockets of political figures on both sides of the aisle.

The second obstacle follows from the first, which is that the creation of alternative energy facilities is often facilitated through subsidies given out by governments which have been shifting their incentive programs to favor renewable energy like wind and solar power instead of nuclear. As these subsidies go towards developing new energy sources, the price of oil may drop to match demand, which would then require even more subsidies to keep renewable energy feasible.

Wind Power

Unlike nuclear, wind power is one of the few truly renewable energy resources that exists today. Wind power is harnessed by wind turbines that use the kinetic energy created by the movement of their blades and convert that into rotational energy. A generator then converts that rotational energy into electricity.

Wind turbine farms can be divided into two main groups, **onshore** and **offshore**. Onshore wind farms are the most common, and years of technological and mechanical innovations have made them relatively cheap to produce. Offshore wind farms, on the other hand, generate more power but are far more expensive to create. Not only do manufacturers have to make the turbines, but offshore turbines also need special foundations and are much further from power grids.

The extreme cost difference between the two types is one of the biggest stressors in the wind sector, which again comes down to subsidies. The onshore wind turbines have become so cheap to produce that governments have cut the amount of subsidies given to windmill manufacturers, which directly slows any advancements made towards offshore wind.

Hydropower

While Washington State has one nuclear power plant (Columbia Generating Station in Richland) and over ten wind farms, hydropower dominates the energy production mix. Currently, Washington has eight hydroelectric plants that typically supplyaround two-thirds of the state's electricity. These plants operate by harnessing the power of moving water to transform hydraulic energy into mechanical energy.

Hydropower has become the world's leading renewable energy source due to the flexibility and adaptability of hydropower plants, in addition to non-energy-related benefits that can come from the installation of the plants in the local ecosystem. These plants are all highly specialized to suit the needs of the local environments, so not only do the plants provide energy with low greenhouse gas emissions, but the plants also provide water management in the form of flood control, irrigation, and water conservation. While these benefits do not come without the costs associated with changing the local ecosystem, advancements in technology have sought to mitigate these costs and reduce the impact of the plant's footprint.

A problem unique to hydropower is that the creation of the plants creates a question of ownership over the world's most vital resource: water. While not a problem in Washington, the creation of a power plant along a water source that crosses international borders impacts all of the countries downriver from the site. In an ideal world, this would promote positive international relations and all affected countries would work towards creating the best environment for all of their citizens, but with water becoming more commoditized than ever and the global history of armed conflict over resources, perhaps this ideal is not a reality.

Conclusion

Throughout The Children, each character discusses the impact that the disaster has had on them, and though each person once shared a similar view on their life's work, each of them now views nuclear energy in their own way. While it is undeniable that there are massive upsides to nuclear, wind, and hydroelectric power, each of them comes with their own failings as well.

While a perfect world—at least in relation to the production and utilization of energy—may not be attainable soon, nuclear, wind, and hydroelectric power all pave promising paths forward. As the technologies surrounding all three improve and they become more efficient and cost effective, these alternatives can create vast amounts of power without simultaneously damaging the natural world around them.

ACTIVITY

As a class, divide yourselves into three groups. Each group will represent a type of green energy. In those three groups, research your given type of green energy. Once your group has found out as much as you can about your energy type, face off with the other two groups! Present as a team why you feel that your energy source is the most efficient, and have someone take notes. Once all of the points made are written down, decide as a class which energy source you would choose.

SOURCES

- eia.gov/state/analysis.php?sid=WA
- sciencing.com/about-6134607-nuclear-energy-vs-fossil-fuel.html
- World Energy Council's World Energy Resources Guide 2016

PLAY GUIDE CONTRIBUTORS

ALEX LEE REED, Youth Engagement Manager

is a recent Seattle transplant via Flint, MI. Alex received a B.A. in Theatre Performance from the University of Michigan – Flint in 2012. In addition to their current role as Youth Engagement Manager at Seattle Rep, Alex has worked locally as a teaching artist for Seattle Children's Theatre, Lathyrus Theater Company, and The 5th Avenue Theatre. As a writer, director, poet, performer, artist, educator, and mentor, their work is centered on the intersection of being a queer, gender nonconforming person of color. With a strong focus on equity and social justice, Alex is a champion for underrepresented groups, particularly QTPOC youth.

YANCI HUEZO, Youth Engagement Intern

A former National Thespian Honor Society member and President of her school's theater Honor Society, Yanci Huezo is Seattle Rep's Youth Engagement Intern for 2019/20. She has co-written two plays, *El Otro Lado*, that deals with immigration in the Hispanic community, and *Who We Are*, that focuses on the struggles of teens' mental health. She is currently in the process of earning her degree in theater at Hudson County Community College. She aspires to be an arts educator and an advocate for diversity and equality in her community.

NABRA NELSON, Director of Arts Engagement

Nabra Nelson is a community organizer and theater creator from Egypt, Nubia, and California. Previous to Seattle Rep, she served as the Community Engagement Associate at Milwaukee Repertory Theater. As a director, playwright, dramaturg, and teaching artist, she has worked at theaters, universities, and community organizations in Milwaukee, Santa Cruz, Denver, Santa Barbara, and Seattle to strengthen community and amplify under-heard voices through theater. She is a graduate of the University of California, Santa Barbara.

JOE LUSARDO, Guest Contributor

Joe Lusardo is a recent graduate of Ohio University with a B.A. in political science, specializing in international relations. A recent transplant to Seattle, he's lived in Flint, MI; Newtown, CT; and Athens, OH, each offering its own unique perspective on life in America. When he's not working, Joe spends his time reading, writing, petting animals, and being a big ol' nerd.

GRAPHIC DESIGNER
Olivia Mangione

EDITOR
Noelle McCabe

Seattle Rep's K-12 Youth Engagement Programs are supported by:

The Chisholm Foundation

Grousemont Foundation

U.S. Bank Foundation

Forest Foundation | Hazel Miller Foundation | Loeb Family Foundations | Moccasin Lake Foundation | Muckleshoot Charity Fund | Puyallup Tribe of Indians | Seattle Office of Arts & Culture | Theatre Forward