

PRIDE IN STEM

OVERVIEW:

This lesson introduces students to the contributions of 2SLGBTQ+ figures in STEM, highlighting the importance of representation and role models in these fields. By exploring diverse perspectives, students will understand how various identities enrich our understanding of science and the natural world. The lesson also introduces the concept of queer ecology, encouraging students to think critically about the connections between gender, sexuality, and our understanding of the natural world.

OBJECTIVES:

- Learn about 2SLGBTQ+ figures in STEM to provide students with role models and representation in STEM fields.
- Explain the concept of queer ecology and its importance in challenging traditional binaries in environmental studies.
- Foster conversations about diversity in both STEM fields and nature, emphasizing inclusivity and intersectionality.
- Develop research skills by exploring and presenting on queerness in STEM fields and the natural world.

SUGGESTED MATERIALS:

- Poster board or paper
- Writing utensils
- Colouring utensils
- Computers or phones

INSTRUCTIONAL OVERVIEW:

Start off the lesson by introducing the topic of Pride in STEM. You can present the Pride in STEM Poster to your students. You can also share some notable Canadian 2SLGBTQ+ scientists:

Farah Alibay - Born in Montreal, she is a Systems Engineer at the NASA Jet Propulsion Laboratory. An aerospace engineer involved in Mars missions, she advocates for diversity in STEM as an LGBTQ+ immigrant woman of colour.

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INSTRUCTIONAL OVERVIEW:

Frieda Fraser – A physician and Microbiologist, she was born in York, Toronto and lived from 1899 to 1994. She pioneered research in infectious diseases and her letters with partner Edith Williams illuminate 2SLGBTQ+ issues in medicine.

Dr. James A. Makokis – A Two-Spirit Family Physician from Saddle Lake Cree Nation in northeastern Alberta, he focuses on Indigenous and transgender health. Co-winner of “The Amazing Race Canada”, he is a powerful advocate for social justice in healthcare.

Shawn Hercules – A Postdoctoral Researcher at Princess Margaret Cancer Centre, with a focus on breast cancer risk assessment. As the Co-founder of “Science is a Drag”, Shawn performs as Rawbyn Diamonds.

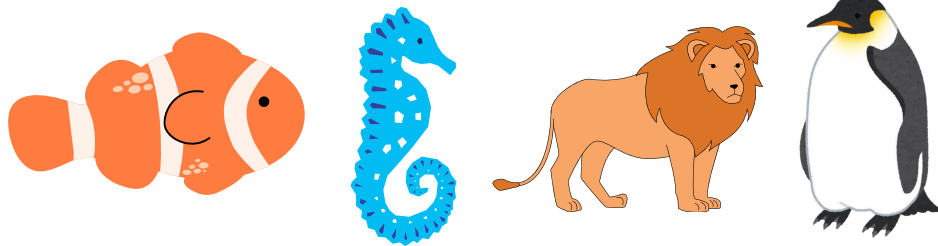
In addition to 2SLGBTQ+ people thriving in and advancing existing STEM fields, our presence in STEM has led to the creation of new fields of study, such as queer ecology. Professor Cate Sandilands first introduced the concept of queer ecology in the 1990s. Queer ecology is an approach to the study of the natural world and environmental politics through the lens of queer theory. It involves dismantling some of the preconceived notions in science, such as the idea that homosexual behaviour is unnatural or that sex is only binary, and highlights how queerness is present throughout the natural world. Instead of viewing nature in strict categories, queer ecology encourages us to embrace diversity and recognize that both ecosystems and human experiences are complex and fluid. By exploring queer ecology, we can learn how celebrating diversity in both nature and society can lead to stronger, healthier communities and a more sustainable environment.

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ACTIVITY:

Encourage students to research a species of animal or plant that displays behaviour or biology that defies normative binaries around sex and gender.



Did you know that scientists have found over 1,500 species displaying homosexual behaviour? You could provide students with the example of clownfish, which are known for having flexible gender roles where individuals may switch between male and female roles depending on environmental factors. Alternatively, you can instruct your students to research a notable 2SLGBTQ+ scientist.

Provide students with materials to design posters sharing the information they research. You can have the students present their finished posters or put the posters up around the room for them to do a gallery walk. Consider displaying the posters in your classroom or around the school.

RESOURCES AND REFERENCES FOR FURTHER LEARNING

<https://www.rciscience.ca/blog/pride-in-stem>

<https://www.yournec.org/did-you-know-nature-is-queer/>

<https://www.cbc.ca/life/hellospring/queer-ecology-helps-us-understand-the-natural-world-out-about-1.6013181>

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