



RED HOT SCIENCE

at Red Deer Polytechnic

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Red Deer Polytechnic's Red Hot Science youth outreach program is pleased to offer technology, coding, and robotics workshops. These 1-2 hour workshops introduce youth to fun, hands-on tech with real-world applications in industries including agriculture. Red Hot Science is a proud network member of [Actua](#), and is thankful to provide these workshops with their support. These workshops are part of the [CanCode](#) program made possible through funding from the Government of Canada.

Trouble with Tribbles

Ages 7 – 10, 1 hr.

Finding its origins in season two, episode 15 of Star Trek: The Original Series, these charming Tribbles will dance for all audiences. The participants will assemble their very own pom-pom Tribble, name it, and then using a micro:bit process and a Hummingbird kit, will learn how to write a simple block code program to make the Tribble dance for them. At the end of the class the participants will be able to take their Tribble home with them. (Only the pom-pom Tribbles are taken home with the participants, not the tech devices)

Rock-Paper-Scissors...Circuits!

Ages 7 – 10, 1 hr.

We all know the game of rock-paper-scissors to determine who goes first in a game. Using the motion detector on a micro:bit processor board, the participants will learn how to use Microsoft's block code programming language to create a small game they can play with others or by themselves to see if they can beat the micro:bit computer at rock-paper-scissors.

Ecosystem in a Jar

Ages 7-10, 1 hr.

Welcome to the enchanting world of terrarium crafting, where you'll embark on a whimsical journey to create your own tiny oasis! Join us for a day filled with creativity, laughter, and the joy of bringing a little piece of nature into your home. Once the jar is closed and the right balance of materials, sunlight and nutrients, an ecosystem can be created. Watch as the plants lose leaves, are broken down and become nutrients within the soil to encourage new growth of plants. Once closed, the terrariums can survive for years.

Cybernetic Hot Hands

Ages 10-14, 1 hr.

Who is quickest to the draw? A micro:bit is a pocket-sized computer with amazing capabilities. Utilizing a micro:bit processor board the participants will use Microsoft's block code programming language to see who has the faster response time touching a touch sensitive pad.

Holograms

Ages 10-14, 1.5 hr.

Take home your own hologram!

Witness the science of holography come alive! Engage in a step-by-step process of creating your holographic image, exploring the ideas of light reflection, refraction, and diffraction. Discover the magic of bending and bouncing light to create stunning visual effects. Join us for an unforgettable experience where students get hands-on in creating their very own holograms using recycled materials. It's not just a workshop; it's a glimpse into the future of creativity and sustainability!

Conductivity Around Us

Ages 10-14, 1 hr.

Join us for an interactive and hands-on experience where students will use micro:bits, coding, and a dash of curiosity to explore the conductivity of different materials. Discover why some materials conduct electricity while others resist, setting the stage for your exploration. Dive into the world of coding as you learn to program micro:bits to act as conductivity sensors. Explore how to measure and interpret the electrical conductivity of various materials using coding commands. From metals to insulators, witness how each material interacts with the micro:bit conductivity sensors.

BPM

Ages 10-14, 1.5 hr.

In this workshop the kids will discuss how blood pulses through the body with each heartbeat. Then the kids, using a micro:bit, will code a simple Heart Rate Monitor using the provided Pulse Sensor.

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With funding from

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