



BIG Little Science Centre: 2021-2022

Educational Programs for Students

458 Seymour Street, Kamloops, B.C.
250-554-2572 blscs@blscs.org

Information:

- Programs may be run at: your school inside the gym or outside; at the science centre; or at an outdoor location of your choice.
- Programs done at the science centre include time in the hands-on room.
- Cost for any location is \$10 per student, per program listed. Adults are free.
- A mileage fee of \$0.58/km return will be included, for travel outside of Kamloops.
- All programs are subject to current provincial Covid-19 PHO and BLSC orders.

Primary Program Descriptions:

- All programs include demonstrations and activities for the students to do.
- Each program is grade and age appropriate.
- It is always helpful to know what you have already discussed and done with your students.
- Special requests will be considered and included as possible.

Astronomy:

Discover the solar system and beyond! Through activities and role playing, students discover the sun, planets, moon, solar system, how they move, how light travels and more. Enjoy an Indigenous story and a make & take craft of a *Constellation in a Cup*.

Biology:

Bees and Pollinators Program: Explore the world of local pollinators; learn about flowers and pollination; be a mason bee to play the life cycle game. Make & take craft of an *Egg Tunnel Bracelet*.

Hungry, Hungry Bird Experience: An exciting fast-paced game where students experiment with different bird bills to discover how they work. Will they go hungry? Ecosystem connections, adaptations & more.

Pond Study: Students use hand lenses and microscopes to explore local pond water. They find and sort their discoveries, and discuss some animal life cycles. This program is only available: April, May, June, September.

Soil Study: Dig through soil to discover living and non-living things, use hand lenses and microscopes to see all. The identification of animals and some of their life cycles will be discussed. This program is only available: April, May, June, September.

Chemistry / Matter:

Density Lab: Do things sink or float? Students explore matter through a number of fun experiments. Included is a density vial they make and take home.

Physical/Chemical Reaction Lab: Discover the difference between physical and chemical reactions. Students mix kitchen chemicals to make exciting reactions. Some extra explosive demonstrations are included.

Water Lab: Through a series of challenges using water, students discover the properties of water.

Forces and Motion:

Air Pressure Show: Air is a strong force that causes fun and powerful results. Lots of *pow* and *wow* in this interactive show. Rockets too!

Fluids Lab: While learning about matter, students work with and discover fluids (gases and liquids), air pressure and its effect on water. With wet activities to test this all out and demos, students love this lab. This lab is best done on a warm day, **outside**.

Forces and Motion Show: A force is a push or pull resulting in movement. In this interactive program, we explore different types of forces and movement, discover Newton's laws, discuss friction, and more.

Magnetism Show: Magnetism is an example of a force that can both push or pull, over a distance. Students will help us discover loads of fun examples of movement, and some science tricks that look like magic.

Geology and Geography:

Crystals and Sand Lab: Using microscopes and crystal kits, students discover what crystals are and watch some grow before their very eyes. Then using their new found knowledge, students solve the Mystery of the Sand Sample. Matter is discussed as well.

Orienteering Program: An introduction to map reading and movement, through map games and a treasure hunt.

Volcano Lab: Chemical reactions help us to learn about volcanoes and how science works. Make a volcanic cone, blow it up using vinegar and baking soda. Students experiment with different amounts of chemical to determine how to create the best reaction!

Weather and thermal energy Program: Conduction, convection, and radiation are discussed and demonstrated to show the movement of heat, and the resulting consequences. Real life connections are made.

Water Cycle Program: Discover the properties of water, observe how water moves by doing activities. Then, play the Water Cycle Game to learn how water cycles in the real world.

Light and Colour:

Colour Lab: Mix colours in many ways to marvel at the results. Includes make and take colour drawings. We will discuss the differences between colour made by light and pigment. Chromatography chemistry is part of this fun program.

Light and Colour Show: Discover many different ways to make light, the properties of light, explore the movement of sunlight / moonlight with respect to the Earth, and more. Many beautiful demonstrations are included.

Sound and Waves:

Show and a make & take craft: What is sound? We play with ways to make sound, discover waves and movement through matter, LOOK at music, and make a cup that creates amazing sounds to take home.

Structures:

Why select one building material over another? We explore the properties of different materials and discuss their strengths and weaknesses. Students then build structures, testing and altering designs as they learn.

Exploring Paper Towers: Paper can be very strong structurally; we make it so! After a series of introductions to the strength of paper, students use their own creative designs to make tall towers of paper.

Bridges with Marshmallows/Spaghetti: Test the strength of two types of pasta and build a bridge that crosses a space between tables (or free build to see how shapes can hold their form). Marshmallows are used as the connections between spaghetti pieces to build their structure.

Intermediate Program Descriptions:

- All programs include demonstrations and activities for the students to do.
- Each program is grade and age appropriate.
- It is always helpful to know what you have already discussed and done with your students.
- Special requests will be considered and included as possible.

Astronomy:

Discover the solar system and beyond! Activities and role playing encourage the students to discover the planets, moon, sun, stars, constellations and more. Bring your questions about space, and let's discuss what is really out there!

Biology:

Pond Study: Students use hand lenses and microscopes to explore local pond water. They find and sort their discoveries. Discover and identify pond invertebrates and their life cycles. This program is only available: April, May, June, September.

Soil Study: Dig through soil to discover living and non-living things, use hand lenses and microscopes to see all. The identification of animals and some of their life cycles will be discussed. This program is only available: April, May, June, September.

Hungry, Hungry Birds: An exciting fast-paced game where students experiment with different bird bills to discover how they work. Will they go hungry? Ecosystem connections, adaptations & more.

Chemistry:

Chemical Reaction Lab: Students mix different chemicals to observe their reactions. They discover how to tell if a chemical reaction has occurred. Plus, a few explosive demos!

Gross Science: Slime, blood, and other goeey items. Learn the importance of grossness and how it applies to real life. Your students will make some to go!

Electricity:

Make a Battery Lab: Test different metals to see which creates more electricity. What is in a battery? Use your best battery to run a clock and lightbulb.

Circuit Lab: Build your own circuits to run lights and motors. How does electricity move? Light up your life with this interactive lab.

Make an Electric Generator and Electromagnet Lab: Explore the relationship between electricity and magnetism. Create electricity using magnets and make a magnet using electricity. How strong will your magnet be?

Forces and Motion:

Air Pressure Show: Air is a strong force that causes fun and powerful results. Lots of *pow* and *wow* in this show. Rockets too!

Fluids Lab: AIR. Matter and fluids are discovered. With demonstrations and activities Air Pressure and movement is tested out; includes syringe rockets.

Fluids Lab: WATER. While learning about matter, students work with and discover fluids (gases and liquids), air pressure and its effect on water. With wet activities to test this all out and demos, students love this lab. This lab is best done on a warm day, **outside**.

Forces and Motion Show: A force is a push or pull resulting in movement. We explore different types of forces, discover Newton's laws, discuss friction and gravitational forces, and more.

Rocket Lab: Demonstrations of movement and the forces involved lead us to Stomp Rockets and an experiment with Alka Seltzer Rockets to find the best fuel combination. Super High Air Pump Rocket demonstration included. Discover the strength of air pressure to make things move.

Geology and Geography:

Crystals and Sand Lab: Using microscopes and crystal kits, students discover what crystals are and watch some grow before their very eyes. Then using their new found knowledge, students solve the Mystery of the Sand Sample.

Orienteering: Map reading and making is introduced. Through map games and a treasure hunt, students become familiar with the basic orienteering.

Volcanoes: Chemical reactions help us to learn about volcanoes and how science works. Make a volcanic cone, blow it up using vinegar and baking soda. Students experiment with different amounts of chemical to determine how to create the best reaction!

Weather and Thermal Energy: Conduction, convection, and radiation are discussed and demonstrated to show the movement of heat, and the resulting consequences. Real life connections are made.

Water Cycle: Discover the properties of water, observe how water moves by doing activities. Then, play the Water Cycle Game to learn how water cycles in the real world.

Light and Colour:

Colour Lab: Mix colours in many ways to marvel at the results. Includes make and take colour drawings. We will discuss the differences between colour made by light and pigment. Chromatography chemistry is part of this fun program.

Light Lab: Using amazing demonstrations, light and special materials, in this lab students explore how light moves, shadows, and how images are formed in our eyes.

Light and Colour Show: Discover many different ways to make light, the properties of light, explore the movement of sunlight / moonlight with respect to the Earth, and more. Many beautiful demonstrations are included.

Simple Machines: each lab includes an intro to simple machines generally

Levers: There are three types of lever; students use all three to discover how they work and when best to use them.

Pulleys: Use our materials to explore how pulleys work and how they assist in doing work.

Sound and Waves:

What is sound? We play with ways to make sound, discover waves and the different sounds they make, discuss movement through different types of matter, make different sounds, music and watch sound move. If wished; students make a cup that creates amazing sounds.

Structures:

Why select one building material over another? We explore the properties of different materials and discuss their strengths and weaknesses. Students then build structures, testing and altering designs as they learn.

Exploring Paper Towers: Paper can be very strong structurally; we make it so! After a series of introductions to the strength of paper, students use their own creative designs to make tall towers of paper.

Bridges with Marshmallows/Spaghetti: Test the strength of two types of pasta and build a bridge that crosses a space between tables (or free build to see how shapes can hold their form). Marshmallows are used as the connections between spaghetti pieces to build their structure.