Possibilities are endless…

… but here are a few to get you started. This list is meant to show you some of the resources, programs, and experiences that we have available for Chevron Open Minds Science School classes. You would not be able to fit all of these into your week! Each week should be unique to your class and the needs of you and your students. The experiences need to tie into your Big Idea, provide engaging opportunities for you and your students, provide opportunities for reflection and sharing, and allow for follow up experiences back in your classroom

Exhibits and galleries

Our exhibits naturally compliment any class experience, and can be used to expand on ideas through:

- Tool use for other projects
- Building challenges within the galleries
- Inspiration for projects and discussions
- Inspiration for journalling and reflection
- Encourage problem solving, design thinking, and our “5 C’s”

School Program Workshops

We have a range of programs to choose from on our **website**, and we can build on these programs by:

- Using as a stand-alone experience
- A segway into a larger project
- Adapting a workshop to suit the needs of your class
- Adapting a workshop to suit the “big idea”

Design Challenges

TELUS Spark uses the design process on a daily basis, and your students can too! We will work with you to design a collaborative project, large scale or small! Design challenges help your students to:

- Work collaboratively
- Build empathy
- Think creatively
- Understand the power of ideas

Beyond the walls

The Brainasium and the pond/ wetland offer a wide range of connections and exploration activities. Beyond the property of TELUS Spark, we can take your experience to Tom Campbell's hill, or even the Confluence, a key part of Calgary's history and for Indigenous communities.

Live demonstrations and tours (all grades)

The full range of school demonstrations can be found on our website, and can be adapted to meet the needs of your students. Explore topics such as temperature, the senses, light, sound, biology, all with a bang!

Our tours can take students to areas they have never seen before (and likely won't again). Help students about sustainable design through our LEED tour, or go behind the HD Digital Dome theatre to understand structures and shapes in a memorable way.

HD Digital Dome Theatre

Who doesn't love an experience in one of the largest screens in North America? Our view our offerings on our website here and here, and know that we can customize the live experiences for your students needs, or to enhance the "big question" being explored

Technology Tools and Resources

Available for use during your week on site

3D Printing and Design (gr.1-9)
A rising technology and learning tool, students can explore geometry, mathematics, and collaboration using Tinkercad and online design software

LittleBits (gr.1-9) *https://littlebits.com/*
Electrically engineered "lego" style components that allow students to explore electricity and circuits. When combined with recycled materials for a design project, the only limit is the imagination! There is also a **code kit** available, to design an outcome using a block-based coding language.

Dash and Dot (gr.1-6) *https://www.makewonder.com/*
Robot characters that help students with computational thinking and problem solving. Completely programmable, we have used Dash and Dot in design challenges, for empathy building, and to explore the UN Sustainable Development Goals (SDGs).

MakeyMakey (gr.3+) *https://makeymakey.com/*
Students can transform any conductive object into a musical instrument, game controller, or whatever their creative minds think of! MakeyMakeys can be used to understand circuits, electrical engineering, build empathy, or as a material for a build/design challenge.

LEGO Mindstorms. *https://www.lego.com/en-us/themes/mindstorms/about*
Ideal for exploring coding more in-depth, the program requires students to explore for a few hours before fully engaging with the technology. While robots can be built, focusing on programming the robots to perform tasks has yielded more success.

Cubelets (gr.1+). *https://www.modrobotics.com/*
Modular magnetic blocks that allow students to think creatively while working collaboratively to solve problems. Cubelets explore concepts like patterns, computation, and can be used as a tool to complete a design challenge.

Solar and Alternative Technology
One of the most pressing issues of our day is climate change and sustainable energy. We have solar panel models, wind turbine models to integrate into a design challenge or activity. TELUS Spark also has recently installed a solar array, as well as 281 solar panels on top of the roof of our building.

(NEW!) Microbits. *https://microbit.org/*
Tiny and programmable, Microbits allow users to explore computer science, computational thinking, sustainable design, game design, and so much more! Code can be explored using block-based language or HTML.

(NEW!) Laser cutter *tiny.cc/lsxebz*
While still piloting the possibilities, students have access to laser cutter technology, which could allow for construction of building components, graphic design, art projects, map building, and so much more! We have been using "The Art of Digital Fabrication" by Erin E. Riley for inspiration.

(NEW!) 3D Camera, VR and AR *tiny.cc/lsxebz*
While still piloting the possibilities, AR, VR and 3D viewers and technology are constantly being used to understand and teach curriculum. Google Street View, CyArk, VR games, and museums are all showcasing VR and AR, and we cannot wait to explore the applications with your students!

Other Resources

- Class set of iPads used for
  - Documentation
  - Research and identification (GooglePhotos)
  - Stop motion videography
  - Apps upon request
- Class set of MacBooks (these are shared with the rest of school programs – so we cannot have them exclusively all week – but I can book them for short periods of time if available)
- Class set of stereomicroscopes (viewing physical objects/specimens -not slides)
- Art materials
  - oil pastels
  - watercolour pencil crayons
  - watercolour paint pucks
  - watercolour paper
- Wood Working Area and tools for building (saws, drills, etc.)
- Various Books (for making Literature Connections – refer to book list)
- We have standard classroom materials (e.g. scissors, tape, glue sticks, pencil crayons, etc.)

If you require special materials/tools to use during your week – let us know.This is not a comprehensive list. We do have some other resources that could complement a variety of Big Ideas we can discuss these at the planning meeting.