POSSIBILITIES TO THINK ABOUT

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:
Our exhibits can be used in a variety of ways in order to complement your big idea. Some examples include:

- As tools for other projects
- As team building challenges for students
- To inspire classroom projects or experiences
- To inspire journaling
- To encourage problem solving and design thinking and the 4Cs!

School Program Workshops:

Check out our school programs on the website. There are a variety of ways to use our school program workshops, including:

- As Stand alone workshops
- As a skill builder (leading to a larger project/experience)
- Adapt a workshop to suit a different grade
- Adapt a workshop to tie into your Big Idea

Building in Classroom

Large-scale custom design experiences:
Engage your students in the design process through collaborative design experiences. We can work with you to co-design a design challenge that fits in with your Big Idea or a series of smaller experiences that allow your students to understanding the design process.

Collaborative Art hanging in CKM

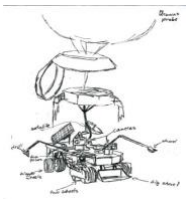
Atrium Activities:
We offer a variety of collaborative playful experiences in our Atrium space that may be a good fit for your class, including cloud cannons, giant building blocks, collaborative vertical sling shots, spinning plates, etc. (Availability of some experiences may change depending on public programs being offered.)

Outdoor Spaces - Brainasium and Natural Areas:
Expand your students' learning beyond our walls. We have a huge patio area outside and many engaging outdoor exhibits in the Brainasium. We also have an outdoor reclaimed wetland ecosystem.

Live Science Demonstrations: (all grades)
We offer interactive live science demonstrations that cover topics around the human body, sound, light, water, chemistry, and heat/temperature. The elements in the presentations can also be explored individually or can be rearranged to complement certain big ideas. We custom design demos for Chevron Open Minds Science School Classes (you won't see these on the website).

Visits from Guest Experts and Behind the Scenes Tours: Guest experts can be drawn from staff at TELUS Spark such as exhibit developers, programmers, building operations and marketing experts. Guest experts can occasionally be brought in from the community as well such as artists and other community professionals. This varies depending on your Big Idea. We also do tours connected to the LEED aspects of our facility.

HD Digital Dome Theatre:



We offer a variety of different films in our HD Digital Dome Theatre that can provide inspiration and motivation for student work (for shows see website).

Other Possibilities?

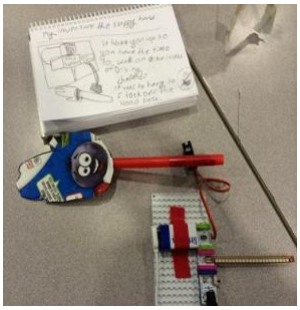
The sky is really the limit in terms of the types of things your students can do while exploring their big ideas. If you have a great idea, hang on to it and it might just be possible during your week of science school.

Technology Tools/Resources
(available for use during your Chevron Open Minds Science School Weeks)

3D Printing and 3D Design (Gr.1-9)


Classes from Gr.1 to Jr. High have engaged in various types of design work that involved 3D Design and 3D printing. Students in Gr.1-3 used Blockify (app) and 4+ used Tinkercad design software online.

LittleBits (Gr.1-9)

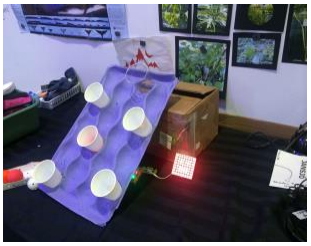



LittleBits are easy to use electronic building blocks that are color-coded, magnetic and reusable. When combined with recycled materials, Littlebits have empowered our students in Gr. 1-9 to create innovative inventions as part of the design process. We do a workshop with students (to familiarize them with the Littlebits) and then we support students as they use them in the design process.

Little Bits Code Kit (Gr.4+)

Serves as an introduction to coding using a "snap and drag" code style that allows students to create displays, games, etc.

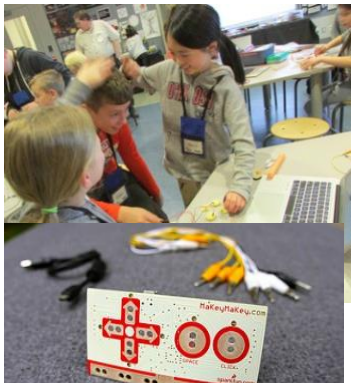
Coding a pixelated display board

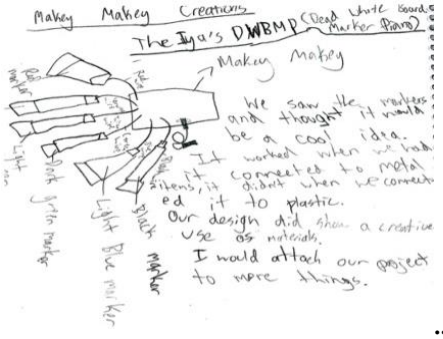


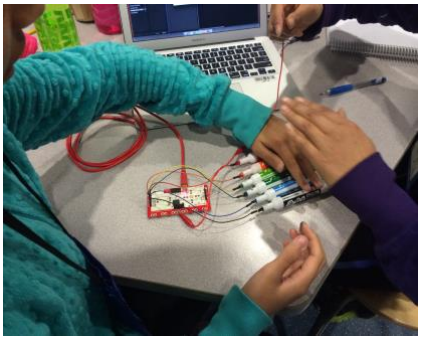
Coding a scoreboard for a game

Makey Makey (Gr.3+)

Students exercised their creativity and innovation by exploring the power to transform ordinary everyday materials into game controllers or musical instruments.



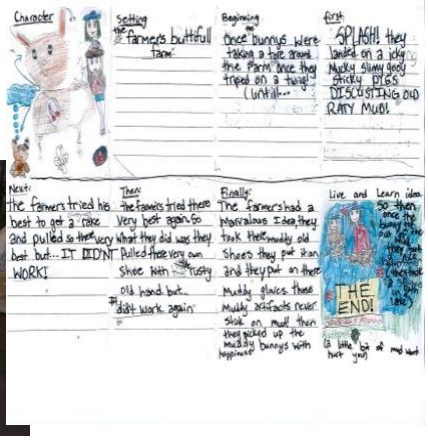


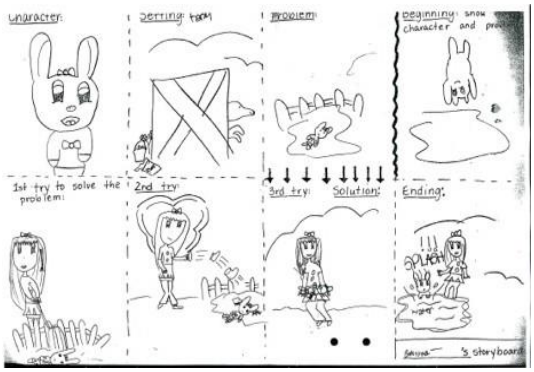


Legomindstorms (Gr. 3+)

We have used these with a focus on programming with Gr.3+. The software requires some time for students to become familiar with it and the user interface. We focused on programming the basic (prebuilt) robots to do different challenges (rather than the construction of different robots).

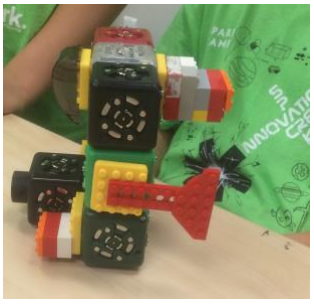
Stop Motion Animation or Claymation (Gr.1+)

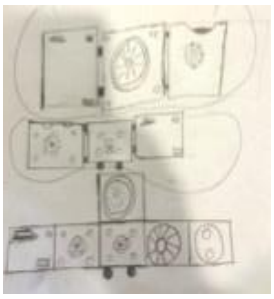




Using SAM animation software and portable digital cameras, students in Gr.1-6 have created stop motion animation on a variety of topics connected to their big idea. This works best when students have created a storyboard (at school ahead of time) so they can focus on building their sets and using the camera and software here. Experimenting with animation can be done by any class visiting the Open Studio Gallery.

Cubelets (range Gr.1+)



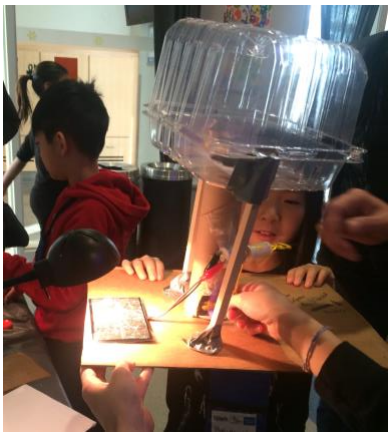


Cubelets are interlocking modular blocks that connect using magnetic faces. These blocks fall into three categories: Sense, Think and Act. There is no wrong way to put Cubelets together! Each piece was designed with natural systems in mind, systems such as swarms of insects or birds flying in formations. By understanding how each block works followed by combining them with purpose will demonstrate how individuals can join forces and collaborate to generate various outcomes. Building with Cubelets can drive project-based learning and can teach students about complexity, patterns, networks, and computation all while offering a bridge to connect all learning types through STEAM concepts. Through play with Cubelets, students can develop skills to solve problems in complex environments, and have fun while doing it!

NEW!Dash and Dot Robots (range Gr.1+? - we are still testing these)

Dash and Dot are robot characters that spark excitement and curiosity. Through various apps, students can expand their imagination by programming various behaviours, actions and reactions all while exploring robotics and coding. These two unique bots are not only fun to play with; they promote collaboration, communication and digital literacy.

Solar and Other Alternative Energy Generation



Students can engage in the design process while also exploring alternative forms of energy generation.

These students have invented a solar-powered cupcake dispenser prototype.

Other Resources:

- Class set of IPADS (can be used for internet research, photo or video documentation, various apps available) If you require a specific app let me know.
- 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 connected to electricity, coding, art and other areas. We will advise you of these as we discuss your Big Idea at the planning meeting.