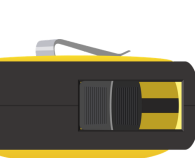




Skills Exploration Days

2026 Teacher Guide



WHAT IS SKILLS EXPLORATION DAYS?

Skills Exploration Days is a career exploration experience designed to complement and support Alberta Education's Career and Technology Foundations (CTF) Program of Studies.

The purpose of Skills Exploration Days is to:

- **Inspire** junior high students to identify inherent skills and interests
- **Connect** skills and interests to trade and technology careers through interactive, hands-on experiences that promote creativity, empathy and exploration
- **Promote** trades and technologies as valuable and rewarding career choices

Skills Exploration Days is an opportunity for teachers and junior high students (grades 7-9) to participate in an authentic and meaningful skilled trade and technology career exploration experience. Building on the Maker Day model, the goal of the program is to encourage the use of empathy through design thinking, inquiry, making, and experiential learning. Registered schools will be provided with a toolbox that includes the tools and materials students need to participate in Skills Exploration Days. Five Learn-A-Skill activities are also included to help students familiarize themselves with the tools and materials available for building their prototype. Using the skills learned with the Learn-A-Skill activities, students will come together for an interactive live-stream to build a prototype that provides a solution to the design challenge and to share their finished projects.

Please note Skills Exploration Days is an in-classroom program which heavily relies on teacher facilitation. Teachers are responsible for guiding their students through the Learn-A-Skill activities and the Design Thinking Process, as well as ensuring students are using the tools and materials provided in a safe and appropriate manner. Our hope is that Skills Exploration Days is as exciting for teachers as it is for students and will inspire educators to implement the Maker Model year-round in their schools!

Questions regarding Skills Exploration Days programming can be sent to clairel@skillsalberta.com.

REGISTRATION

May 13, 2026- 3:30pm

INTERACTIVE LIVE-STREAM

December 1, 2026- 9:00am-2:15pm

New registered schools will be provided with a toolbox that includes the tools, materials and PPE that students need to build their prototype. Schools that have previously participated in Skills Exploration Days and received a toolbox have the option to register for a "top up" toolbox or a "build-your-own top-up" toolbox. If no tools are required, schools can participate by registering for the "no toolbox required" registration option. Toolboxes will remain with the school to support the growth of your CTF programs! **Toolboxes will be shipped to all schools.**

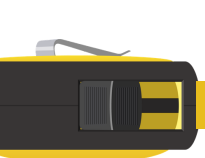
Note: Schools are encouraged to supplement with tools, technology and scrap/recycled materials already available at their school. See page 8 for a list of items included in the toolbox and to be supplied by the school.

The registration fee is \$200 per new toolbox, \$100 per top-up toolbox, and \$50 per build-your-own toolbox. Registrations are intended for 30 students per school. Teachers can request additional toolboxes by making a waitlist request on the registration portal. Waitlist requests are awarded on a first-come first-serve basis.

HOW DO I REGISTER?

Your school must be registered with Skills Canada Alberta to participate.

- Registering as a Skills School is free of charge. Visit <https://skillsalberta.com/resources/become-a-skills-school/> to create and submit your profile. Once registered, a username and password will be emailed to you.
- Login to the registration portal and select the "Skills Exploration Days" tab.
- Follow the prompts to register for your toolbox. If a toolbox is not available or you would like to request an additional toolbox, make a request in the "Waitlist Request" section.
- Questions regarding registration can be sent to javierad@skillsalberta.com.



GET STARTED IN THE CLASSROOM

Follow these steps to ensure all activities are completed prior to Skills Exploration Days on December 1st.

Step 1: Visit the Skills Exploration Days Website — [Visit our website](#) and watch the Skills Exploration Days video to see what a day of exploration looks like, learn the 5 steps of the Design Thinking Process and why design thinking is important to build a meaningful prototype. Under the downloads section, find all of the resources you need to facilitate the in-class program.

Step 2: Read the 2026 Teacher Guide — In this teacher guide, you'll find helpful information such as dates, online registration instructions, schedule of the day, sample floor plan and a list of tools, technology, and materials available to build with.

Step 3: Set up the Learn-A-Skill Kits in the Classroom — To be used prior to Skills Exploration Days, these skill exploration kits are designed for students to learn the basic skills, knowledge and safety associated with the tools and materials supplied in the toolbox. We recommend setting up the 5 kits around the classroom and groups of students (5-6/group) rotate through. Each kit includes an instructional video with safety information students must access via a QR code. Need additional information about the tools and how to use them safely? Check out more tool safety videos by scanning the QR code stickers included with your toolbox. All Learn-A-Skill videos and additional tool safety videos can also be accessed on the [Skills Exploration Days YouTube playlist](#).

Step 4: Research the Design Challenge “Healthy Communities by Design” in the Classroom — A [design challenge](#) is a real life problem that needs to be solved. It is important to research and understand the concepts and vocabulary embedded in the challenge. The more background knowledge the students gain, the more successful they will be during the design thinking worksheet which will result in more creative and meaningful prototypes. We've provided just a few suggested resources to get started but we encourage you and your students to delve deeper into the design challenge topic with further research.

Step 5: Complete the Human-Centered Design Thinking Worksheet — Now that students are experts on the design challenge topic, teachers will guide them through the design thinking process using the Human-Centered Design Thinking worksheet (included in the toolbox). Students will work in groups of 4 to complete the worksheet. Don't worry, teachers! Our [Design Thinking Presentation](#) will guide you in facilitating this process. Lastly, students will sketch their million dollar design in the “Final Prototype Sketch” section which will be the blueprint to build their prototype.

Step 6: Check out the Skills Exploration Days Padlet & Kahoot — Familiarize students with the Skills Exploration Days [Padlet](#) (interact and post photos on the wall) and [Kahoot](#) (a fun feedback game to find out how the day went).

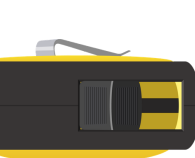
Step 7: Set up Work Stations for Building at Skills Exploration Days — Students will visit a variety of hands-on stations and use power tools and a variety of materials to build their prototype. Teachers are responsible for supervising the stations to ensure students are safe. If possible, we highly encourage teachers to invite volunteers or industry experts to help at the work stations during Skills Exploration Days. Station signs, a sample floor plan, and a list of tools and materials needed for each station will be provided on page 8. Be part of the show! We recommend using a large screen to project the interactive live-stream of Skills Exploration Days so all the students can see! And don't forget to turn those speakers up!

Step 8: Tune into the Skills Exploration Days Interactive Live Stream and Build a Prototype! — Let the building begin! With their Final Prototype Sketch in hand, students will come together for an interactive live-stream to build their prototype and showcase their million dollar design! Students will work in their groups of 4 to build a prototype. Students can post pictures on the [Padlet](#) for a chance to win prizes or have their prototype featured on the big screen! Curious about what students built for a previous year's design challenge? Check out examples of previous prototypes [here](#).

BONUS: Continue the Maker Movement in Your Classroom! — Check out the [Taking Making into Classrooms Resource](#) on our Skills Exploration Day website for all the information you need to keep the excitement alive! See **Section 12** for 31 sample design challenges teachers can use in their classroom today!

A DAY OF VIRTUAL SKILLS EXPLORATION-DECEMBER 1, 2026

Time	Event
Day Before	Please ensure the work stations, tools, and materials are safely set up.
8:50 AM	Please log onto the live-stream Skills Exploration Days link (received via email)
9:15 AM	Welcome Announcements & Safety Video
9:30 AM-11:30 AM Check out the Skills Exploration Days Padlet! Use the QR Code for easy access! 	Build Prototype Using their final prototype sketch, students will have 3 hours and 15 minutes to build a prototype by implementing the skills and knowledge acquired during the in-classroom Learn-A-Skill kits. Students will visit work stations: Electrical Installation, Woodworking (Carpentry/Cabinet Making), Painting & Decorating, Plumbing, Sheet Metal, and Graphic Design. Everyone must wear PPE (gloves, safety glasses, ear protection) provided by SCA in the toolboxes. Students must wear close-toed shoes and long pants. Anyone with long hair must have it tied back. Along with using the tools and materials at the work stations, students can also use crafting materials at the Pantry and scraps at the Reuse Centre where they will be challenged to recycle, reuse, and become aware of environmentally-friendly materials. Teachers are required to be present and onsite all day. Be engaged and active with your students but allow them to independently construct their prototype as much as possible. Teachers are responsible for ensuring students are on-task and demonstrating safe behaviors. If possible, have volunteers or industry experts help at the work stations.
11:30 AM-12:00 PM	Lunch Break Please have students bring a bagged lunch.
12:00 PM-1:15 PM	Finish Building Prototype and Create a Title Page Schools are encouraged to have Graphic Design computers available so students can create and print the prototype title page on Photoshop (or a similar software). Students can use markers and paper if computers are not available.
1:15 PM-1:30 PM	Clean up & Display Prototype Students will clean up their workspaces and make their thinking visible by displaying the original prototype sketch, the prototype title page, and their completed prototype on a table for the Gallery Tour.
1:30 PM	Gallery Tour Students get the chance to test their prototype, answer questions and visit other displays. Skills Alberta will also highlight some student prototypes from the Padlet on the big screen!
2:00 PM 	Reflection & Evaluation Finally, all students will appraise their skills and knowledge used to respond to the challenge by participating in a fun reflection and evaluation game via KAHOOT. Please have computers or devices available to play. Don't miss out on this as we'll be giving away some awesome prizes! Use the QR Code to easily access KAHOOT! The game pin will be provided and displayed by the Skills Alberta Host.
2:15 PM	Closing Remarks/Depart



SKILLS EXPLORATION DAYS DESIGN CHALLENGE

Healthy Communities by Design

Overview

The World Health Organization's definition of health is "a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity."¹ Health encompasses far more than just eating your vegetables and avoiding the common cold. Health and well-being include physical, mental, social, and environmental factors that all contribute to your quality of life. Supporting each aspect of your health helps you enjoy your life, perform your best, and take on new challenges. Some aspects of health are easier to control than others, and each person's experience with health and wellness looks different.

Design Rationale

There are many ways to enhance people's health and well-being at the individual, community, and policy levels.² Innovations in the field of personal wellness have taken off in the past decade with health trackers, such as smart watches, becoming the norm. What attracts many people to these types of innovations is a focus on preventative health. While many people know a healthy diet and exercise are important for physical health, it can be hard to start new habits. Personalized health solutions, such as fitness smart watches and apps, encourage people to focus on their health goals by giving daily reminders and motivation.

More than we realize, our health and well-being is shaped by the communities in which we live and spend our time. Healthy Homes Healthy Communities states that "only 20% of Canadians live in neighbourhoods that are considered 'amenity dense'. This is defined as access to at least one grocery store, pharmacy, childcare facility, school, library, health facility, employment, and public transit stop."³ Communities can provide well-being and care for residents by ensuring access to these amenities, but location and resources are often a limiting factor.

Other ways communities can support well-being and encourage healthy habits are by "improving the quality and safety of public spaces to favour mental health, physical activity, and social cohesion."⁴ An example of intentional public space design is seen in many cities across the world with "fitness parks". By installing free outdoor fitness equipment, people gain greater access to engage in physical activity, spend time in nature, and socialize with others.⁵

Problem Scenario

Your team has been selected to improve health and well-being in your community. Identify a health or well-being challenge that affects people in your school or community, then create a solution that helps people live healthier, safer, or happier lives.

Choose a challenge related to physical, mental, social, or environmental well-being. Design and build a prototype or scale model that encourages healthy habits or addresses a community need. This design challenge will require your team to innovate something new or re-design an existing solution to make it better.

Your solution should:

- Address a real health or well-being issue in your community.
- Be practical and accessible for the people who will use it.
- Be safe, inclusive, welcoming, and easy to understand.
- Be supported by research or evidence (the goal of your solution should be generally accepted as something that improves one's health and well-being)

Success Determinants

Success will be determined by the degree to which your design solution:

- Addresses the design challenge
- Addresses an identifiable need
- Is **original** (not an exact copy of something that already exists) and as realistic as possible.
- Utilizes the tools and materials provided in a creative and safe manner
- Aligns to the design motto: Make it smaller, stronger, do more, be easier to use, be cheaper.

***Prototype:** a model that illustrates the functionality of an idea or design. It may be life-sized or scaled to a model that fits in your hand.

SUGGESTED RESOURCES TO GET YOU STARTED

What is Health? ¹	
Healthy Community Essentials ²	
Neighbourhood Design ³	
Sustainable Development Goal 3: Health & Wellbeing ⁴	
Active Parks, Active People? ⁵	
Community Wellbeing Framework	
The Science of Healthier Cities: Three Strategies for Architects	
Healthy Communities by Design	
What is Wellbeing?	
The Future of Personal Wellness Innovation	
My Community, My Health	

Scan to access links to
design challenge resources →
(or visit <https://qrco.de/skillsresources>)



HUMAN-CENTERED DESIGN THINKING ACTIVITY

Look for printed student copies of the worksheet in your toolbox!



Human-Centered Design Thinking Worksheet

1. EMPATHIZE: Design something meaningful for your partner

Have a conversation with your partner to find out what they know about the topic, make personal connections, and find out what is most important to them by asking questions.

What do the terms *health and well-being* mean to you? What does a healthy community mean to you? What communities are you a part of? Think outside of just your school community and neighborhood. Tell me about a typical week for you- what activities, habits, or routines help you feel healthy and well? What challenges or barriers make it difficult for you to take care of your health and well-being? Who or what supports your well-being? (People, places, programs, technology, routines, etc.) What programs, services, or activities in your community support health? Have you seen examples of communities that do a good job of supporting people's health and well-being? Ask them to: "tell me more", "tell me why you feel that way", or follow up on a comment.

2. DEFINE: What is the problem your partner is trying to solve?

Partner's name _____

needs a way to _____

What: Pick ONE problem that is most important to your partner that you need to solve. What are they most concerned about? What are they most passionate about?

because _____

Why: Explain why this problem is important to your partner. Use facts or stories from #1 to help explain.

3. IDEATE: Brainstorm & sketch solutions to solve your partner's ideas

Sketch 2-4 ideas to help solve the problem

Add lots of detail. Use words and arrows to help describe your sketches.

Share your sketches, gain feedback & redesign ONE idea

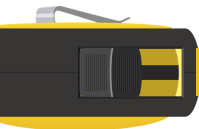
Share your sketches with your partner. Use their feedback to modify, redesign or create a new idea. Share this sketch with your group. Who has the best solution to the design challenge? Everyone needs to sketch the final idea on the Final Prototype Sketch.



Final Prototype Sketch

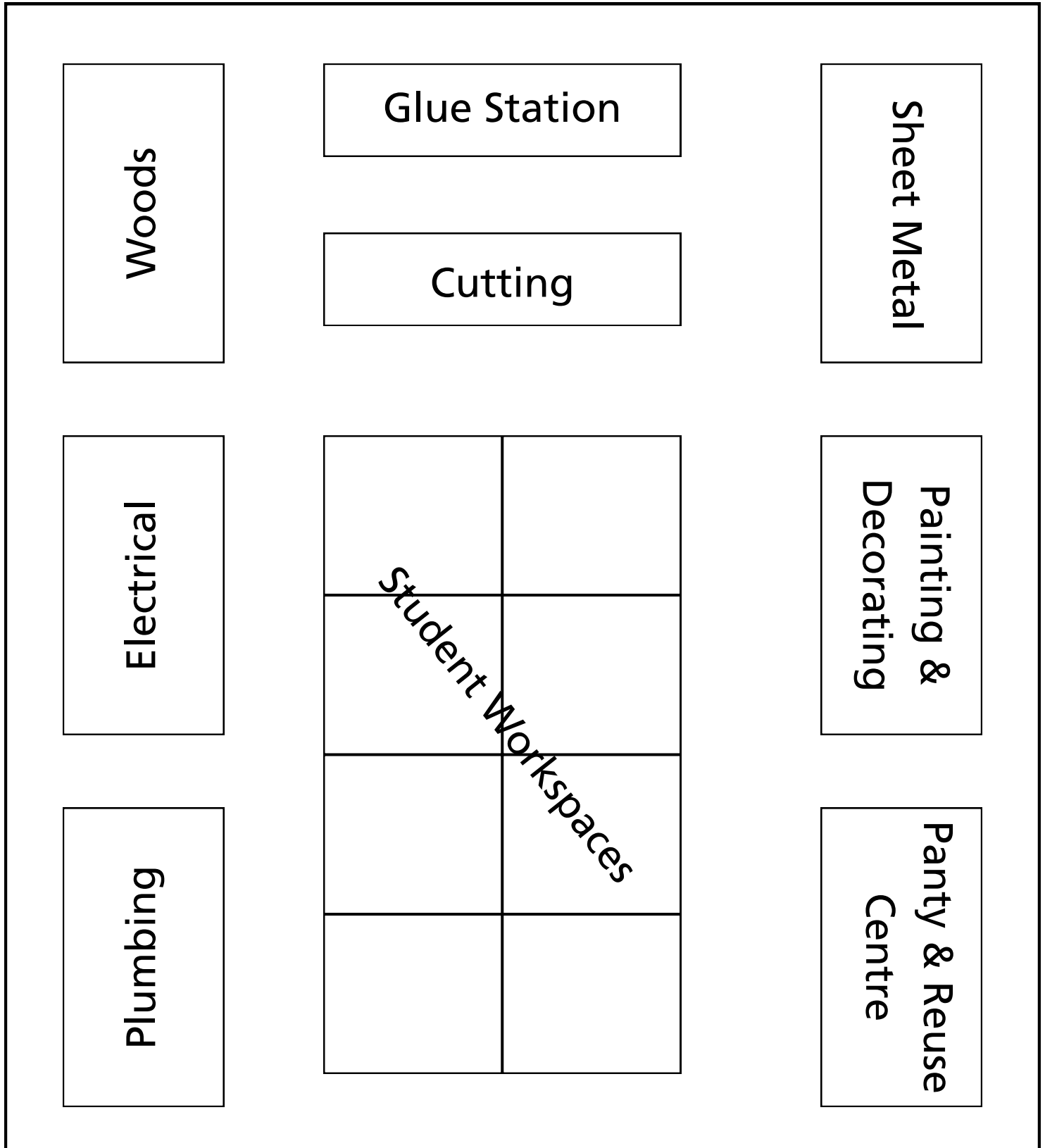
Please use this sketch at Skills Exploration Days – it will be the blueprint to help you build your prototype. Don't forget to add a title for your prototype!

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SAMPLE FLOOR PLAN

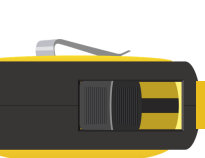
Below is a sample floor plan showing the workspaces needed during Skills Exploration Days for students to build their prototypes. Please modify to meet your needs.



WORK STATIONS

These are some tools and materials that **MIGHT** be included in the toolbox.
Use the chart below to place the tools and materials into the correct work stations.

STATIONS	TOOLS	MATERIALS	SAFETY
WOODWORKING (Carpentry and Cabinet Making)	Cordless Jig Saw Hand Saw Cordless Dremel Tool Cordless Drill Cordless Orbit Sander Hammer Tape Measure Multi Bit Screwdriver Combination Square Saw Horse Brackets	<i>Teachers must include scrap pieces of wood</i> Work Station Sign Jig Saw Blade Dremel Tool Kit Drill Bit Set & Driver Bit Set Sanding Disks & Sponge Nails & Screws Clamps Wood Glue	High Adult Supervision Must Wear Safety Glasses, Ear Protection and Gloves Masks provided for dust
ELECTRICAL INSTALLATION	Linesman Plier Wire Stripper	Work Station Sign Wire Switches & Plugs Marrettes	Low Must Wear Safety Glasses and Gloves
PLUMBING	Tape Measure Crimper PEX Cutter	Work Station Sign PEX Pipe Fittings, Couplings, Crimp Rings	Medium Must Wear Safety Glasses and Gloves
SHEET METAL	Riveting Tool Tin Snips & Hacksaw Bender & Metal File	Work Station Sign Sheet Metal Rivets Hacksaw Blades	Medium Must Wear Safety Glasses and Gloves
GRAPHIC DESIGN	<i>Teachers may provide computers (optional)</i>	Please utilize materials you have on hand	Low
PAINTING & DECORATING	Please utilize materials you have on hand	<i>Teachers should use cardboard or plastic to protect tables</i> Work Station Sign	Low
CUTTING STATION	Utility Knife & Scissors Metal Ruler	Work Station Sign	Medium Must Wear Gloves to Prevent Cuts
GLUE STATION	Hot Glue Guns	Work Station Sign Hot Glue Sticks	Medium Must Wear Gloves to Prevent Burns
PANTRY	N/A	Teacher are given a \$100 gift card to purchase crafting items (ex: popsicle sticks, zip ties, velcro, magnets, tape, etc	N/A
REUSE STATION	N/A	<i>Teachers must provide pieces of cardboard, foam, fabric, etc</i>	N/A
SAFETY	First Aid Kit Foam Earplugs Safety Glasses Face Mask Work Gloves	Work Station Sign Duct Tape (secure cords to floor)	



SKILLS EXPLORATION DAYS FAQS

1. How much time should I dedicate to Skills Exploration Days before the virtual facilitation?

While it is up to you how much time you want to spend on the classroom activities before the virtual facilitation, we ask that you review all safety information with students and ensure they feel comfortable using any tools they plan to use to build their prototype. Time spent on the Learn-A-Skill kits is very dependent on your students' starting skill level and confidence with the tools. Some teachers may spend a few class periods while others stretch it over a month or so.

It is also important that students have a thorough understanding of the design challenge and have a prototype sketch ready to go for December 1st. At a minimum, we suggest a couple class periods to research the design challenge and another one or two to complete the design thinking worksheet. Ultimately, the more background knowledge students gain on the design challenge topic, the more successful they will be during the design thinking worksheet which generally results in more creative and meaningful prototypes.

We encourage you to think big when it comes to building Skills Exploration Days into your classroom and curriculum. With a bit of planning, the design challenge topic could easily be the catalyst for an inquiry project lasting several months in your classroom!

2. How and when will my toolbox arrive at my school?

If you registered for a toolbox in spring/summer 2026, you will receive your toolbox by the end of September. If you registered for a toolbox in the fall 2026, you will receive your toolbox by the end of October at the latest. All toolboxes will be shipped directly to your school.

3. Do I have to complete all the Learn-A-Skill activities with students?

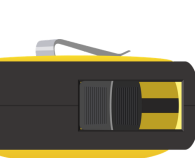
We know every classroom looks different, so while it is up to you how you facilitate Skills Exploration Days in your classroom, please ensure you review all safety information on any tools and materials being used with students. In addition to teaching the safety and skills associated with the tools and materials, the Learn-A-Skill kits are great for making students aware of what they have available to them when building their prototypes.

4. I don't feel comfortable using all the tools with my students. What should I do?

We understand there may be a big learning curve for you as a teacher with some of the tools and materials provided.

If you are not comfortable with a certain tool, feel free to exclude it from your facilitation with students. Some teachers choose to use 3-4 Learn-A-Skill stations one year and introduce the others the following year.

We also strongly encourage you to bring in some industry experts, teachers, or additional volunteers to assist with the Learn-A-Skill activities and prototype building. People in your community with some trades expertise are a great resource for both you and your students. Additional volunteers are also important for supervising and ensuring students are working safely.



SKILLS EXPLORATION DAYS FAQs

5. What are some examples of previous prototypes?

Check out some prototypes built by students for our [alternative dwellings design challenge!](#)

6. How do I tune in to the virtual Skills Exploration Days on December 1st?

We will email all registered teachers a Webex link to tune in to the live Skills Exploration Days.

7. What should be on the prototype title page?

Teachers can decide on the criteria for the title page. Depending on the complexity of the prototype, some students may have lots of time to work on this while others may be quite limited and building their prototype down to the last second.

Possible elements include:

- Name of the prototype (hopefully this makes it on there!)
- A picture/diagram of the prototype (created digitally, hand drawn, taken on a camera)
- A logo for the prototype
- Information about what problem the design solves
- Information about who could use the prototype
- Materials used to build the prototype
- How the prototype works
- Challenges encountered when designing the prototype

8. What should I do with the tools once Skills Exploration Days is over?

All tools and materials received for Skills Explorations Days are to remain at your school to support the growth of your CTF programs! You may want to give students time after Skills Exploration Days is over to further test and refine their prototype design. Many teachers also choose to facilitate the design thinking challenge with a different group of students in the spring.

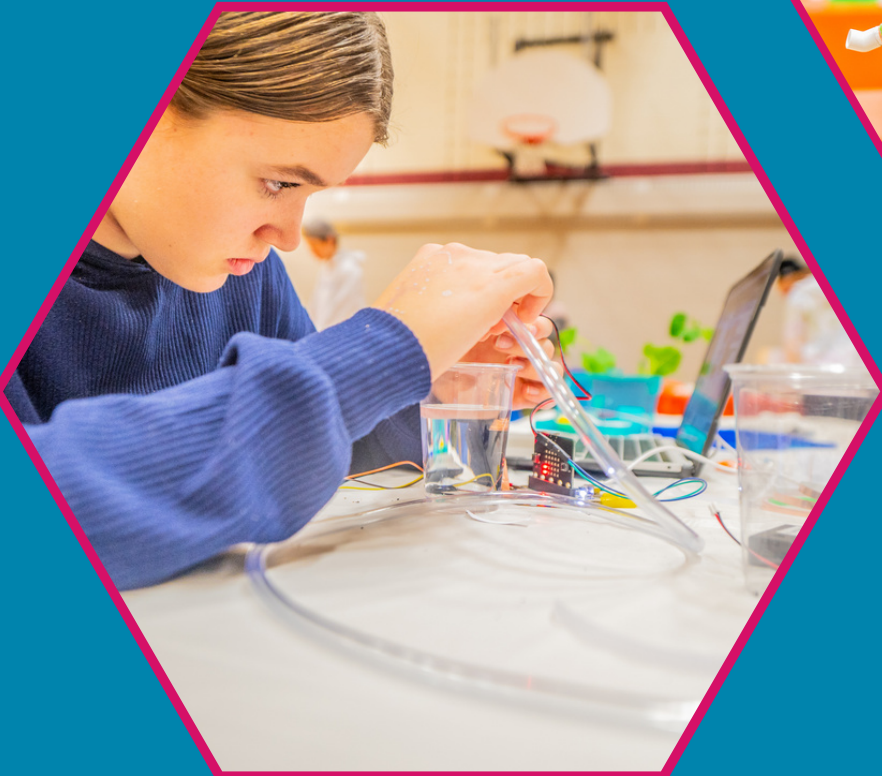
Other suggestions for using your Skills Exploration Days toolbox:

- Keep Skills Exploration Days going year-round! Check out our [Taking Making into the Classroom](#) resource for more design challenges
- Set up a maker space in your school
- Disperse tools to option classes that require them
- Donate duplicate tools your school doesn't need to other schools in your district
- Hold a teacher training session at your school to show other teachers how to use the tools and Learn-A-Skill resources in their own classroom

9. Who should I contact if I still have questions?

Questions regarding registration can be sent to Javiera de Rossi at javierad@skillsalberta.com

All other questions regarding Skills Exploration Days can be sent to Claire Lecocq at clairel@skillsalberta.com



Skills
Exploration
Days

