

CARDBOARD CHARIOT RACE 2020

OCTOBER 27-28 2020

[SKILLSALBERTA.COM](https://skillsalberta.com)



SkillsCanada
Alberta

DATES AND LOCATIONS

CARDBOARD CHARIOT RACES

Tuesday October 27, 2020

Wednesday October 28, 2020

All races will take place over a virtual platform (ex. Google Meet)



OBJECTIVE

Teams of four junior or senior high students will design, construct, and race a cardboard chariot for 20 metres. Teams will need to construct their chariot before the races

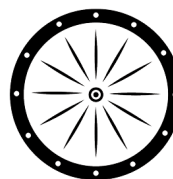
Students will gain valuable problem solving skills and learn the practical application of important principles. Including:

- ◆ Design, research & presentation
- ◆ Structure, strength & rigidity
- ◆ Construction
- ◆ Air resistance, friction, etc.
- ◆ Teamwork and FUN!

Participating schools will be provided with the required materials which can be picked up the week prior to the races.

Teams will have multiple days to build their chariot, but pictures of the finished project must be submitted by 12:00 PM on Friday October 23, 2020

Judging will be based on: design, construction, safety, and speed across the course.



**CARDBOARD
CHARIOT
RACE 2020**

GET INVOLVED!

Registration opens on September 16, 2020 at 8:30 AM
Register early to avoid disappointment!



REGISTRATION INFORMATION

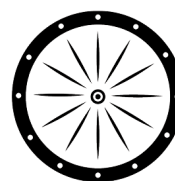
- ◆ Register early! Registration and additional team requests are awarded on a first-come, first-serve basis. There is a 40-team limit per race. Schools may register two teams and may request additional teams by using the Waitlist Request on the registration portal. Waitlist spots will start being granted on September 23, 2020.
- ◆ Teams **MUST** be fully registered by October 14, 2020 as materials will be available to be picked up during between October 19 – 21, 2020. Designated pick up days and locations will be sent out via email.
- ◆ The registration fee is \$40 per team. Invoices will be sent out following the event. **Team withdrawals after October 7, 2020 will be invoiced the full amount.**

Your school must be registered with Skills Canada Alberta to be able to participate. Registering as a Skills School is free of charge, visit skillsalberta.com and select “*Become a Skills School*” under the Resources tab.

Registration Steps:

- ◆ Login to the registration portal and select the “Cardboard Chariot Races” tab.
- ◆ Click the green “Add New” button and if a spot is available a team spot will be added to your profile.
- ◆ If a spot is not available or if you would like to request a spot for additional teams, request a spot under the Waitlist section by clicking on the “Add New” button
- ◆ Enter the students’ information in their team grouping. You will be required to provide each student’s first name, last name, parent/guardian’s name and email. An online release form will be sent directly to the parent/guardian and will be marked as completed once it has been filled out.
- ◆ **All** student information including the online release form must be completed by 11:59 PM on **October 14, 2020.**

For help or questions, contact Katherine Kupchenko:
katherinek@skillsalberta.com or 780-945-0945



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RACE DAY TIPS

- ◆ Buffs will be provided to all registered students – they are designed to be worn during physical activities and therefore should be worn as a face covering like a mask unless otherwise specified in school regulations and policies. Be safe!
- ◆ Helmets must be worn by students that will be riding in the chariot (ex. Bike helmet, hockey helmet, ATV helmet, etc.)
- ◆ A clearly defined start line and stop line must be taped out.
- ◆ Each team just log into the virtual race with their assigned team number. This number must be attached to the front of the chariot.
- ◆ Teams will race LIVE against another team in Alberta. Based on the virtual nature of this event, you must be able to record your entire race. Mobile devices are encouraged.
- ◆ Each team must have their own device and should name their team by their assigned number.
- ◆ Schools are encouraged to show their pride! Mascots, cheerleaders, and enthusiastic friends and family are welcome virtually or in person if permitted.

SCHEDULE

Date	Time	Event
September 16	8:30 AM	Registration Opens
October 7	11:59 PM	Drop Deadline – Teams will not receive a refund after this date
October 14	11:59 PM	Registration Deadline/Information Due
October 19	8:30 AM – 5:30 PM	Edmonton Supply Pick-up
October 20	8:30 AM– 5:30 PM	Calgary Supply Pick-up
October 19 – 23	All Day, Everyday	Build Chariot
October 23	12:00 PM	Design Sketch and Pictures Due by noon
October 26	8:30 AM – 4:30 PM	Online Gallery Tour and Voting for Chariot of Fire Award
October 27, 28	12:00 PM	Log into virtual Race/Registration
October 27, 28	12:30 PM	Announcements
October 27, 28	12:45 PM	Races
October 27, 28	2:00 PM	Judging Analysis
October 27, 28	2:15 PM	Awards Presentation

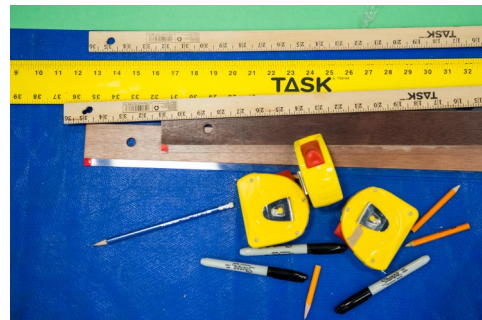
CONSTRUCTION MATERIAL

Supplied By Skills Canada Alberta:

- ◆ Two rolls of packing tape (50 metres)
- ◆ One small roll of duct tape (8 metres)
- ◆ One skipping rope
- ◆ One team number
- ◆ Two wooden dowels
- ◆ **Junior High:** Four 4 ft x 3 ft sheets of 1/4 inch cardboard (B Flute)
Four—3 inch x 1 .25 inch wheels
- ◆ **Senior High:** Six 4 ft x 3 ft sheets of 1/4 inch cardboard (B Flute)
Senior teams **MUST** construct their own wheels out of cardboard
- ◆ Surprise item on competition day (must be used in the construction of the chariot)

PLEASE NOTE: No other material may be used during the construction of the chariot. Senior teams may **ONLY** use glue in the construction of their wheels.

Cardboard can be purchased directly from **Instabox** (www.instabox.com).



PREPARATION FOR RACE DAY

- ◆ Teams should research the design and construction of their chariot.
- ◆ Teams must prepare a design sketch and build their chariot in advance on the races. Points are awarded for the sketch and photos of the final build! The sketch and photos will need to be submitted by 12:00 PM on Friday, October 23, 2020.
- ◆ It is recommended that students build and test a prototype of their chariot in advance of the race day. Points will be deducted if the chariot used in the race does not match the pictures
- ◆ Plan the decoration material for your chariot (max. \$20 cost limit). Decorations must not aid in the movement, stability, or the structure of the chariot. A maximum of \$20 may be spent to decorate the chariot. Decorations must be left of during the race and therefore should not impede movement. No wood, staples, string, ropes, twine, wire, additional tape/decorative duct tape are permitted. The use of glue is only allowed by senior teams in the construction of their wheels.

SKETCH AND PHOTO SUBMISSION

The following items are required to be submitted online by 12:00pm (noon) on Friday, October 23, 2020

- ◆ One photograph of each side of the chariot (6 sides in total).
- ◆ One photograph showing that the bottom of the chariot is at least one inch of the ground. A measuring device must be visible in this picture.
- ◆ One design sketch of the chariot.

RULES AND REGULATIONS

CONSTRUCTION RULES

1. Each team must submit their chariot design and pictures by noon, 12:00 PM on Friday, October 23 for construction judging prior to the race. Points will be awarded for sketch innovation and how closely the construction follows the design.
2. Only the provided construction materials may be used to build the chariot.
3. All cutting must be done in a safe and cautious manner to prevent injuries and damage to the school surroundings.
4. Chariots must be at least three dimensional - they must possess a front, rear, bottom and two sides. Roofs are optional. The entire chariot must be at least one inch off the ground.
5. Decorations must not aid in the movement, stability, or the structure of the chariot. A maximum of \$20 may be spent to decorate the chariot. Decorations must be left off during the race and therefore should not impede movement. No wood, staples, string, ropes, twine, wire, additional tape/decorative duct tape are permitted. The use of glue is only allowed by senior teams in the construction of their wheels.
6. All wheels MUST fit the doweling provided as no other wheel axle is permitted
7. Teams MUST use the provided skipping rope as their main pulling device. Any other devices used to propel the chariot must be built from the provided material.
8. Each team must secure the provided number to the front of the chariot
9. Students will be able to vote for the Chariot of Fire Award (aka. fan favourite) by selecting their favourite chariot from the online gallery tour. Teams cannot vote for their own chariot. competitors.
10. No external help during the competition is allowed (i.e. from teachers, parents, advisors, etc.).

RACING RULES

1. Helmets must be worn by the racing team members during the speed event.
2. NO RUNNING STARTS, only 1 puller allowed - STAND and PULL ONLY. THE RIDER'S ARMS AND LEGS MUST BE FULLY INSIDE THE CHARIOT. Any infraction will result in a disqualification.
3. A clearly marked start and stop line must be taped out and are visible on the screen.
4. All chariots and (their parts) as well as all the two team members must cross the finish line to complete the race.
5. In the speed event, all teams must stand behind the starting line. Once the whistle is blown the timer begins and driver can then get in their chariot. The person pulling the chariot cannot start until the rider is fully in the chariot. Team members are permitted to stabilize the chariot at the beginning of the race to help the rider smoothly enter. The team members stabilizing the chariot must let go before the puller can start moving.
6. Teams will race in heats against other chariots and the clock. Please refer to the scoring sheet regarding point allotment.
7. Teams are eligible for the Tow Truck Award only if they do not complete the speed event and if the chariot is fully inside the course. Teams are eligible for a maximum of ten points at the judges' discretion for dramatizing their crash.
8. No external help during the competition is allowed (i.e. from teachers, parents, advisors, etc.).

JUDGING CRITERIA

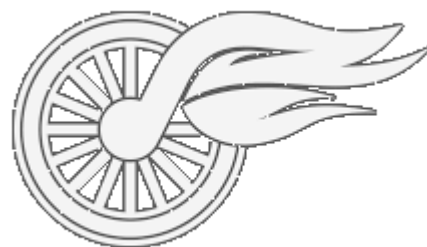
Medals will be presented each day to the top three teams in the junior and senior high categories based on the following criteria. In the case of a tie, the team with the highest speed and construction score will be the winner. A Tow Truck Award will be presented to the best and most dramatic crash during the speed trials.

DESIGN & CONSTRUCTION

Category	Criteria	Possible Points
Design	<ul style="list-style-type: none">Sketch innovation and designConstruction follows sketchAll photographs were properly submitted	5 Points
Construction Quality	<ul style="list-style-type: none">Chariot is built strongly: no loose connections, messy folds or cuts	7 Points
Visual Appeal	<ul style="list-style-type: none">Chariot is creatively decoratedOverall visual impression	3 Points
Construction Points		/15

SPEED

Performance	Possible Points
Heat Winners	2 Points
Teams that did not win heat but completed the race	1 Points
No helmet, rider not fully in chariot, kicking, or running start	Disqualification
Ten fastest times overall	
1st	11 Points
2nd	10 Points
3rd	9 Points
4th	8 Points
5th	7 Points
6th	6 Points
7th	5 Points
8th	4 Points
9th	3 Points
10th	2 Points
Speed Points	/13
TOTAL POINTS	/28



CHARIOT OF FIRE AWARD - Popular Choice

Each team will be able to vote for their favourite chariot during the online gallery tour. It can be the chariot with their favourite design, maneuverability, strongest, snazziest name, etc.

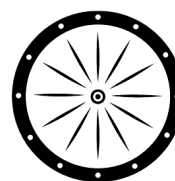
The Chariot of Fire Award will go to the junior and senior team with the most votes for each day. The link to access the gallery will be emailed to all registering teachers prior to voting. Teams cannot choose their own chariot.

TOW TRUCK AWARD - Best and Most Dramatic Crash

To qualify, chariots cannot complete the speed event but must completely pass the start line. A maximum of 10 points are awarded for teams dramatizing the crash- theatrics are encouraged.

Performance	Possible Points
0:30 - 0:59 +	2 Points
0:10 - 0:29 +	1 Points
Dramatic Sinking	10 Points
Tow Truck Points	/12

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