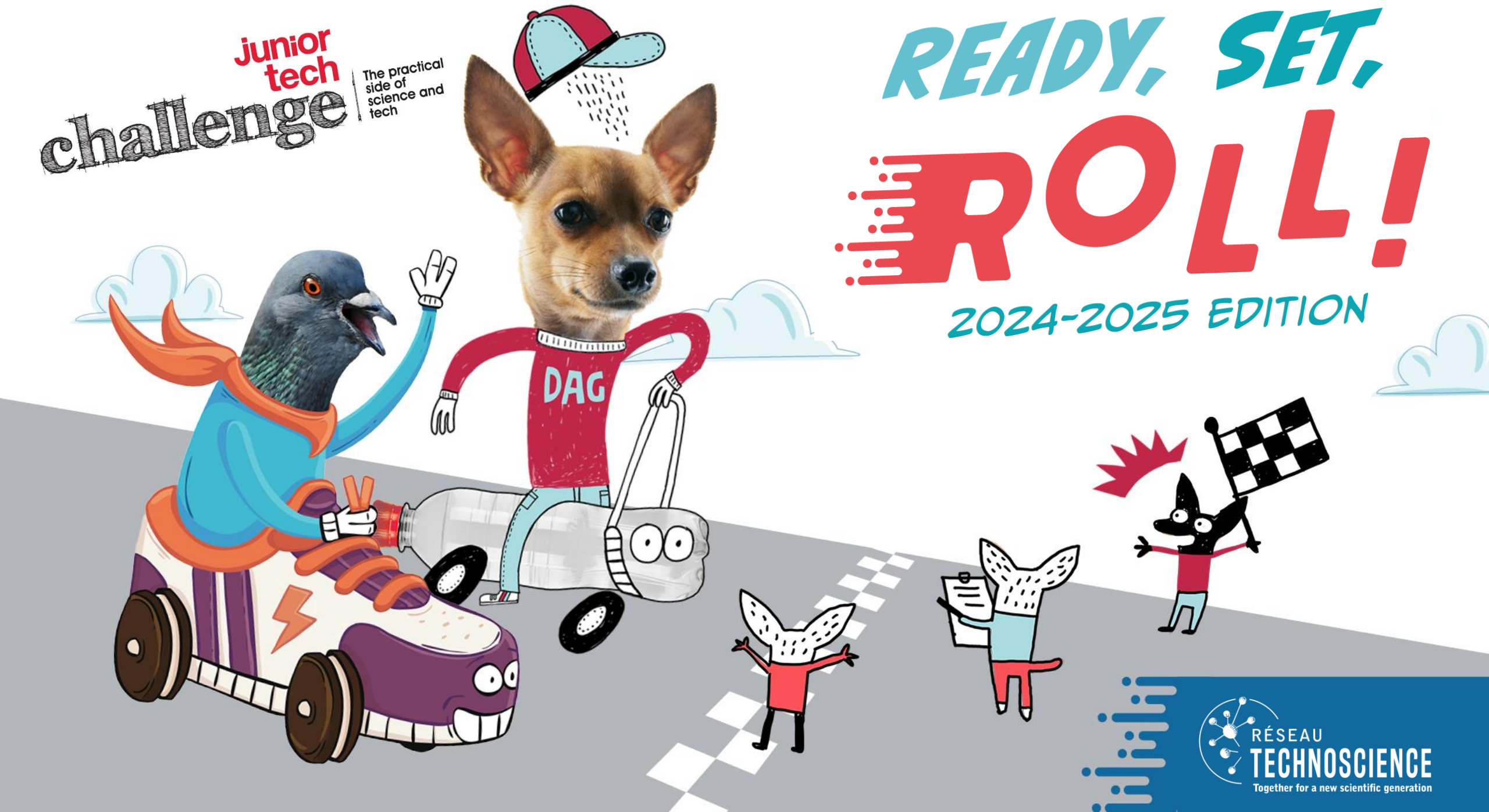
junior tech challenge

The practical side of science and tech

READY, SET, ROLL!

2024-2025 EDITION

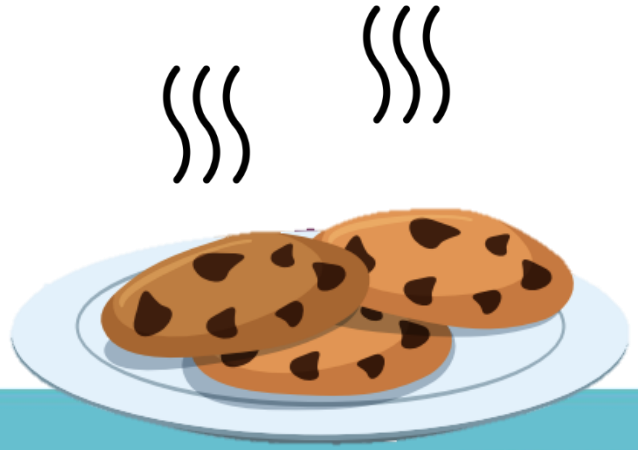


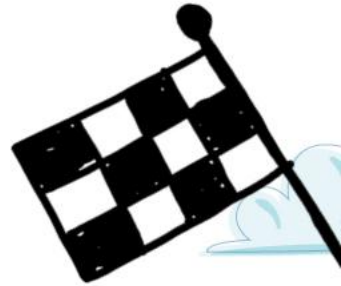
RÉSEAU TECHNOSCIENCE

Together for a new scientific generation

Setting the Stage

Oh, no! I heard you and your friend just missed the school bus! What are you going to do with all those freshly baked, chewy, delicious cookies?





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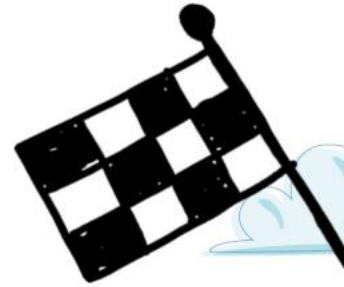
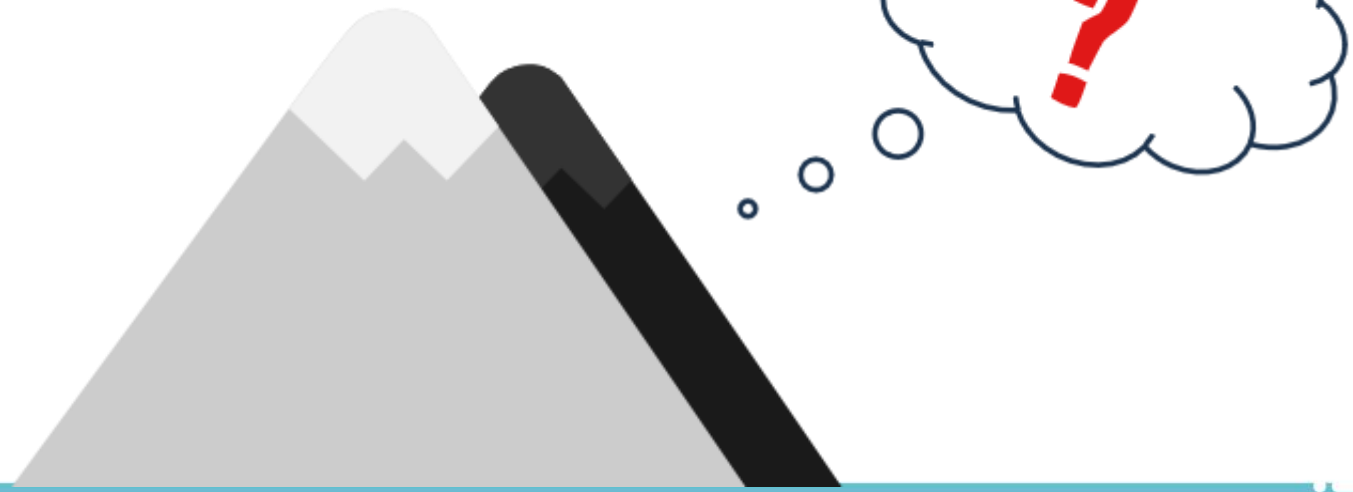
Setting the Stage

If I remember correctly... you live at the top of a hill, right? I might have an idea for you!





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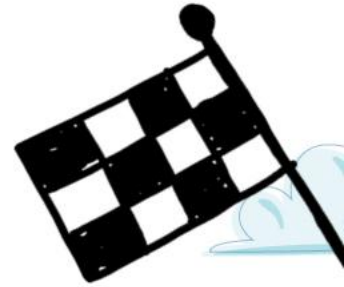
Setting the Stage

How would you feel about building a rolling prototype that will travel downhill and stop right at the door of one of the three main entrances of your school?



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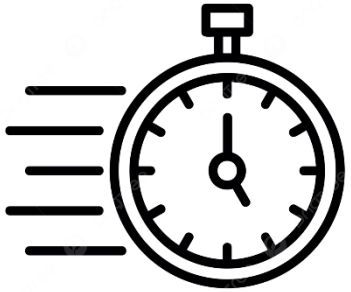
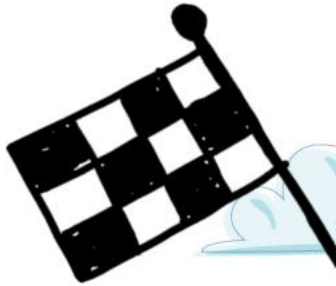
Setting the Stage

Your classmates and your teacher are counting on you to deliver your cookies in time for recess! And I'm counting on you too, because I also might be hungry by then!





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The Challenge

READY, SET, ROLL!

2024-2025 EDITION

To design a prototype of a vehicle that will go down an inclined plane and stop as close to a target as possible.

Summary* of Rules - Construction

2.1 The maximum dimensions of the prototype are 50 cm x 50 cm at all times.

2.2 The chassis of the prototype must be designed using a plastic bottle.

2.3 The wheels and axles must be made only of common, everyday circular objects.

2.5 Only the wheels may touch the ground or the inclined plane.

**WARNING: This presentation mentions only some of the rules. Consult the website for the complete list!*

Summary* of Rules - Competition

3.1 Prototypes and all their components must be inspected before the competition.

3.3 The competition consists of two rounds. The team must reach one target per round:

- Round 1: Target A
- Round 2: Target C

3.5 In each round, teams have 30 seconds to set up their prototype in the starting zone.

3.7 At the starting signal, the team must **release** the prototype. Pushing is prohibited.

**WARNING: This presentation mentions only some of the rules. Consult the website for the complete list!*

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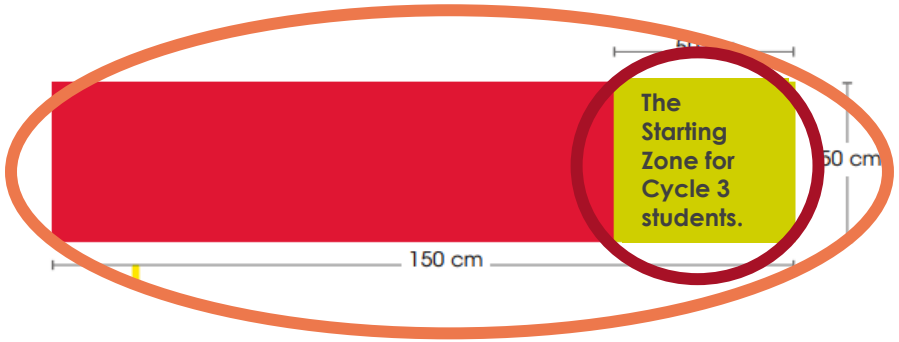
INCLINED PLANE

The inclined plane will be made of a board (150 cm long x 50 cm wide) resting on two cardboard boxes.

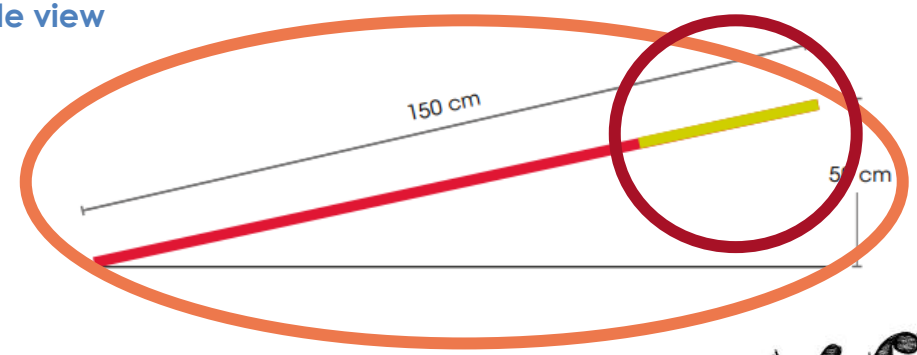
STARTING ZONE

The starting zone will be the highest part of the inclined plane, measuring 50 cm by 50 cm. The team must install their prototype in this area before the start signal is given.

Top view



Side view



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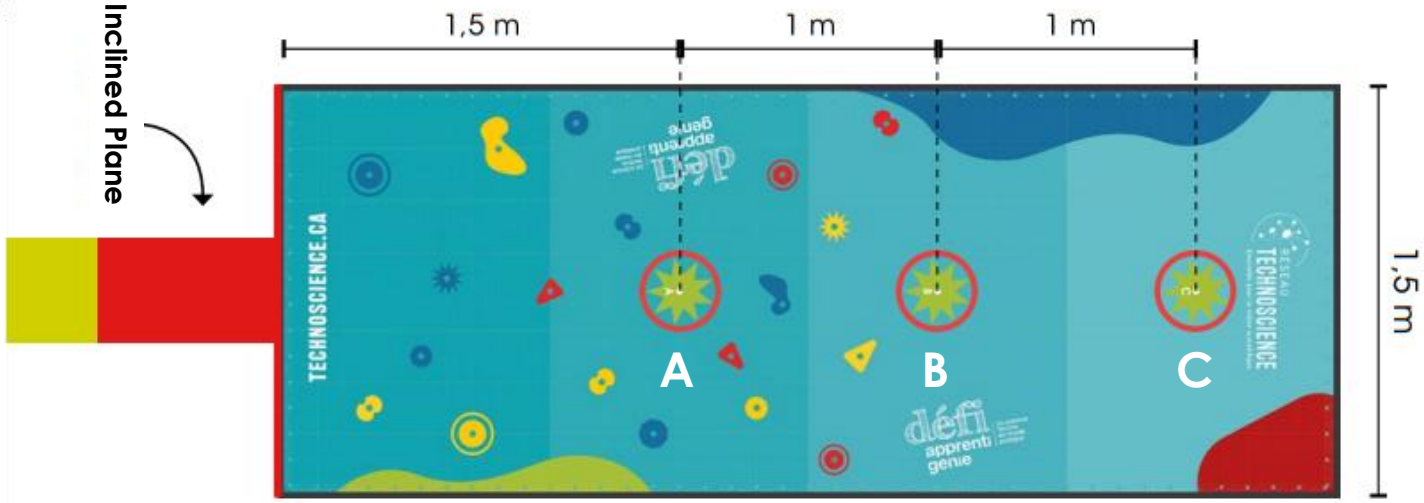
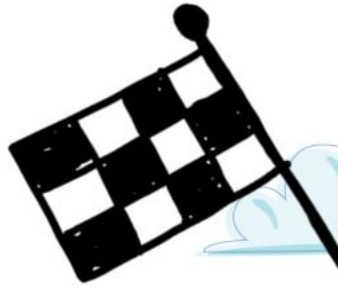
THE TARGETS

The targets will be positioned on the ground. The first target (A) will be 1.5 m from the inclined plane, followed by the other targets (B and C) which will be 1 m apart.



Scoring



Scoring for each round is calculated as follows:

$$100 - d$$

d: distance (in cm) between the center of the target and the ground contact of the wheel closest to the target.

The team with the most points after both rounds will be the winner!

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You now have everything you need to complete the Junior Tech Challenge!

Good luck and…

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La science techno en mode pratique

ENJOY THE CHALLENGE!

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Ensemble pour la relève scientifique