



# TEACHER'S GUIDE



*electrodash*





## DEAR TEACHER,

Hydro-Québec is very proud to present its new educational kit on electrical safety for Elementary Cycle 2 students in the form of two board games, *ElectroDash* and *SafetySprint!*

This kit is designed to be both fun and educational. Students will acquire basic electricity concepts and learn how to stay safe around electricity, all while having a good time!

This kit calls on a wide range of subject-specific and cross-curricular competencies, as well as certain skills associated with broad areas of learning, in keeping with the *Québec Education Program*.

Based on research that shows that the optimal number of players is four, this box contains everything you need for a class of 24 students: 6 game boards, 6 rule sheets, 6 boxes of questions and 6 bags, each containing 1 die and 4 game pieces.

We produced this *Teacher's Guide* for you. Designed to be handy and easy to use, it provides the rules for each game and a glossary of basic electricity terms.

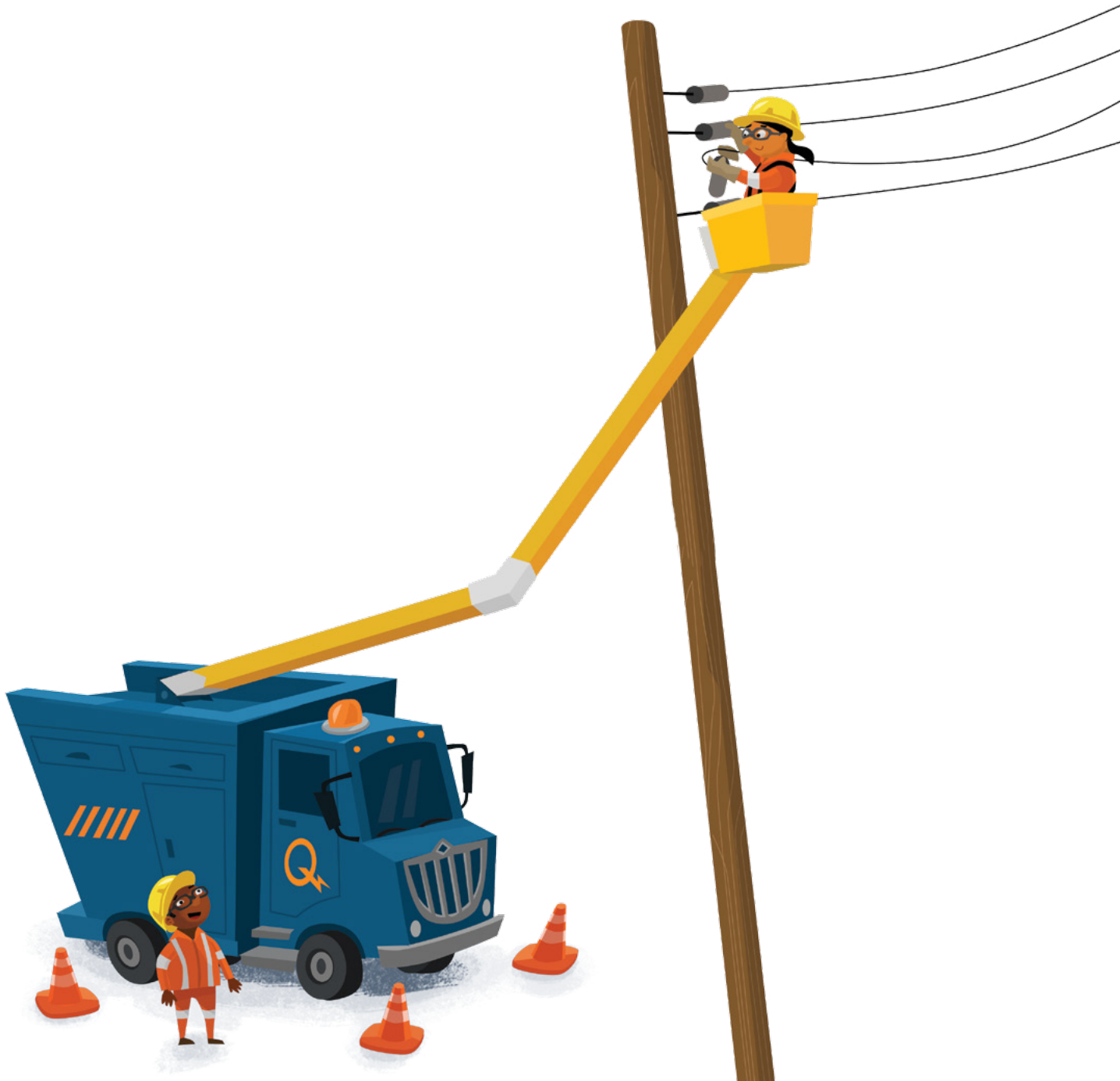
We hope that *ElectroDash* and *SafetySprint* will provide your students with a fun introduction to the fascinating world of electricity.

The Youth Safety Products team



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# ***ELECTRODASH AND SAFETYSPRINT***

## **Teacher's Guide**

### **Objectives**

Fun activities that:

- Teach students about electricity
- Make students more aware of basic electrical safety rules for a range of day-to-day scenarios
- Promote safe practices around electricity

### **Type of activity**

Electrical safety game

### **Duration**

*ElectroDash* – long version: 30 to 45 minutes

*ElectroDash* – short version: 20 to 30 minutes

*SafetySprint*: 15 to 25 minutes

### **Organization**

2 to 4 players

### **Target students**

Elementary Cycle 2 students

### **Material**

- One *Teacher's Guide*
- Six game boards (with games on both sides)
- Six rule sheets
- Six boxes containing Question cards and Did You Know? cards
- Six plastic bags, each containing a die and four game pieces in different colors

### **Object of the game**

*ElectroDash*: Be **the first** to dash to the **Finish square** to light the bulb, overcoming challenges along the way

*SafetySprint*: Be **the first** to sprint to the Finish square at the end of the path

### **Getting ready**

- Place the game pieces on the Start square.
- Place the box of Question and Did You Know? cards next to the game board, within reach of the players.



# ELECTRODASH RULES

## How to play the long version

- Every player rolls the die. The player who rolls the highest number goes first.
- The game works like the classic Snakes and Ladders game, with a few differences. To climb an arm (the ladder) up to the bucket, you must answer a question correctly. To avoid sliding back down a power cord (the snake), you must also answer a question correctly.
- When it's your turn, roll the die and move your piece the number of squares shown on the die.
  - If you land on a **bucket truck, draw a Question card** and ask **the player on your right** to read the question aloud.  
**Right answer:** Climb up to the bucket.  
**Wrong answer:** Remain on the square and continue along the normal path on your next turn.
  - If you land on an **electrical device, draw a Question card** and ask **the player on your right** to read the question aloud.  
**Right answer:** Remain on the square and continue along the normal path on your next turn.  
**Wrong answer:** Slide all the way down the power cord to the electrical outlet.
  - If you land on a **Did You Know? square, draw a Did You Know? card** and read the information aloud. Remain on the square until your next turn.
- Players take turns, proceeding clockwise around the board (the second player is to the left of the first, and so on).
- Two or more players can occupy the same square.

- If you land on:
  - a **low battery**, go back the number of squares indicated. You do not have to answer a question.
  - a **fully charged battery**, advance the number of squares indicated. You do not have to answer a question.
- If you land on a light blue or light green square or a square with an electrical outlet or a bucket, remain on that square until your next turn. You do not have to answer a question.
- To win, players must **reach (or pass) the Finish (100) square**. For example, if you are on square 98, you can win the game if you roll a 2, 3, 4, 5 or 6.

As soon as there is a winner, the players can end the game or continue to play until everyone has made it to the last square on the board.

## How to play the short version

- The game is played the same way, except that there's no sliding down: bucket trucks and power cords **are both ways to move upwards**.
- When you land on a bucket truck or electrical outlet, you must answer a question correctly to climb up to the bucket or to the top of the power cord. If you answer incorrectly, remain on the square and continue along the normal path on your next turn.
- In this version of the game, when you land on an electrical device, you do not have to answer a question correctly to avoid sliding down the power cord.

This approach, which doesn't involve sliding down cords and losing ground, takes less time than the other version.

# SAFETYSPRINT RULES

## How to play

- Every player rolls the die. The player who rolls the highest number goes first.
- When it's your turn, roll the die and move your game piece the number of squares shown on the die.
  - If you land on a Way to Go! square, advance the number of squares indicated (e.g., + 5).
  - If you land on a Way to Go! square that reads "Skip ahead to the next Question square," you must answer the question shown on the card that the player on your right draws from the question box.

**Right answer:** Cross the bridge and stop on the square with an arrow. The arrow shows what direction to take on your next turn.

**Wrong answer:** Remain on the Question square and continue along the normal path on your next turn.
  - If you land on a Question square, you must answer the question shown on the card that the player to your right draws from the question box.

**Right answer:** Cross the bridge and stop on the square with an arrow. The arrow shows what direction to take on your next turn.

**Wrong answer:** Remain on the Question square and continue along the normal path on your next turn, following the colored squares.
  - If you do not land on a Question square, do not take the bridge shortcut. Continue along the normal path, following the colored squares.
  - If you land on a Way to Go! square that describes a safe practice, advance the number of squares indicated (for example, + 3). However, if you land on a Danger! square that describes a risky behavior, move back the number of squares indicated (for example, - 2).
  - If you land on a Danger! Lose a Turn square, you lose your turn.
- Two or more players can occupy the same square.

The first player to reach or pass the last square on the path wins the game!

# LINKS WITH THE QUÉBEC EDUCATION PROGRAM

SUBJECT-SPECIFIC COMPETENCIES	PROGRESSION OF LEARNING
<p><b>English</b> Read a variety of texts</p>	<p>Rules of the game</p> <p>Construct meaning using the student’s knowledge and experience (related to the safe use of electricity in various situations)</p>
<p>Write a variety of texts</p>	<p>Learn how to spell electricity-related words (e.g., switch, pole and electricity)</p> <p>Spell words, complete sentences with blanks, look for words in the same family, etc.</p>
<p><b>Science and technology</b> Material world (energy)</p>	<p>Describe situations where humans use electricity (e.g., heating, preparing meals, recreation and personal hygiene)</p> <p>Recognize sources of energy in the surrounding environment (e.g., electricity, rechargeable batteries and lightning)</p>





BROAD AREA OF LEARNING	PROGRESSION OF LEARNING
<p><b>Health and well-being</b></p> <p>Get students to take a thoughtful approach to developing safe habits in regard to electrical safety</p>	<p>Become aware of the consequences of the student's personal choices regarding health and well-being with a view to adopting safe practices (at home, at school, in public places, in recreational activities, etc.)</p>

CROSS-CURRICULAR COMPETENCIES	PROGRESSION OF LEARNING
<p><b>Intellectual</b></p>	<p>Use information regarding electrical safety</p> <p>Exercise his/her critical judgment in situations that can pose a danger when using electricity</p>
<p><b>Communication-related</b></p>	<p>Communicate appropriately (e.g., specialized electrical vocabulary and pictograms)</p>
<p><b>Personal and social</b></p>	<p>Cooperate</p>



# GLOSSARY

## **BATTERY CHARGER**

A device used to charge a battery

## **CLOUD-TO-GROUND DISCHARGE (THUNDERBOLT)**

An electrical discharge occurring during a storm that is accompanied by a sudden release of light (lightning) and a violent rumbling or crashing noise (thunder)

## **CONDUCTOR**

A material able to carry electric current

## **DISTRIBUTION SUBSTATION**

A facility that houses the equipment needed to transform high-voltage electricity to medium-voltage electricity before it is supplied to consumers

## **ELECTRIC DISCHARGE**

The sudden release of an electric charge

## **ELECTRIC SHOCK**

The effect created by an electric current passing through the human body

## **ELECTRIC CURRENT**

The movement of an electric charge from one point to another in a conductor

## **ELECTRICAL INJURY**

A potentially serious injury caused by an electric shock

## **ELECTRICAL INSULATION**

A material like porcelain or rubber that prevents the flow of electric current

## **ELECTRICAL OUTLET**

A receptacle for the pins of an electric plug that is permanently connected to the power system

## **ELECTRICAL STORM**

A series of violent electrical discharges accompanied by lightning, thunder, high winds and rain or hail

## **ELECTRICITY**

A particularly flexible form of energy able to provide heat, light and motive power with great efficiency

## **ELECTROCUTION**

Death resulting from a serious electric shock

## **FLOODED**

Covered by water

## **GENERATING UNIT**

A structure consisting of a generator powered by a turbine that rotates at high speeds to generate electricity

## **INSULATING SHEATH**

A flexible, non-metallic tube that contains wires or cables and serves as both a support and a protective envelope

## **LIGHTNING**

A luminous phenomenon that accompanies a sudden electric discharge in the atmosphere. The discharge may be projected from a cloud or occur within a cloud, or occur between a cloud and the ground.

## **LIGHTNING ROD**

A device that protects a structure against atmospheric discharges and generally consists of rods and ground electrodes, along with conductors connecting them

## **MATERIAL**

A natural or artificial substance used to manufacture machines, devices or objects

## **METAL**

A flexible and reflective material that is generally a good conductor of electricity

## **OUTLET COVER**

A plate inserted into an electrical outlet to prevent children from inserting objects into the outlet and to protect them from electric shocks

## **PLUG**

A component that is usually fixed to one end of a flexible power cord and which consists of metal pins that are inserted into an electrical outlet

## **POWER BAR WITH BUILT-IN SURGE SUPPRESSOR**

A device equipped with several electrical sockets and a protection system that prevents electrical overloads

**POWER CORD**

A flexible and insulated cable that supplies electricity to an electrical device to which it is connected at one end, with a plug at the other

**POWER LINE**

An assemblage of conductors, insulators, supports and other equipment used to transport or distribute electricity

**RENEWABLE ENERGY**

A form of energy that regenerates naturally

**SURGE SUPPRESSOR**

A device that protects against electrical overloads

**SWITCH**

A button on an electrical device that makes or breaks a connection in an electrical circuit, thereby turning the device on or off

**TOWER**

A supporting structure for power transmission lines, made of metal or reinforced concrete





**Hydro-Québec**

Coordinated by Communication avec la clientèle  
for Vice-présidence – Réseau de distribution

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June 2017

