

hydro
one

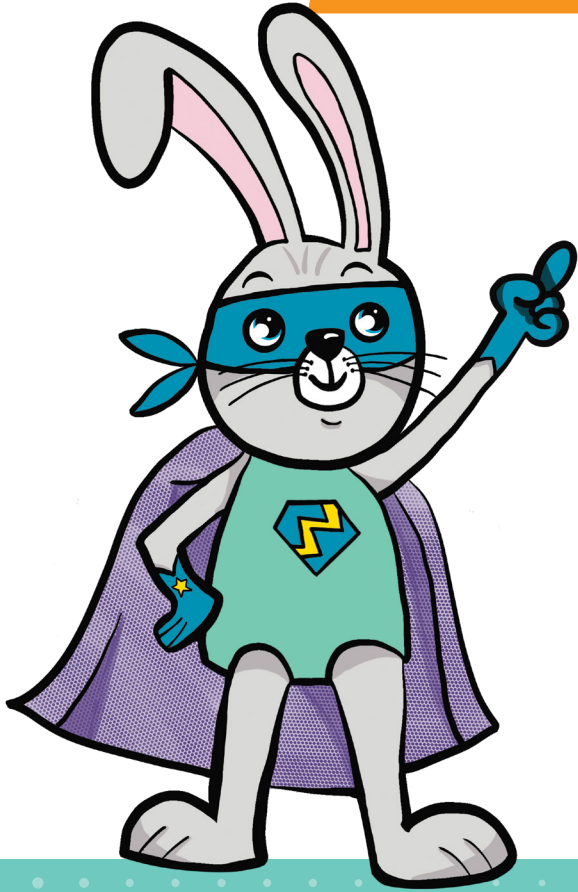
MIND THE LINES



*Electrical
safety with
Flash the
Rabbit*



What is electricity?



Electricity is an energy that can be found everywhere, which means we have to stay safe around it.

Electricity powers items like lights, your fridge, and television.

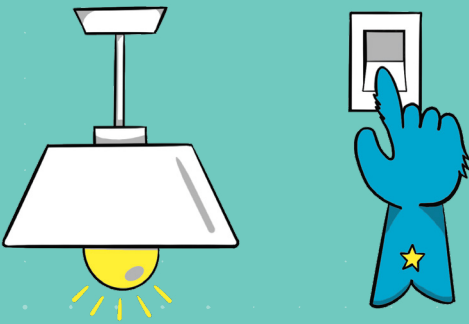
Electricity is transported to our homes and schools through **power lines**. It can also be stored in **batteries**.

What is the most common way you can tell something uses electricity?



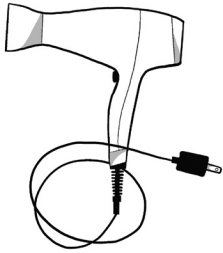
Write your answer here

Switches power lights and appliances using electricity that travels through wires behind the wall.



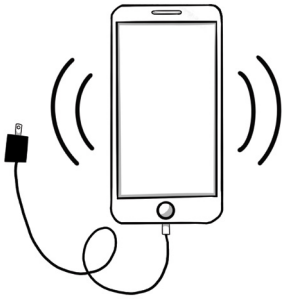
Always ask an adult for help to plug or unplug devices, so you do not get an electric shock.

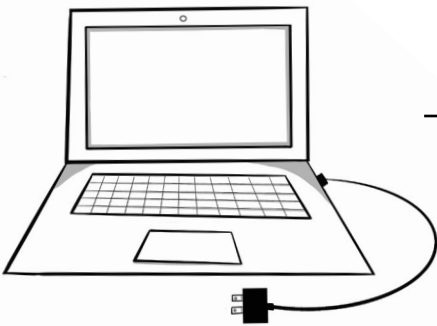
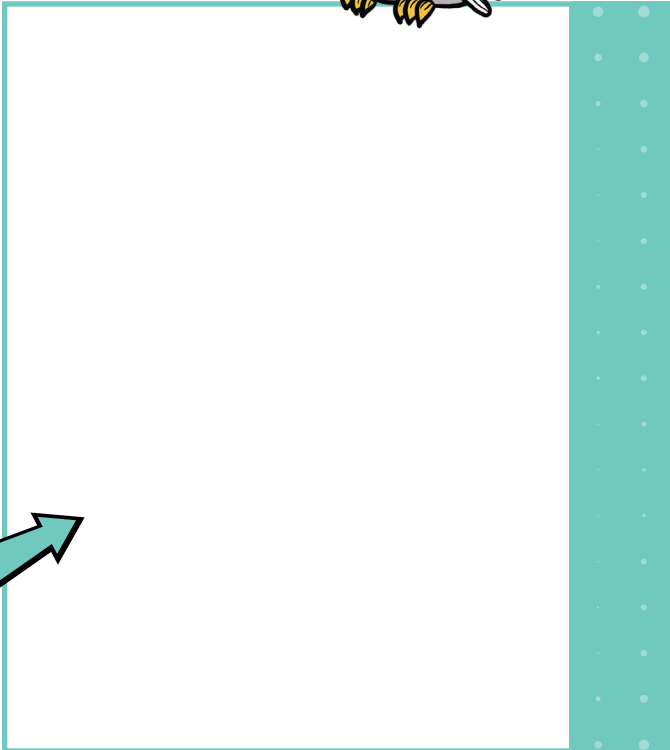
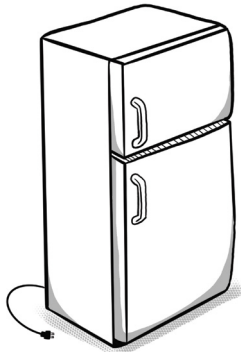
Power up





What are these objects? Write the names under the pictures.





These objects all have a **cord and plug**. They need **electricity** to work.

Draw a picture of something else in your home that uses electricity.

Where does electricity come from?



Electricity can be found in nature and it can be created using water, wind, sun, natural gas and nuclear energy.

Electricity travels through wires called **power lines**. They can be found underground or above ground on poles.



Connect the dots to follow the power line from generation to home.

READY, SET, GO!



The power line goes into your home and electricity travels through wires inside the walls to the **outlets** and **switches** all over your house.





Electricity is made in places called **generating stations**.

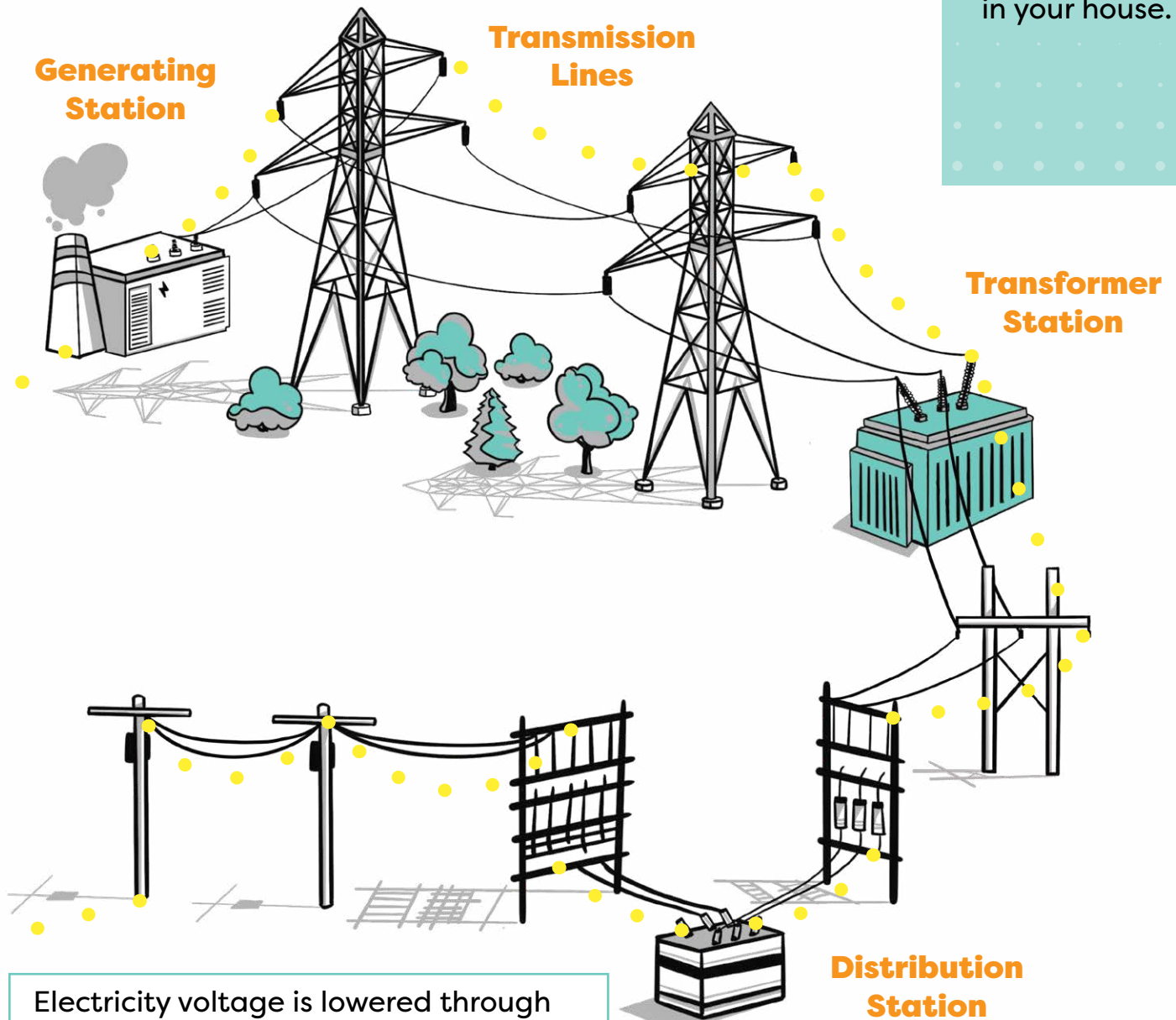
Electricity travels along transmission power lines to transformer stations.

Transmission power lines are big power lines and can carry more electricity.

At the **transformer station**, the electricity is raised to travel along transmission power lines to a distribution station.

Electricity is measured in **volts**.

Transformers are used to make those volts higher to transport them, and lower to power things in your house.



Electricity voltage is lowered through a transformer at a **distribution station** so it can safely travel to your house.

Distribution Station

Play it safe outside

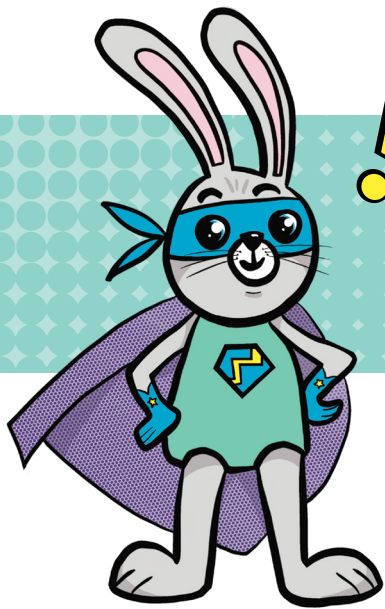


Some power lines are underground and you have to be very careful when you dig holes for a garden, tree or fence.

You need to know where the power lines are before you dig.

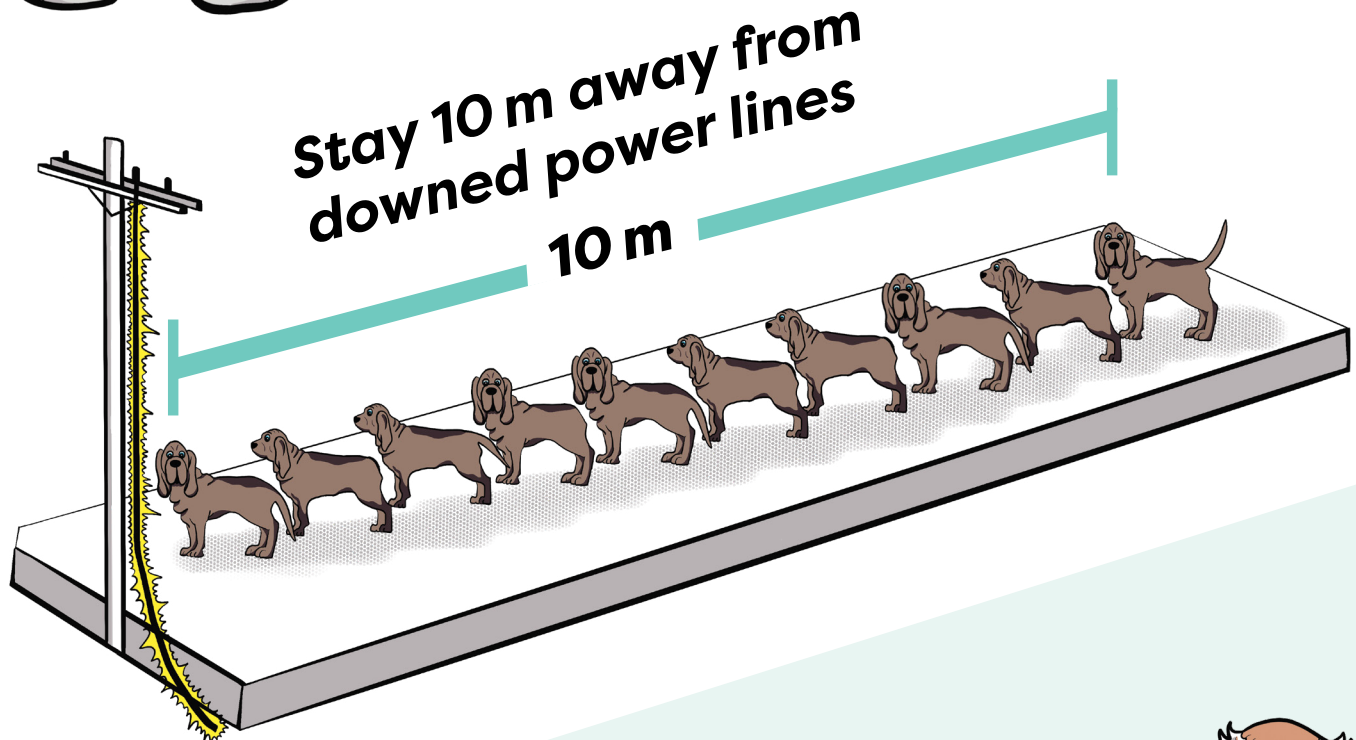
Click before you dig

FOR ADULTS
An adult has to contact OntarioOneCall.ca before digging.

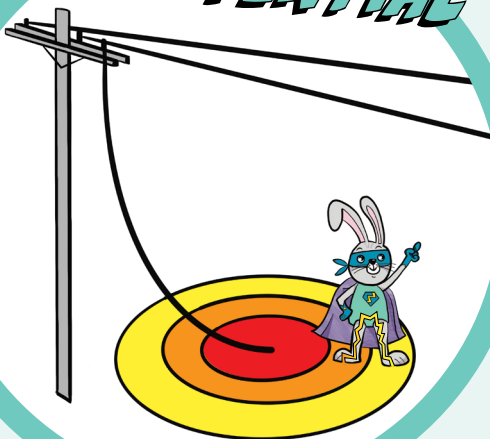


Stay 10 metres away from broken or fallen power lines – 10 metres is about 10 big dogs long.

Sometimes when there is a big storm or accident, power lines fall down. When this happens, the ground around the lines might be electrified and that is dangerous.



STEP POTENTIAL



Step potential is the ability electricity has to move through your body as you step away from the source. As electrical current flows through the ground, the voltage decreases in rings as you move away.

Keep your legs together and shuffle your feet to keep the electricity in the ground. 10 metres is the safe distance.

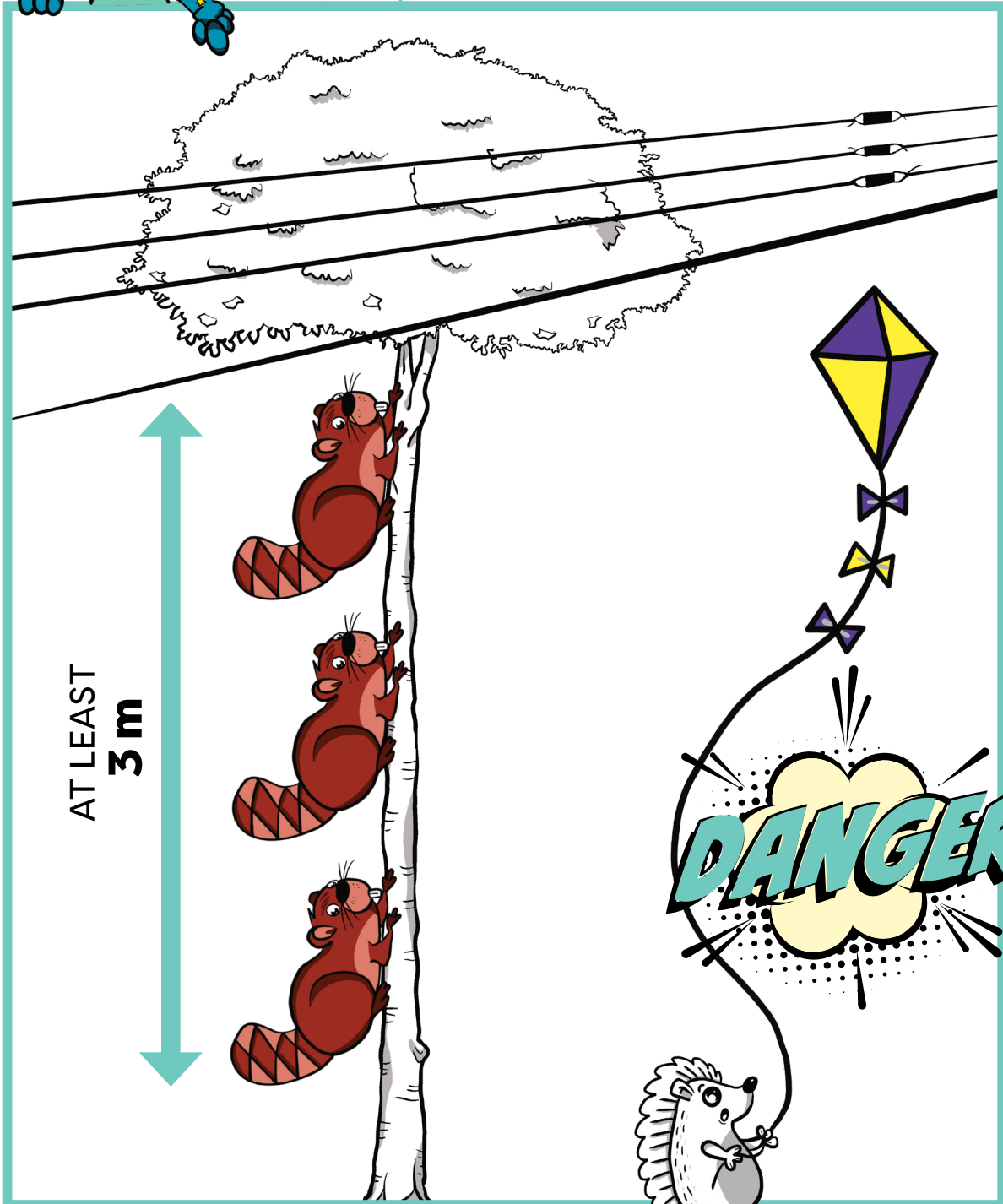


FOR ADULTS

A broken or fallen power line is an emergency. Call 911.

Stay 3 to 6 metres away (that's 3 beavers) from overhead wires.

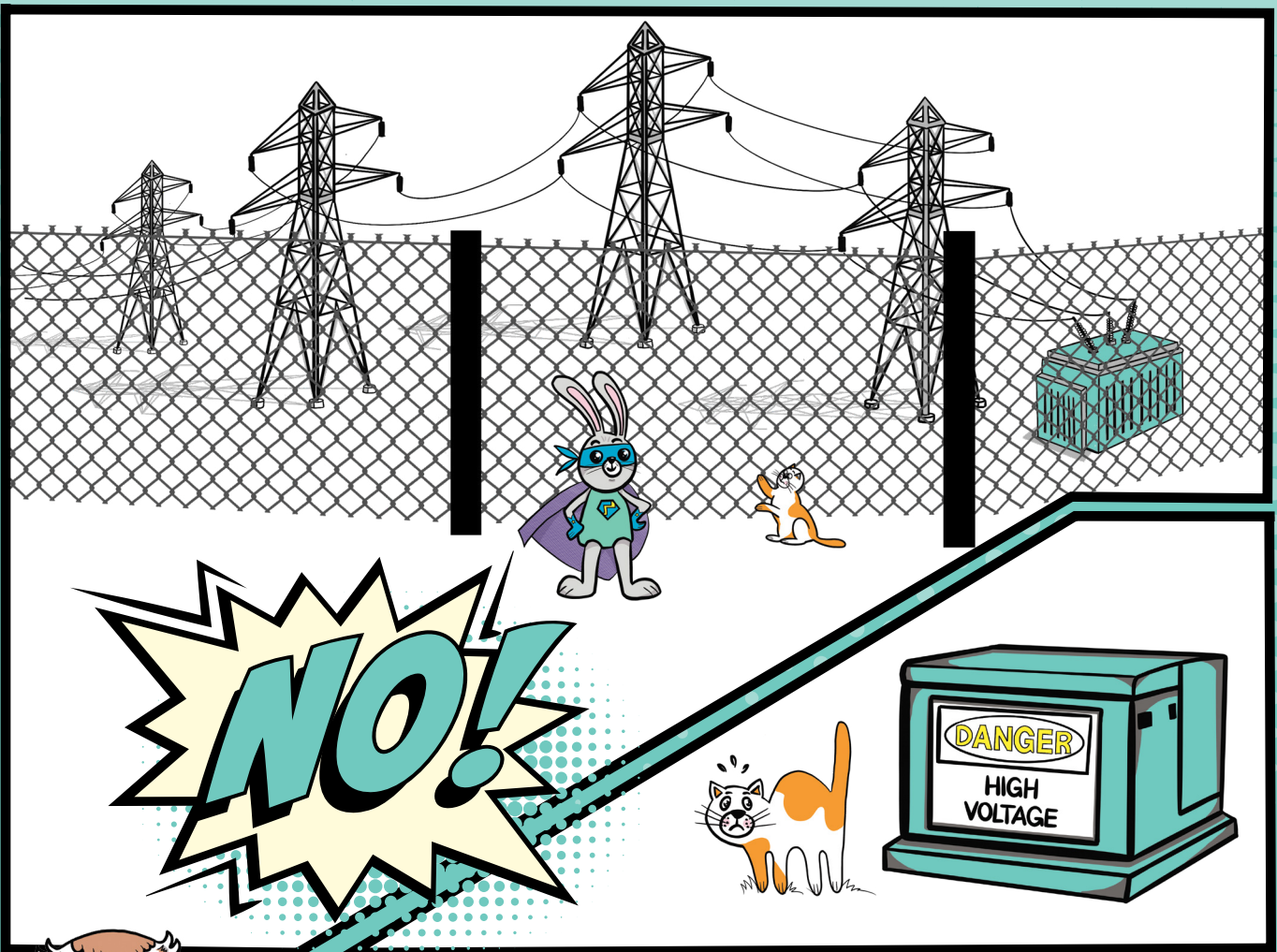
Only play with kites, balls, drones and balloons in open spaces. Stay far away from power lines.





**Keep your
paws away
from electrical
equipment.**

Do not open the metal transformer boxes you see in your neighbourhood. Do not sit on them either!



Never climb fences near electrical equipment. If a ball or something else goes inside the fenced area, do not attempt to get it. Ask an adult to call 1-800-434-1235 for help.

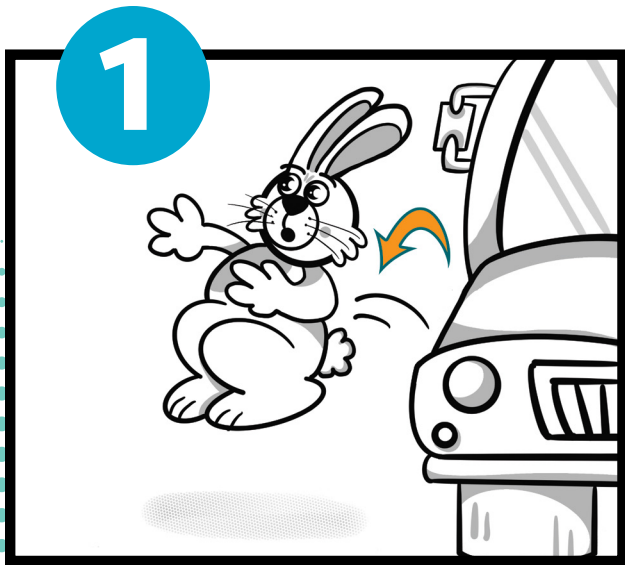


Fallen power line? Stay in your vehicle unless there is a fire.

If a power line falls on top of your car or school bus, stay inside the vehicle and call 911 for help.

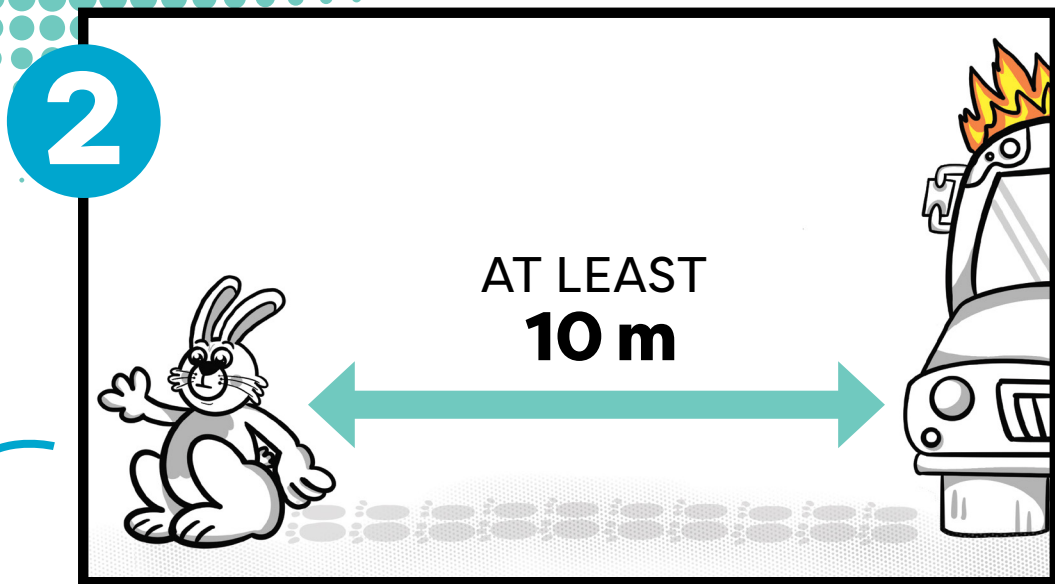
If a fire starts, you must leave the vehicle quickly and safely. Do not touch the vehicle and the ground at the same time.





Do the **bunny hop** – jump to the ground with both feet together and without touching the vehicle.

Can you do the bunny hop?
Practice now.

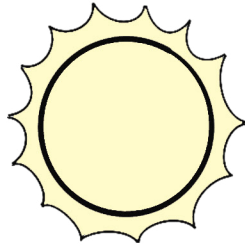


Once you are on the ground, move at least 10 metres away by doing the **shuffle** – keep both feet close together on the ground and drag your feet to safety.

Can you do the shuffle?
Practice now.

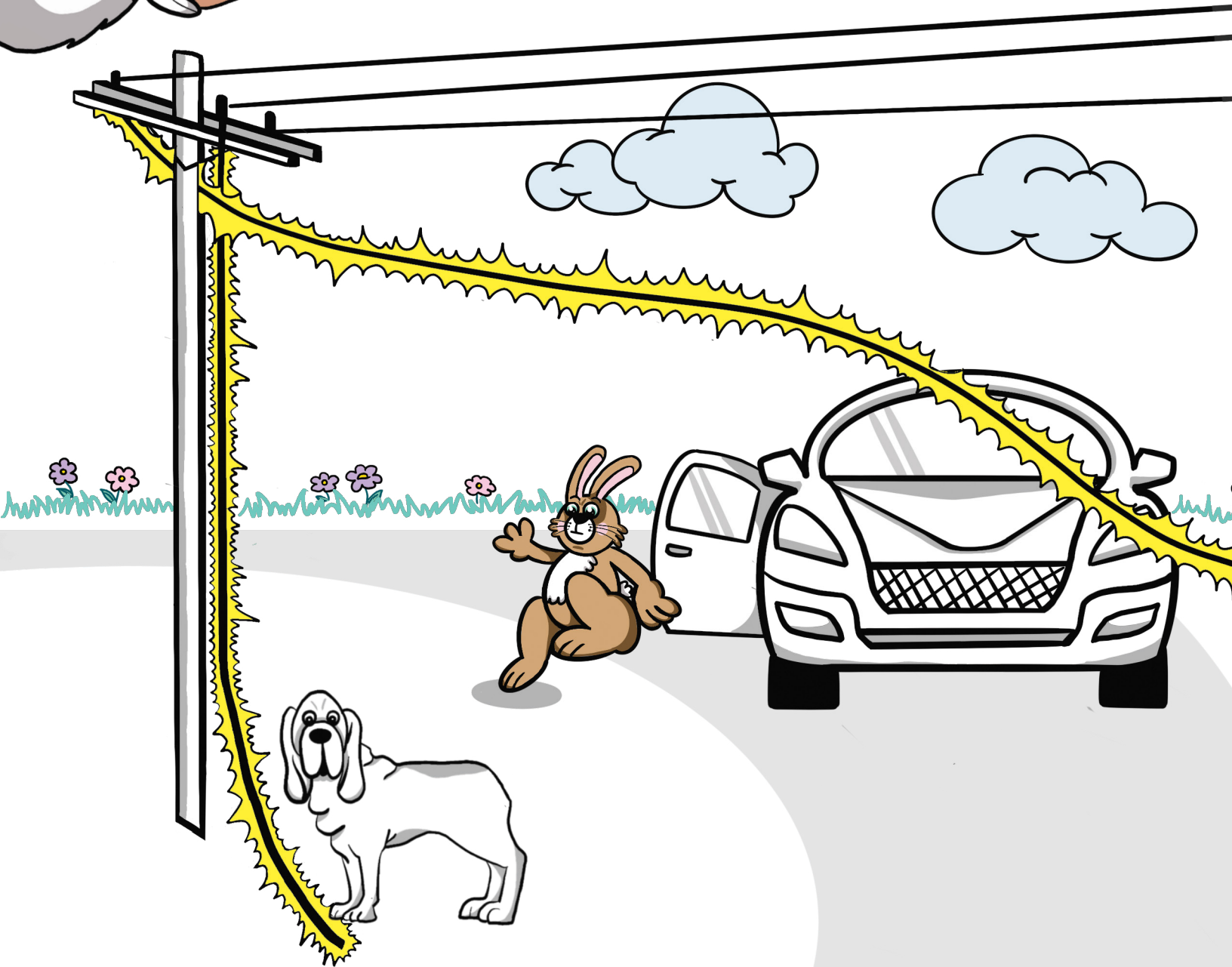
Once you are safe, call 911.





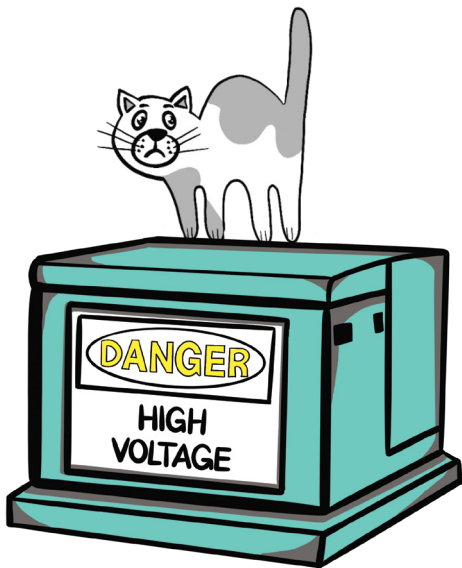
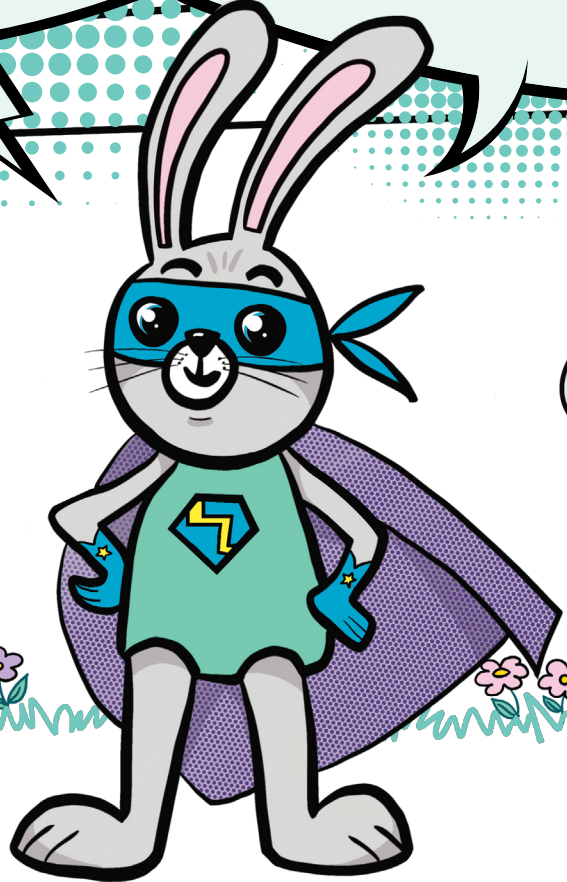
Safety check outside

Can you find all the dangers in the picture?
Circle them all.

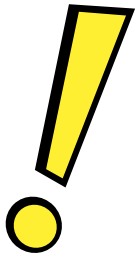


Do you know
what to do
if you see a
hazard?
Speak up!

Warn your friends
to stay away and tell
an adult that you see
a problem.



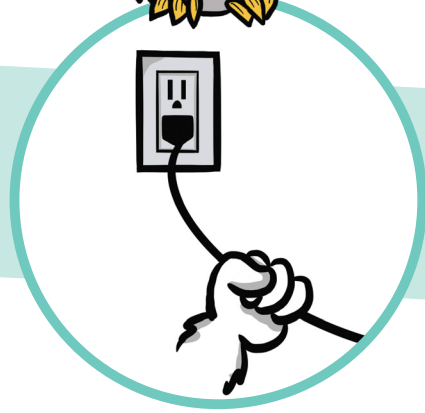
Play it safe at home



Electricity makes our lives better by powering the things we need, but electricity can be very dangerous and can hurt you...or worse. It can cause serious injuries and fires.



Never put unintended objects, like forks, in an electrical outlet.

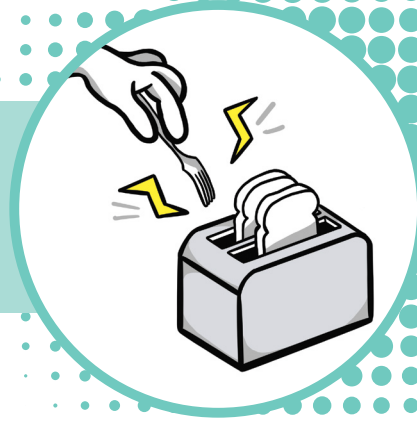


Never pull a plug out by its cord. It can damage the cord and the plug.



Never use anything electrical near water.

Never put anything metal in the toaster.

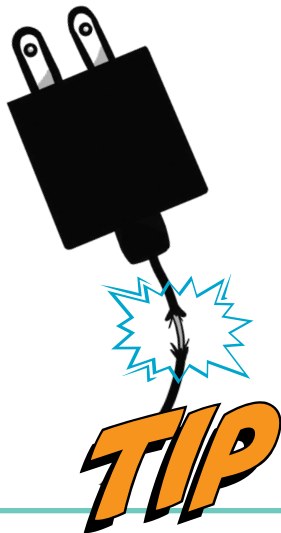


Never leave electrical cords out where you can trip over them or where pets can chew them.

You should always ask an adult for help with anything electrical. Do you know why?

Write your answer here





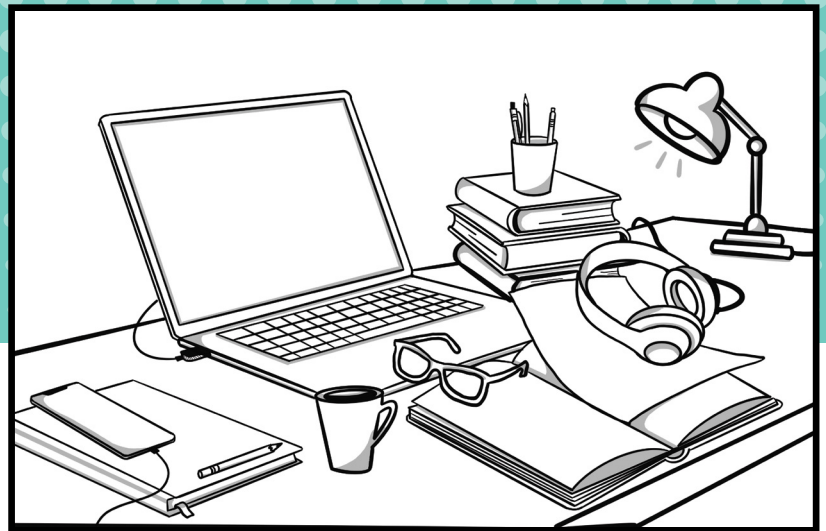
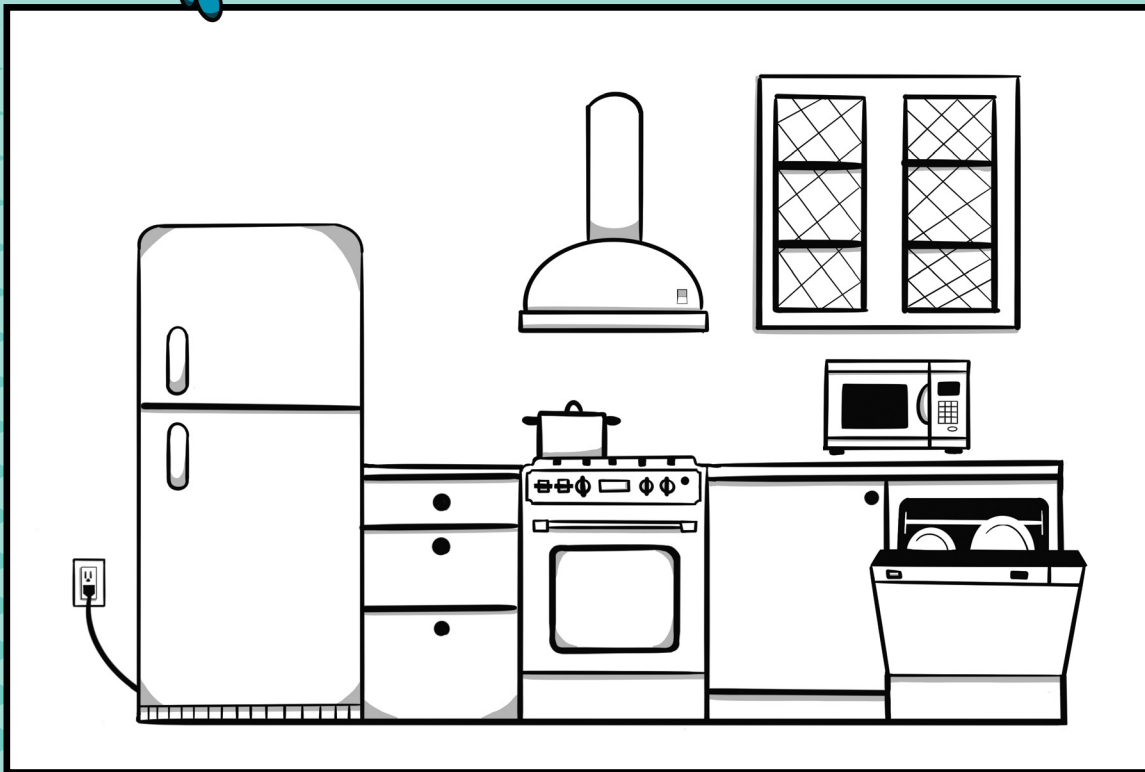
Tell an adult right away if you see a broken electrical cord at home. Do not touch it! It can give you a shock and hurt you.



What uses electricity at home?

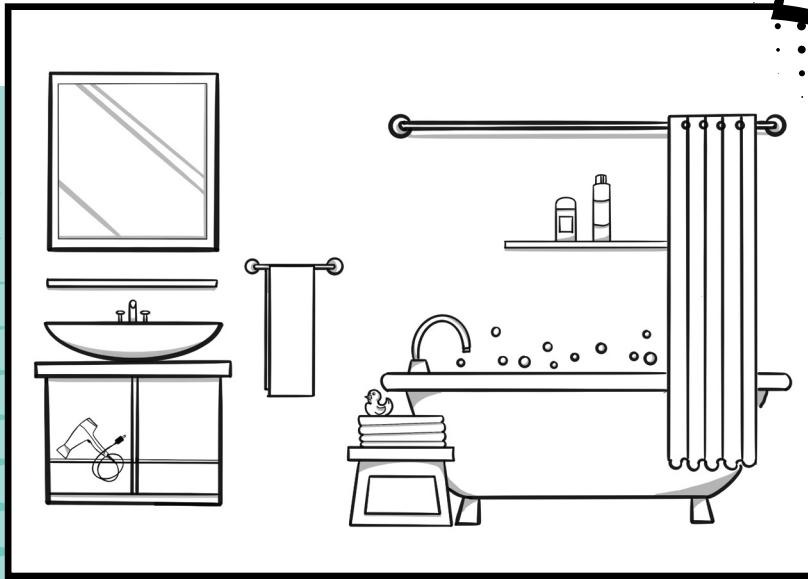


Colour the objects that use electricity in your home.

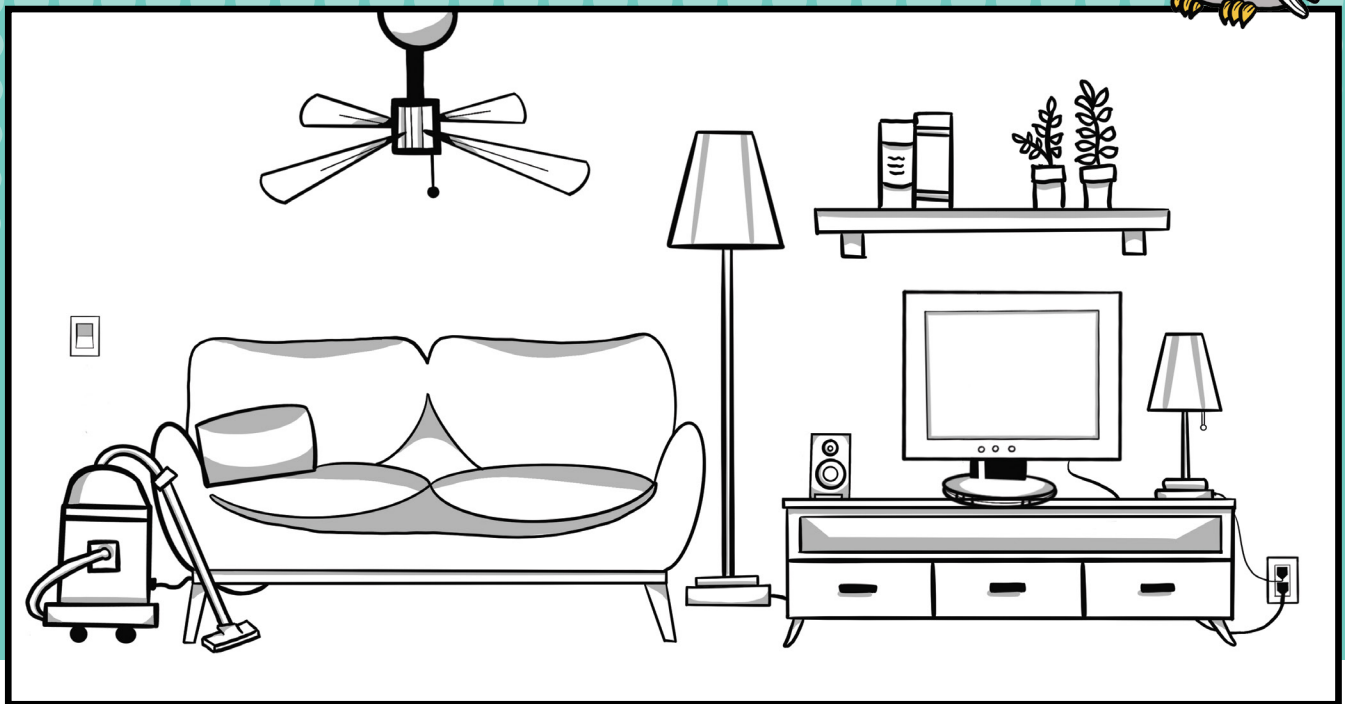




**How many objects
did you colour that
use electricity?**



Good Job!

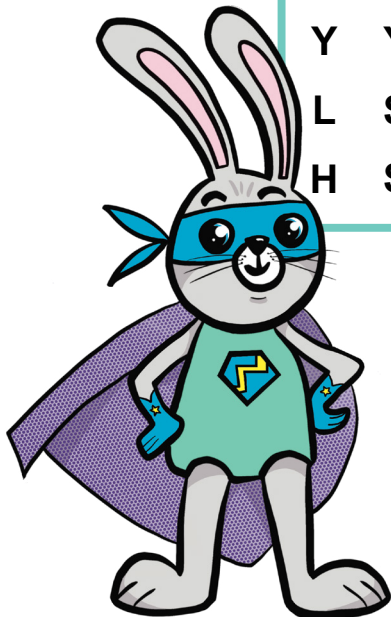


Learning checkup

Try these activities to find out what you have learned.

Find the words and circle them.

S	T	D	C	D	G	B	I	Z	I	N	O	Z	A	D
H	R	B	B	R	Q	U	B	O	E	T	Y	A	K	N
U	A	I	C	Q	V	L	Y	T	R	T	R	H	H	M
F	N	D	O	G	N	N	U	E	I	Y	S	F	V	D
F	S	E	R	L	N	B	W	C	G	L	A	S	T	J
L	F	R	D	U	I	O	I	R	G	F	F	W	V	I
E	O	X	B	R	P	R	E	D	E	S	E	I	O	U
E	R	B	T	O	T	N	W	A	C	B	T	T	L	G
T	M	S	H	C	E	W	N	N	H	G	Y	C	T	E
O	I	P	E	Q	O	M	Z	G	A	P	C	H	S	N
D	U	L	A	B	A	T	T	E	R	I	E	S	Q	E
S	E	T	Z	W	P	S	F	R	G	M	B	H	I	R
Y	Y	Z	L	W	G	Z	X	O	E	Q	W	M	L	A
L	S	B	M	E	I	D	B	U	R	P	L	U	G	T
H	S	O	A	M	T	B	R	S	W	O	P	N	B	E



BATTERIES
CORD
ELECTRICITY
HOP
POWER
SWITCH

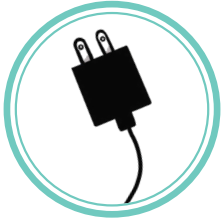
BUNNY
DANGEROUS
ENERGY
OUTLET
SAFETY
TRANSFORM

CHARGE
DISTRIBUTE
GENERATE
PLUG
SHUFFLE
VOLTS



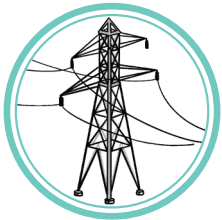
Cord and plug

Electrical outlet

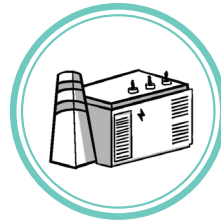
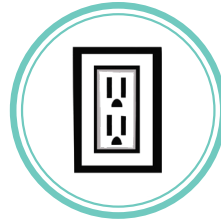


Bunny hop

Transmission lines



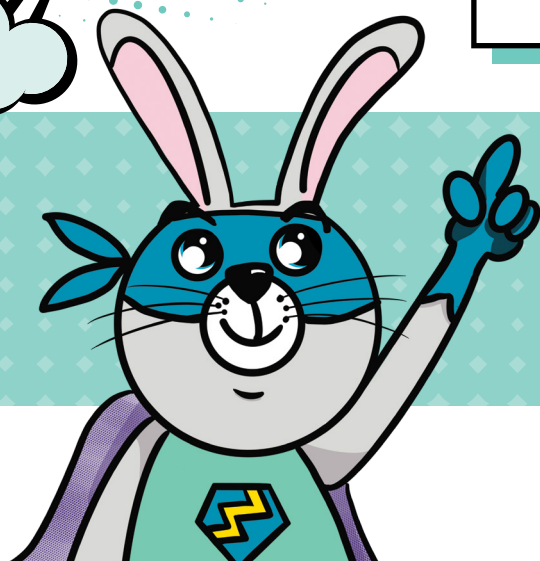
Generating station



Draw a line to match the words with the pictures.

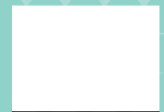


Draw your favourite object that uses electricity.

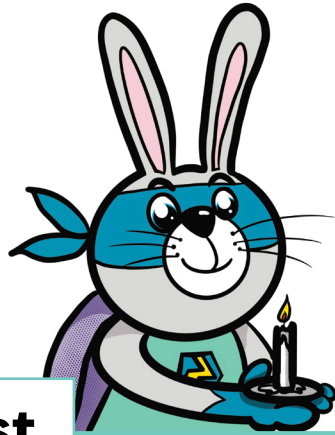


Homework!

How many light switches can you see in your home? **Count them.**



The past, present and the future



The past



Did you know...

Electric lights first came to Ontario in 1883. Before that, people used gas lamps and candles.

1883

2000 In 2000, Ontario Hydro changed their name to Hydro One.

Everyone who works at Hydro One helps to keep the electricity working in Ontario.

The present

Now, Hydro One brings electricity to about 90% of Ontario.

More and more people are driving electric vehicles. Companies that provide electricity are building more structures and systems to supply the growing needs.





In 1906, work began to bring electricity everywhere in Ontario. It took a long time because Ontario is so big – until the 1970s.

1906

Did you know...

It was 1927 before anyone in Ontario had a refrigerator. Before that, people used ice boxes to keep things cool.

The ice was cut from the lakes and rivers in the winter and delivered to homes.

1927



The future

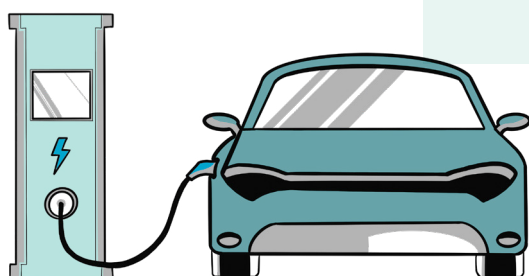
The future in Ontario means discovering new ways to help protect the environment and prepare for climate change.

You will continue to see more electric vehicles and greener ways to produce electricity.



What about you? What job would you do if you worked at Hydro One?

You could bring and restore power to Ontario homes or design electrical systems. How about maintaining tree growth to prevent power outages? There are many meaningful and rewarding career choices at Hydro One!



Safety at work



Hydro One workers stay safe at work by wearing special **safety gear**.

Do you know what these things are and why we wear them to stay safe?

Talk about them in your class and with your friends and family.



hard hat



safety glasses



high visibility vest



arc flash/flare resistant clothing



work gloves



safety boots



Glossary

Electricity is an energy that can be found everywhere. Electricity powers items like lights, your fridge, and television.

Power lines transport electricity to our home and schools. They can be underground or above ground.

A **cord and plug** can make objects work that need electricity when connected to an electrical outlet.

Electrical outlets connect electrical lines to wires to give power to your home.

Switches connect to wires inside walls to power lights and appliances.

A **generating station** is where electricity is made.

Transmission power lines are big power lines and can carry more electricity.

A **transformer station** raises electricity to transport it to a distribution station.

A **distribution station** lowers the voltage of electricity so that it can safely travel to your house and school.

Volts is how electricity is measured.

Step potential is the ability electricity has to move through your body as you step away from the source.

Bunny hop is jumping from a vehicle to the ground with both feet together and without touching the vehicle.

Shuffle is keeping both feet close together on the ground and dragging your feet to safety until you are at least 10 metres away.

Safety gear is clothing and objects that safety workers wear to stay safe at work.

Review time!



All the answers



Page 2

- It has a cord and a plug. There is a switch or outlet on the wall. It has wires.

Page 3

- Refrigerator
- Cell phone
- Hair dryer
- Computer
- Lamp

Pages 12 and 13

- 1) The rabbit must stay in the vehicle and call 911. Look at page 10.
- 2) If the rabbit must leave the vehicle, the rabbit must NOT touch the vehicle and ground at the same time. Look at page 11.
- 3) The dog is TOO CLOSE to the broken power line. Look at page 7.
- 4) The porcupine must NOT fly a kite so close to power lines. Look at page 8.
- 5) The cat must NOT be on the metal transformer box. Look at page 9.
- 6) The gopher must NOT dig without knowing where the power lines are. Look at page 6.

Page 15

- Electricity is dangerous and can hurt you if you do not follow the rules.

Pages 16 and 17

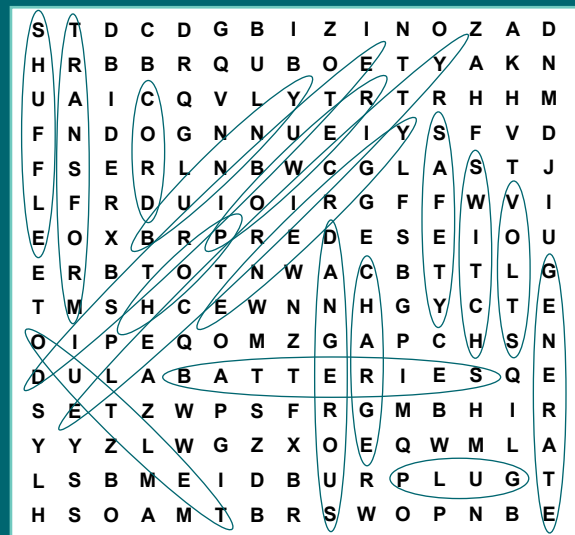
- Kitchen: refrigerator, stove, fan, microwave, dishwasher, outlet (on the wall)
- Office: computer, cell phone, lamp, headphones

- Bathroom: hairdryer

- Living room: outlet (on the wall), vacuum, fan, lamps (2), TV, switch (on the wall), stereo

- Total: 19

Page 18



Page 19

