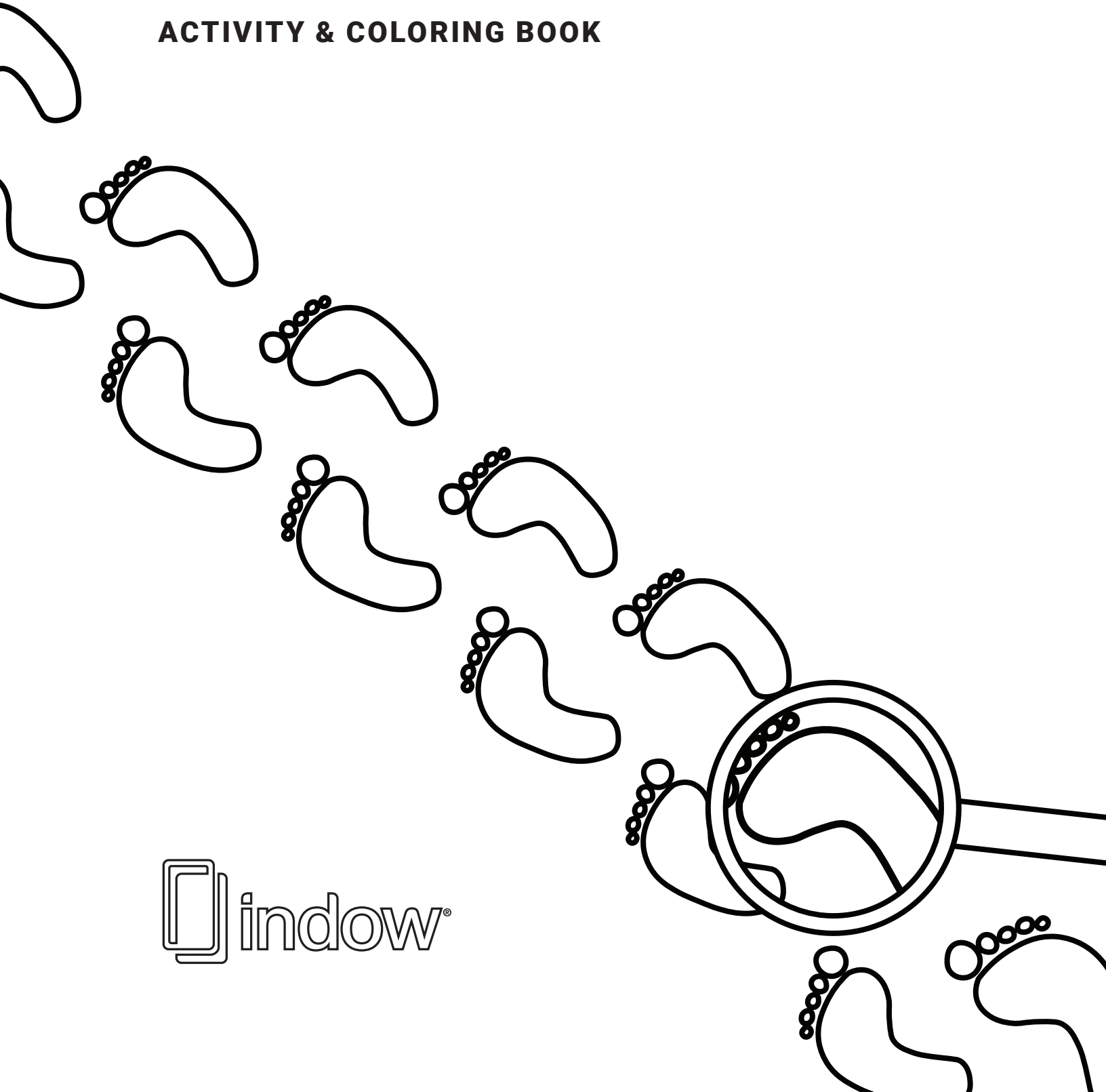


# The Junior Energy Investigator

ACTIVITY & COLORING BOOK

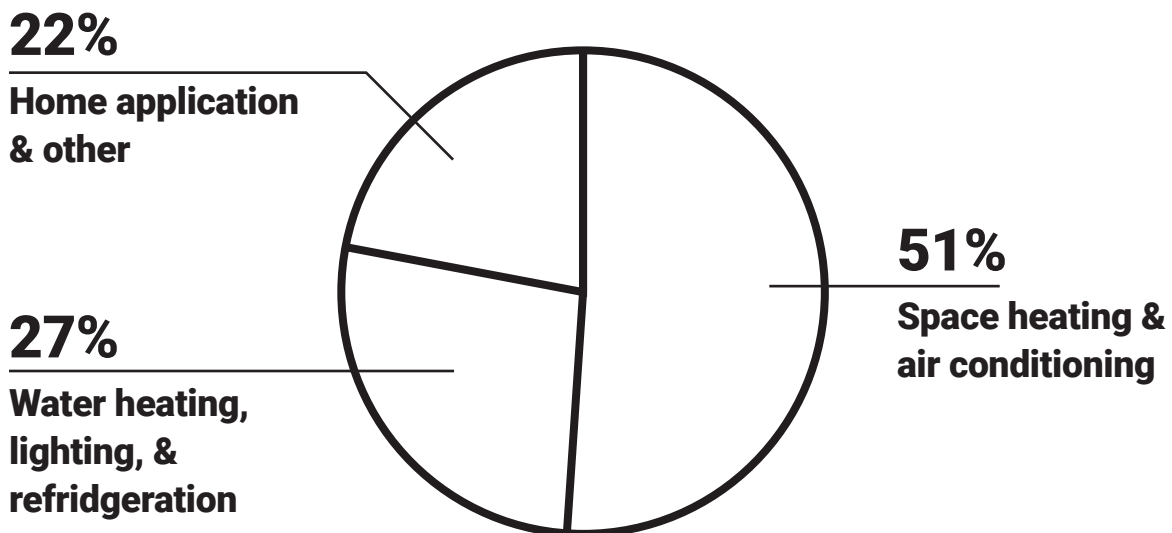


# Message to Parents

Hello parents! Thank you for printing out this activity book for your Junior Energy Investigator! With this book, they will learn more about energy efficiency and conservation while finding ways to reduce home energy bills and climate change.

We will be focusing on these energy consumption devices...

## ENERGY CONSUMPTION IN A U.S. HOME



You might be asked to help your Junior Energy Investigator solve some mysteries. There are questions that will spark important conversations about your home.

After their investigation, look at their checklist map and answers to see how your home can be improved. Visit our website for more on how to solve energy inefficiencies and more activities for your Junior Energy Investigator.

# The Mission

Hello Junior Energy Investigator! We have a mystery that only you can solve. The Energy in your home is getting tired from being used all the time. We are helping Heating & Cooling, Water, and Electricity. If these Energy are too tired, this can make bigger problems in your home and Earth.

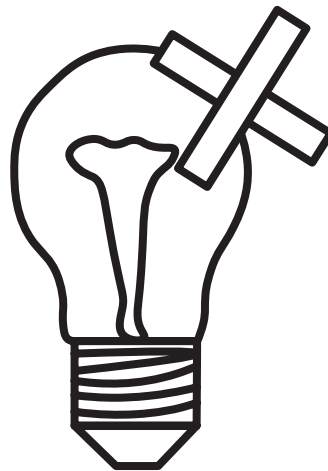
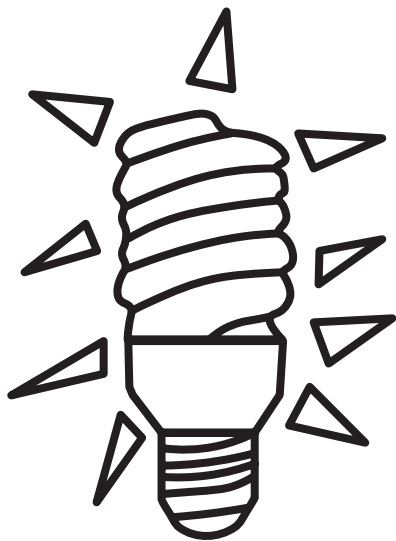
We need you to check on the Energy at home and save them!

## Why is Energy Important?

We need Energy to live in our home comfortably. We use Energy to take baths, cook yummy food, and watch our favorite TV shows.

But if we use Energy too much, they get tired. When the Energy get tired, they eat and burp out Carbon Dioxide.

Carbon Dioxide is bad for the Earth because it makes it too hot.



# The Evil Carbon Footprint

There are three main kinds of Energy; Heating & Cooling, Water, and Electricity.  
When we use too much, they will eat and burp carbon dioxide.

Carbon Footprint is how much Carbon Dioxide it takes to keep something going.  
Like a person or a house!

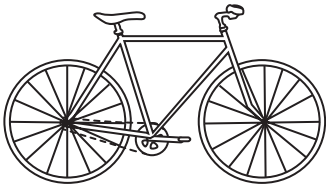
Complete your mission: Your house has a Carbon Footprint. Keep track of how  
big it is through this booklet and find ways to make it smaller.

**Color to a line when instructed!** The more colored in, the bigger carbon footprint you have.

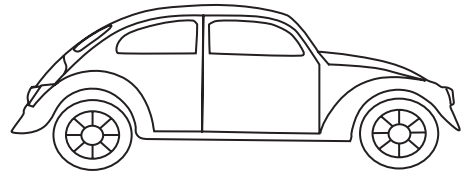


# Activity

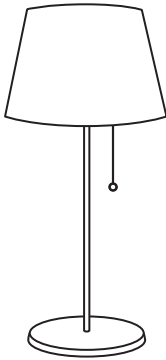
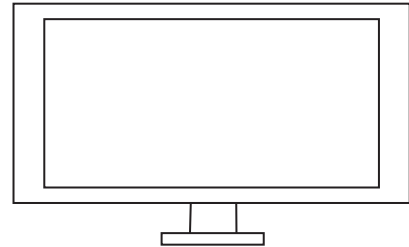
**CIRCLE THE OBJECT THAT MAKES MORE CARBON DIOXIDE.**



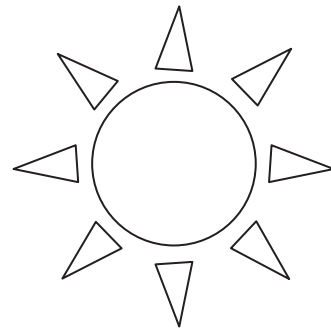
**OR**



**OR**



**OR**



# How do I solve this?

To solve the case, we need to gather some clues! The Energy are feeling tired and there are two things that can make them better:

**1. Energy efficiency** - changing an object so it uses less. Like a different light bulb that takes less energy to make the same light.

**2. Conserving energy** - changing what YOU do so you use less energy. Like turning off the light when you leave a room.

# All Homes are Different

Not all houses are the same!

Every home has different energy efficiency depending on the building and how old it is. Ask your parent what year your house was built!

Year built: \_\_\_\_\_ .

# Activity

## FILL IN THE BLANK

### Word Bank

energy efficiency

energy conservation

your actions

an object

fan

vacuum

Changing from riding a car to walking to school is \_\_\_\_\_ .

Turning off your \_\_\_\_\_ before you leave the room is energy conservation.

**Energy efficiency** is changing \_\_\_\_\_ .

**Energy conservation** is changing \_\_\_\_\_ .

Showering faster to use less water is \_\_\_\_\_ .

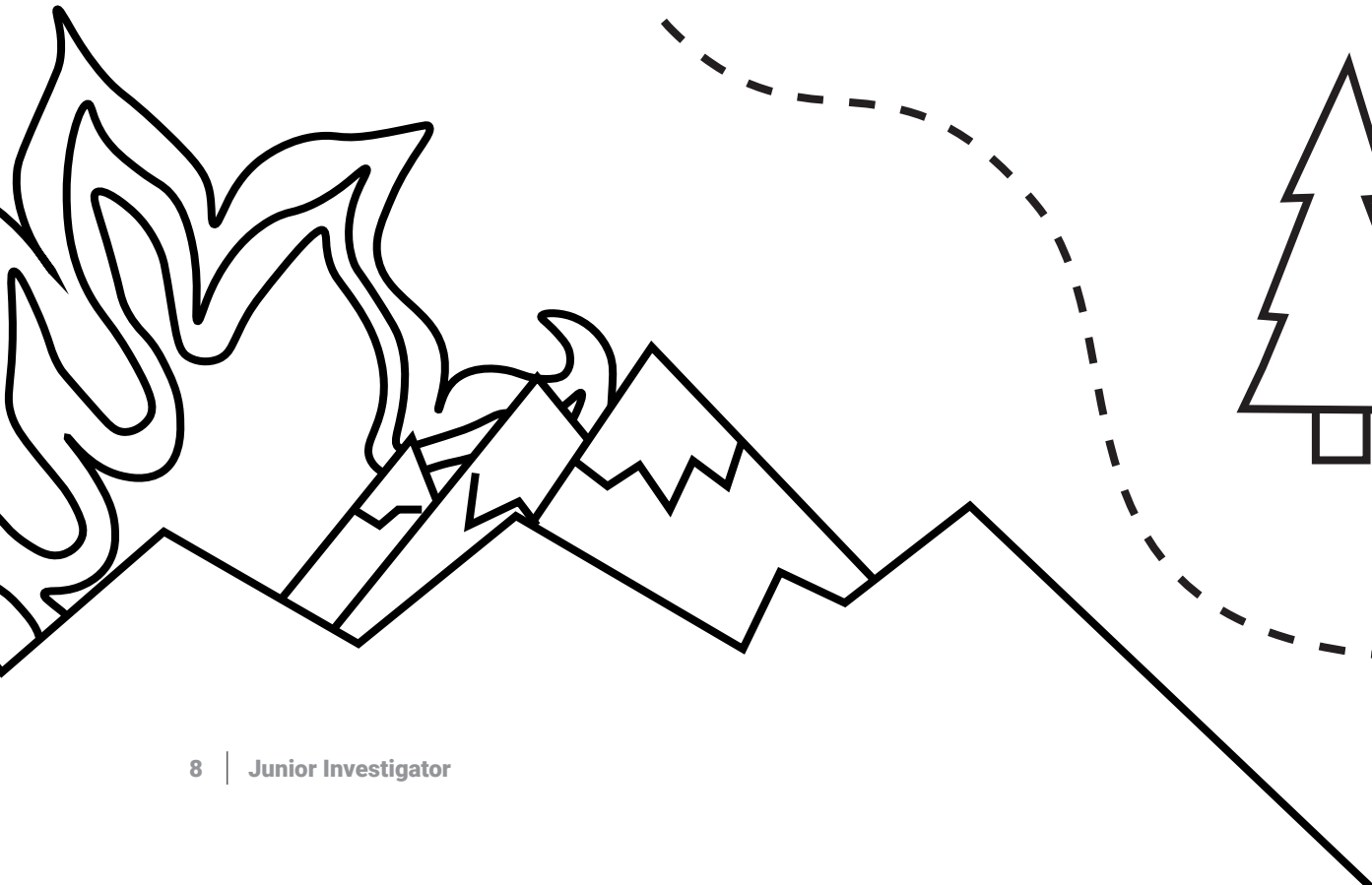
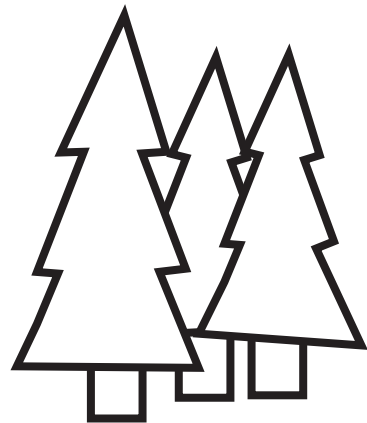
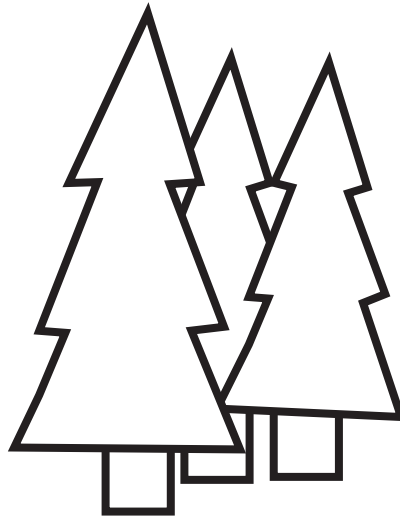
Using a broom instead of a \_\_\_\_\_ is energy efficient.



# The Land of Energy

COLOR AS YOU EXPLORE!

START







# The Town of Heating & Cooling

Heating & Cooling Energy keeps your home at a good temperature. We use Heating in the winter so we can stay warm and Cooling in the Summer so we can stay cool.

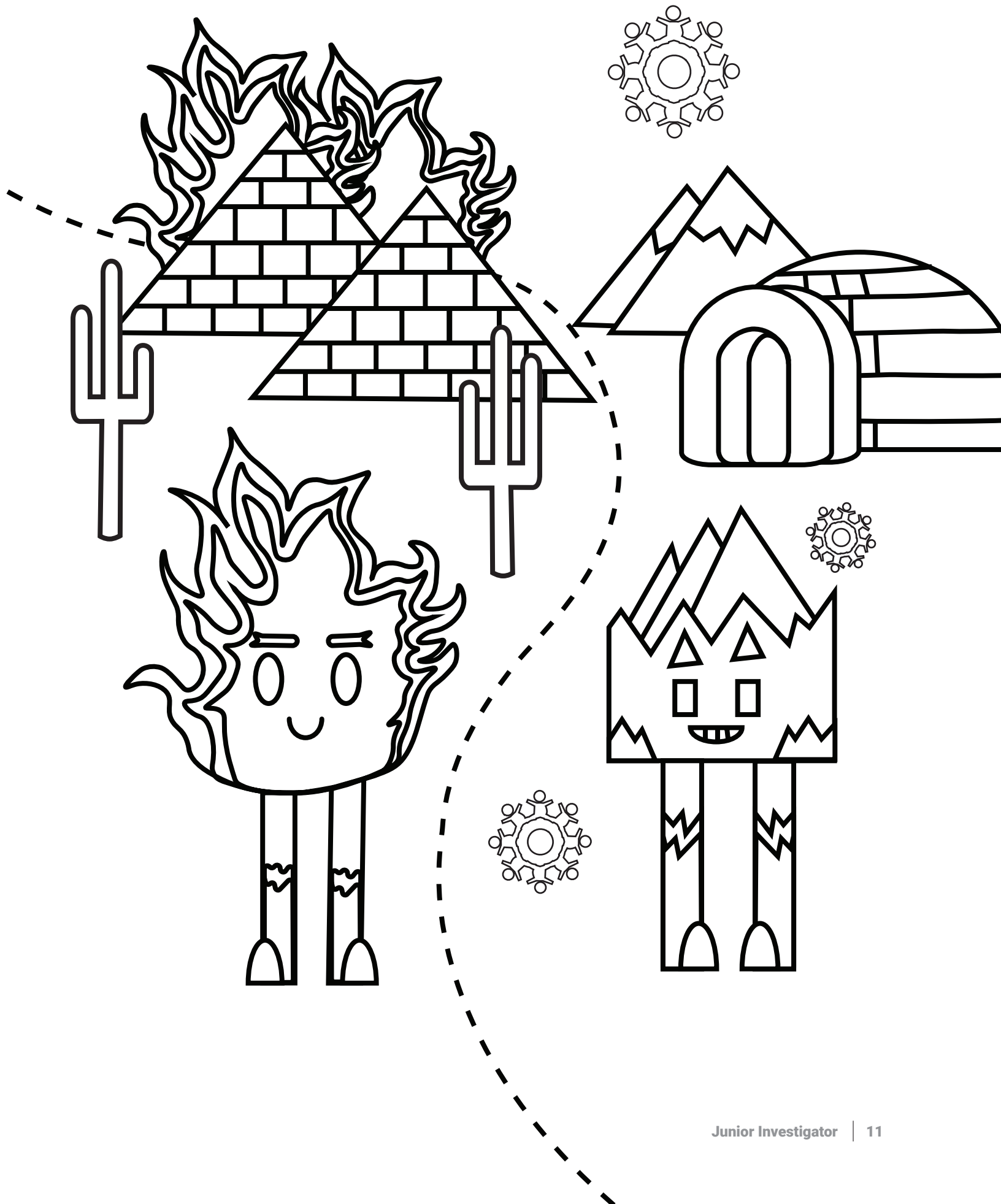
Heating & Cooling get tired often because we use them **ALL THE TIME!** They need a vacation so they can feel better and burp less Carbon Dioxide!

We want Heating & Cooling to rest more, but first you have to find out what is making them tired!

## Home Thermostat

Your home thermostat is smart! It knows your home's temperature at all times. It also controls Heating & Cooling, telling them where to go and how hard to work.

But you and your parents control the thermostat and can help Heating & Cooling rest!



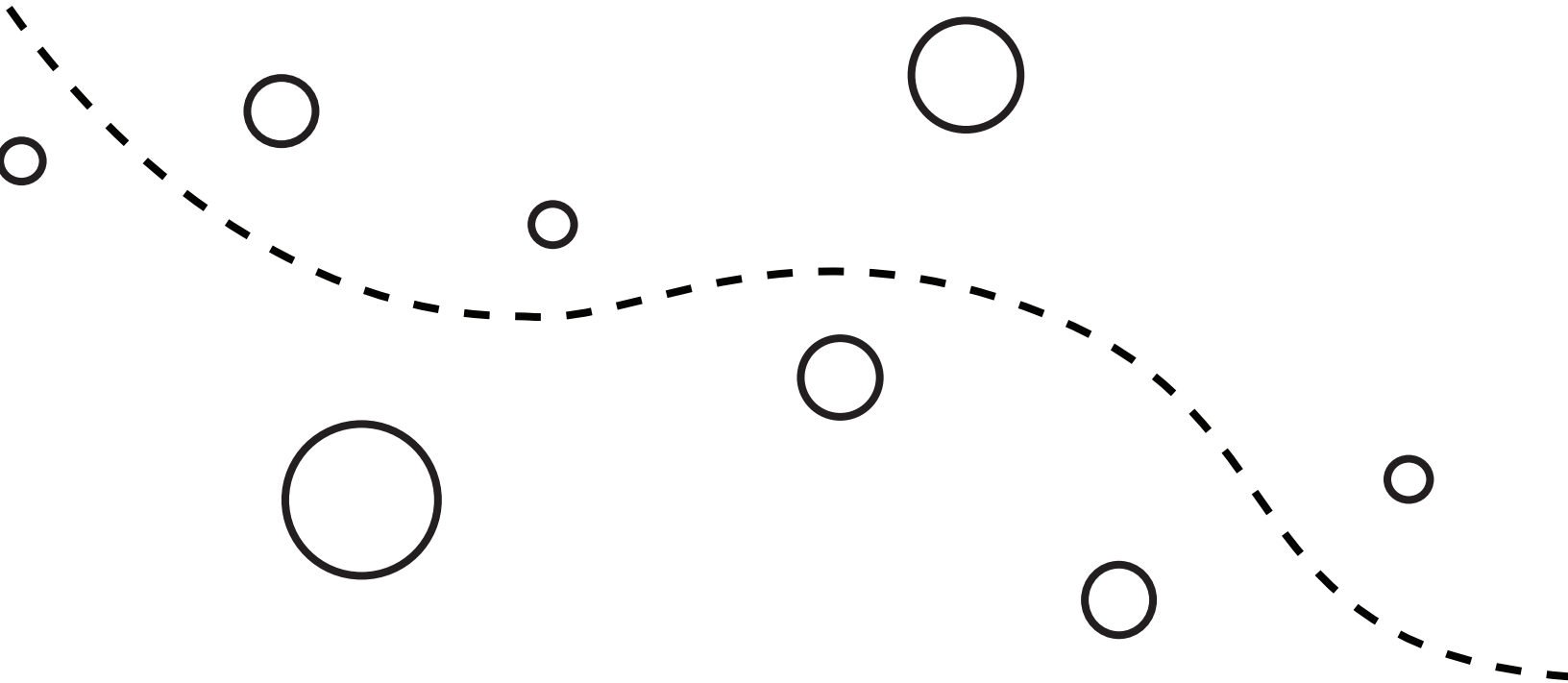
# Activity

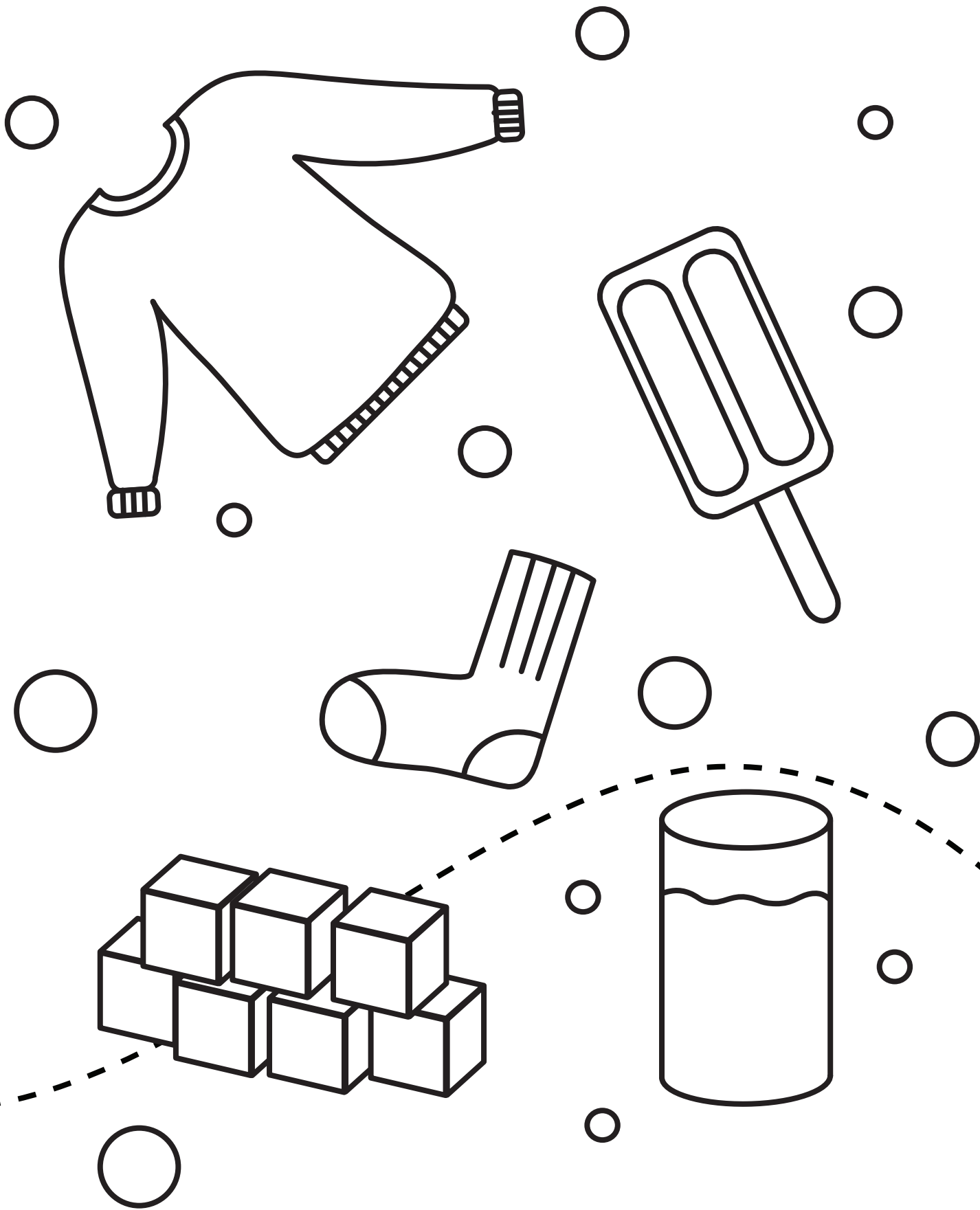
## **DRAW YOURSELF WITH YOUR ENERGY SAVING WAY OF STAYING WARM OR COOL!**

If it's winter, put on a sweater, socks, or wrap yourself in a blanket. Once your warm, ask your parents to lower the thermostat.

If it's summer, eat a popsicle, drink cold water, or put a cold, wet towel on your neck. Then ask your parent to turn up the thermostat.

These are easy ways to give Heating & Cooling a nice rest.





# Air Leakage

Heating & Cooling work hard to keep your house cozy. When air flies through openings in your house, it makes them work even harder. Investigate these areas for small spaces air could get out:

- Windows & Doors
- Electrical Outlets
- Vents

## Activity

### AIR INVESTIGATION

**(BEST ON A WINDY DAY. SOME PARENT HELP NEEDED.)**

Get your home ready (Best on a windy day)

- Turn off gas furnaces & water heaters
- Shut all windows, doors to the outside, & fireplace openings
- Turn on bathroom and kitchen fans

Ask your parent help you light a candle or lighter

- Walk around the leaky areas, like windows & doors.

If smoke is moving towards the areas, you found an air leak.

**CLUE:** If you don't have a candle, use a wet hand. When you feel your hand getting colder, you found an air leak!

**Color in your cartoon footprint according to number of leaky areas.**



# Water Heating

A water heater uses Heating & Cooling Energy to heat your water whenever you want to take a warm shower or wash your hands with warm water!

## Activity

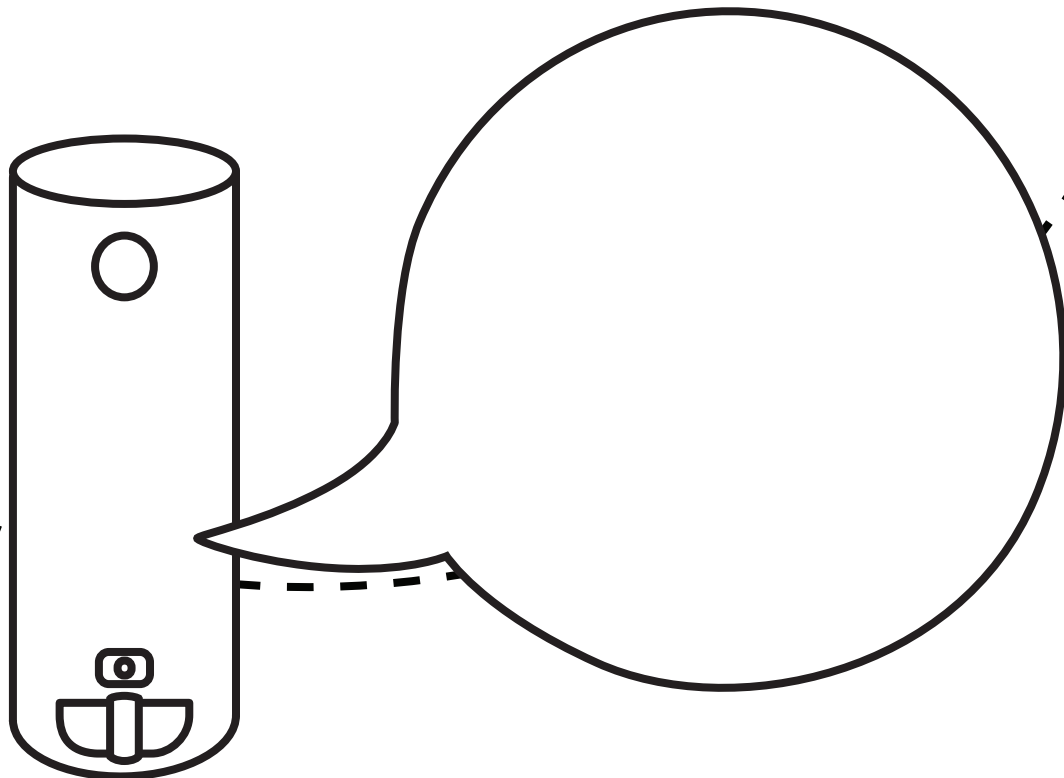
### WATER HEATER INVESTIGATION

#### DRAW YOUR WATER HEATER DIAL

Find your water heater. **CLUE:** It's usually in the garage or laundry room and looks like a big, grey robot.

Check what temperature the water heater is set at. It might be on the water heater or a thermostat indoors. The best temperature is 140 ° Fahrenheit! Any hotter and you could be wasting Heating & Cooling Energy.

**Color in your carbon footprint if your water heater is higher than 140°.**

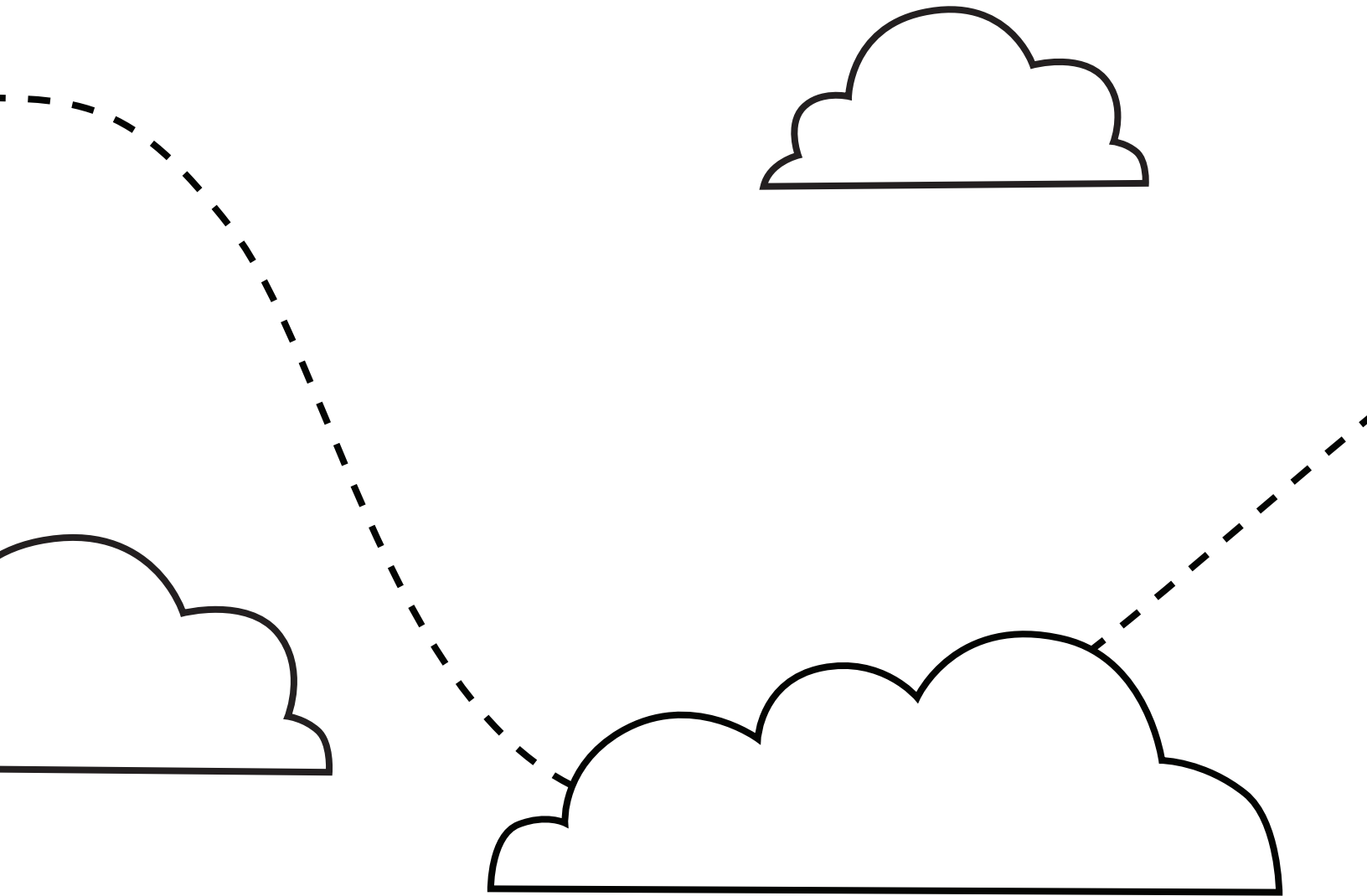


# The Village of Water

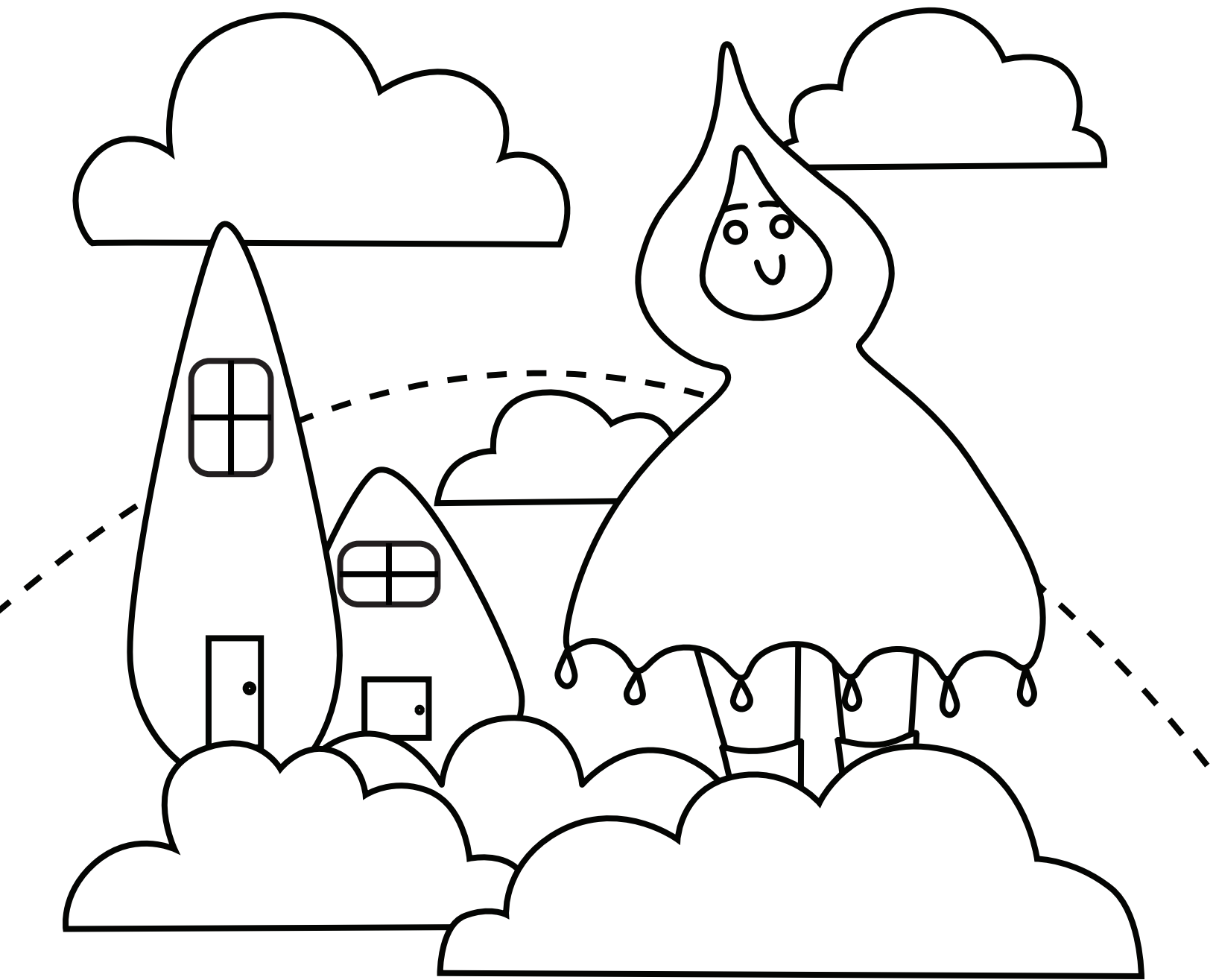
We need Water Energy to live. We use it to clean our bodies and brush our teeth. We also use it to clean our dishes and our clothes.

Since Water works so hard for us, it often gets worn out. Water wishes to play, but it's too gassy from burping Carbon Dioxide because of all the work it does.

Let's help Water to rest more. Find out what is making Water tired!







# Activity

## BATHROOM INVESTIGATION

WRITE A HAIKU ABOUT YOUR BATHROOM FAUCETS.

**CLUE:** A haiku is a 5-7-7 syllabal poem!

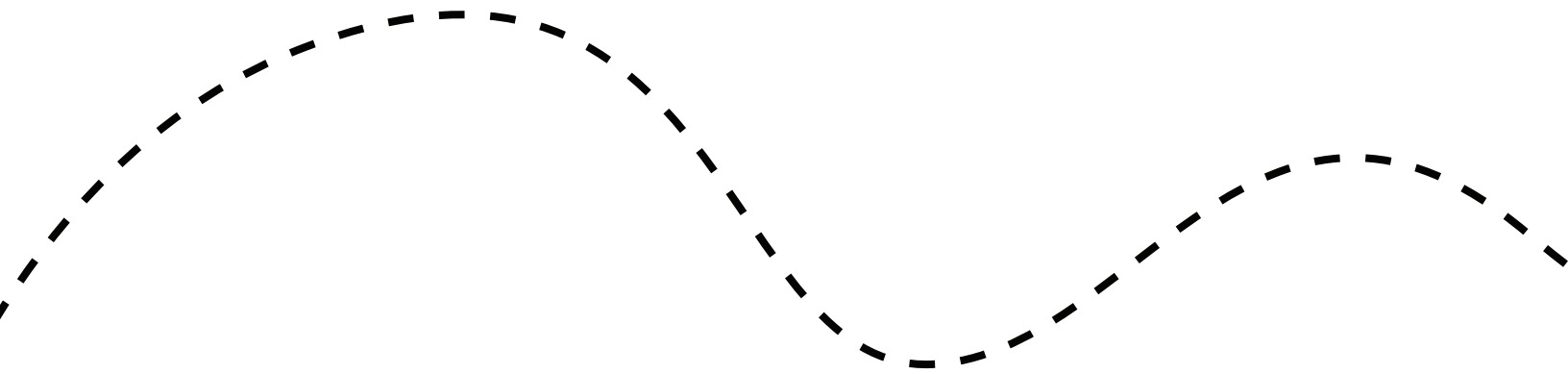
Check your shower head, sink and bathtub faucet. Turn your faucets all the way off then listen for any sounds of water dripping.

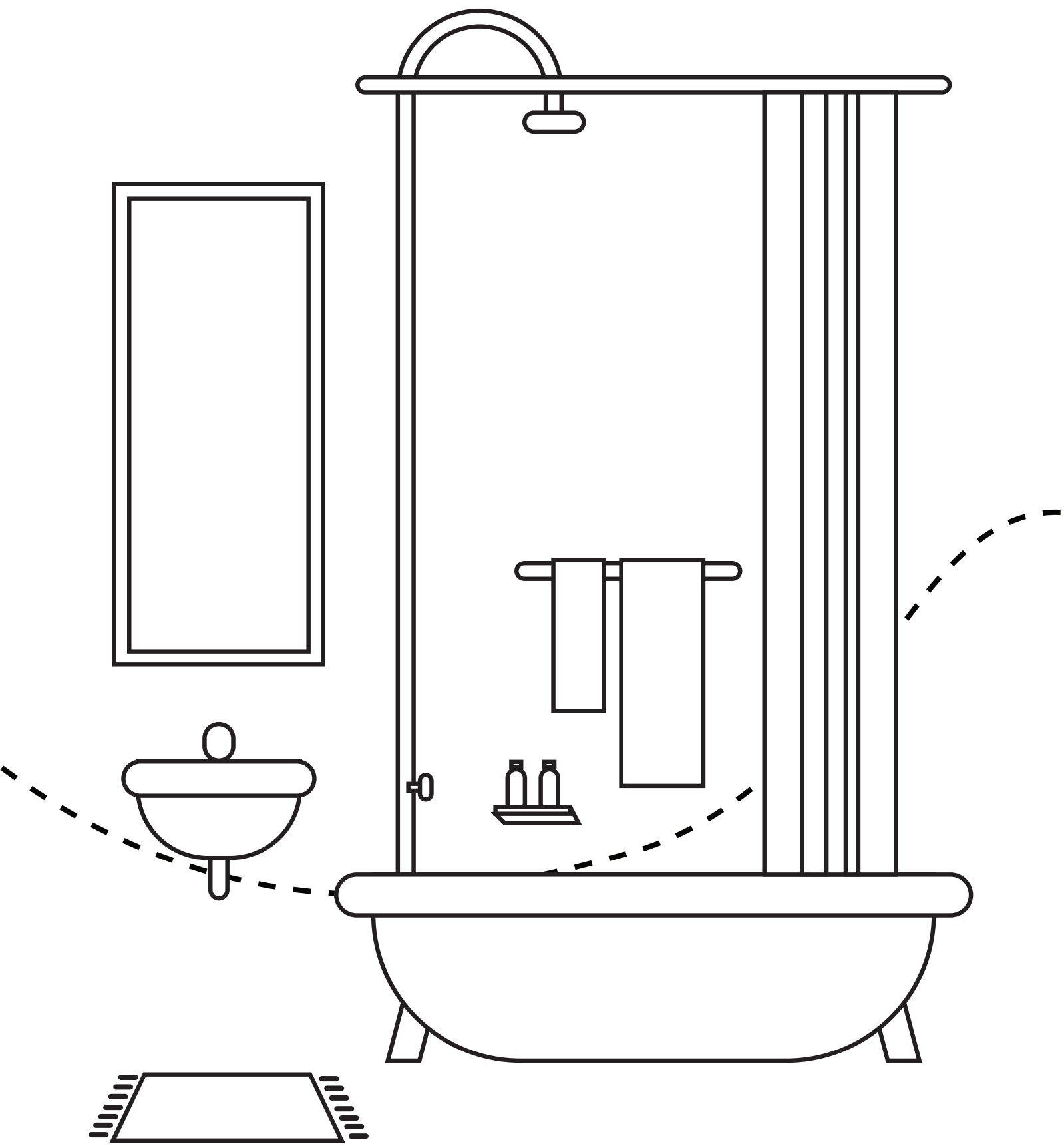
- Are the sink and bathtub faucets dripping even though they're turned off?

**If yes, color in carbon footprint.**

- Do you turn off your sink faucet when you're brushing your teeth?

**If no, color in carbon footprint.**





# Activity

## KITCHEN INVESTIGATION

### DE-SCRAMBLE THE WORDS TO SEE THE HIDDEN MESSAGE

Check your kitchen sink faucet and dishwasher. Turn your kitchen sink faucets all the way off then listen for any sounds of water dripping.

- Are the sink faucets dripping even though they're turned off?

**If yes, color in carbon footprint.**

- Ask your parents: Do they turn off the water between washing dishes?

**If no, color in carbon footprint.**

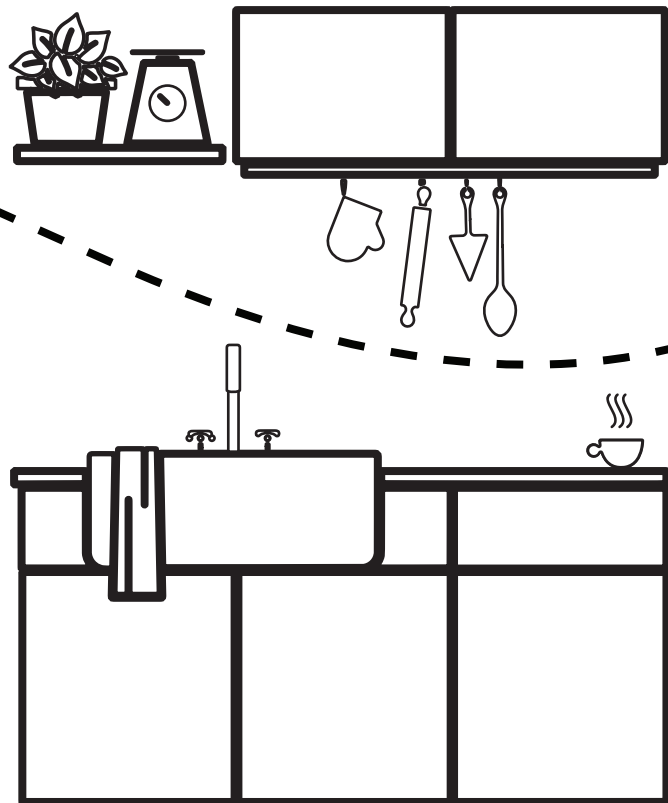
- Do your parents often use the dishwasher or do they hand wash?

**Ask you parents to look up how much water their dishwasher uses!**

eaSv enygre ot  
svea eht arthE

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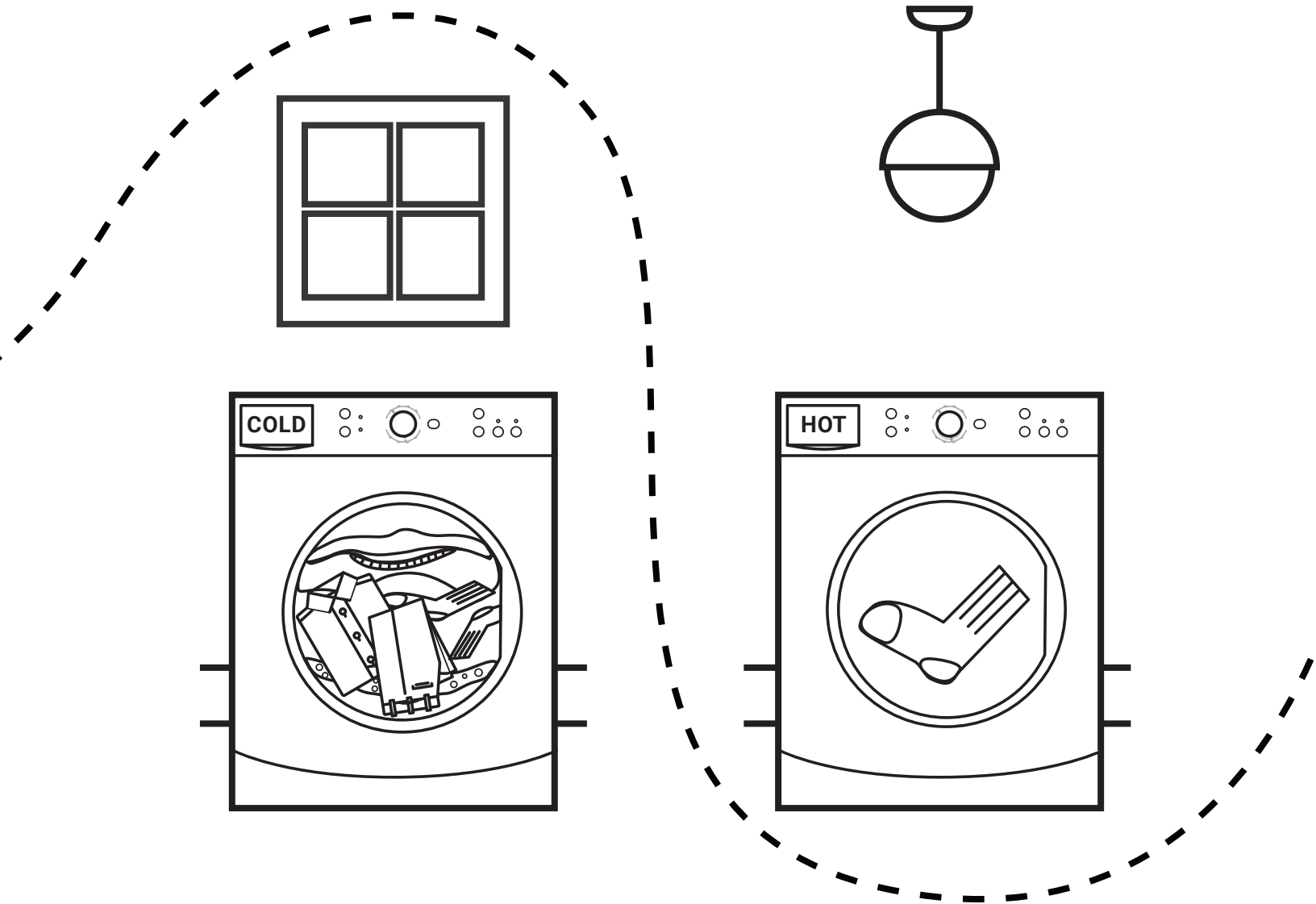
# Activity

## LAUNDRY MACHINE INVESTIGATION

FIND THE DIFFERENCE BETWEEN THESE TWO IMAGES & CIRCLE THE ONE THAT SAVES MORE ENERGY!

Ask your parents: How much water does our laundry machine use?

- Do your parents use cold water when washing clothes? **If no, color in carbon footprint.**



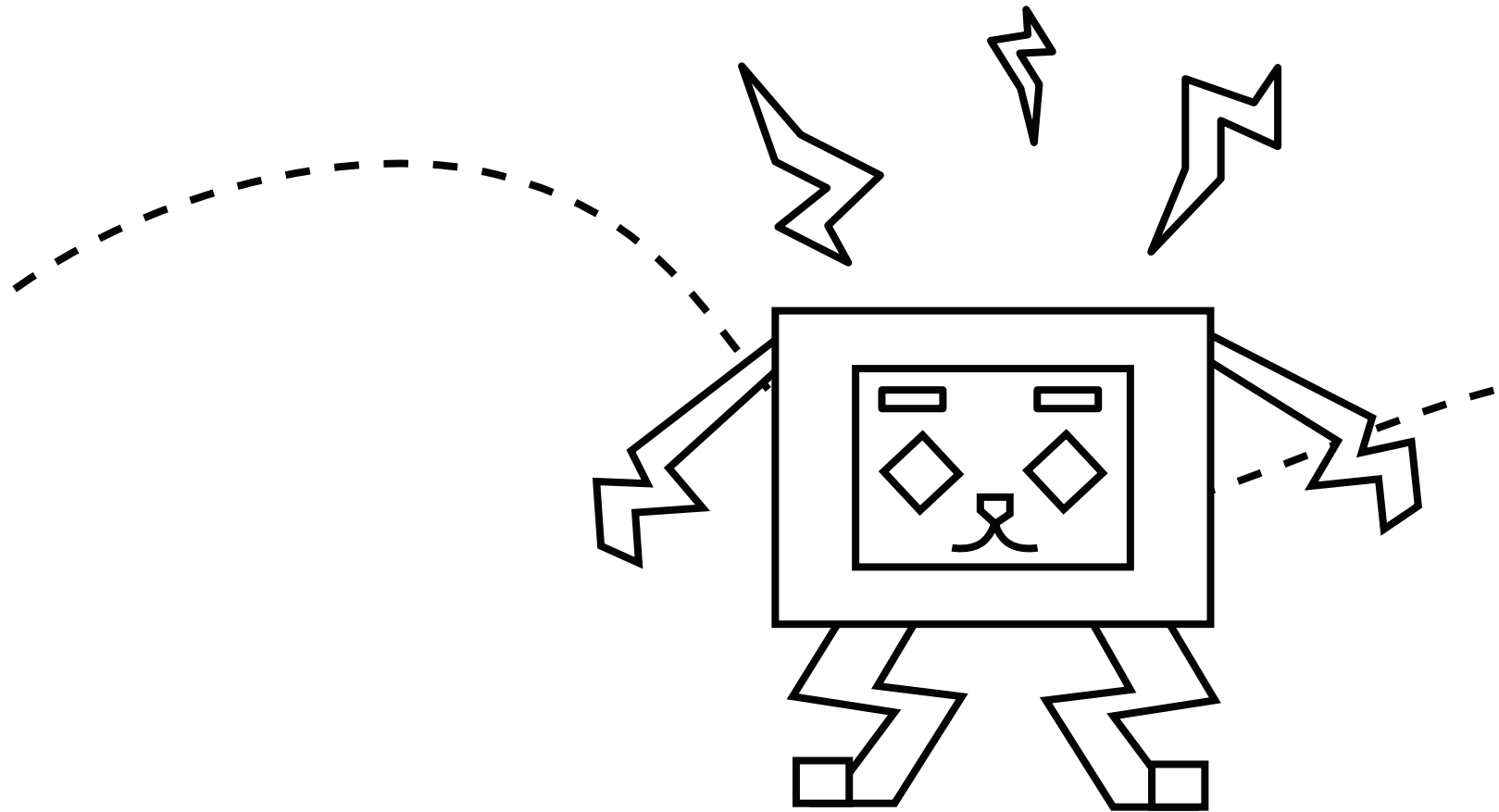
# The City of Electricity

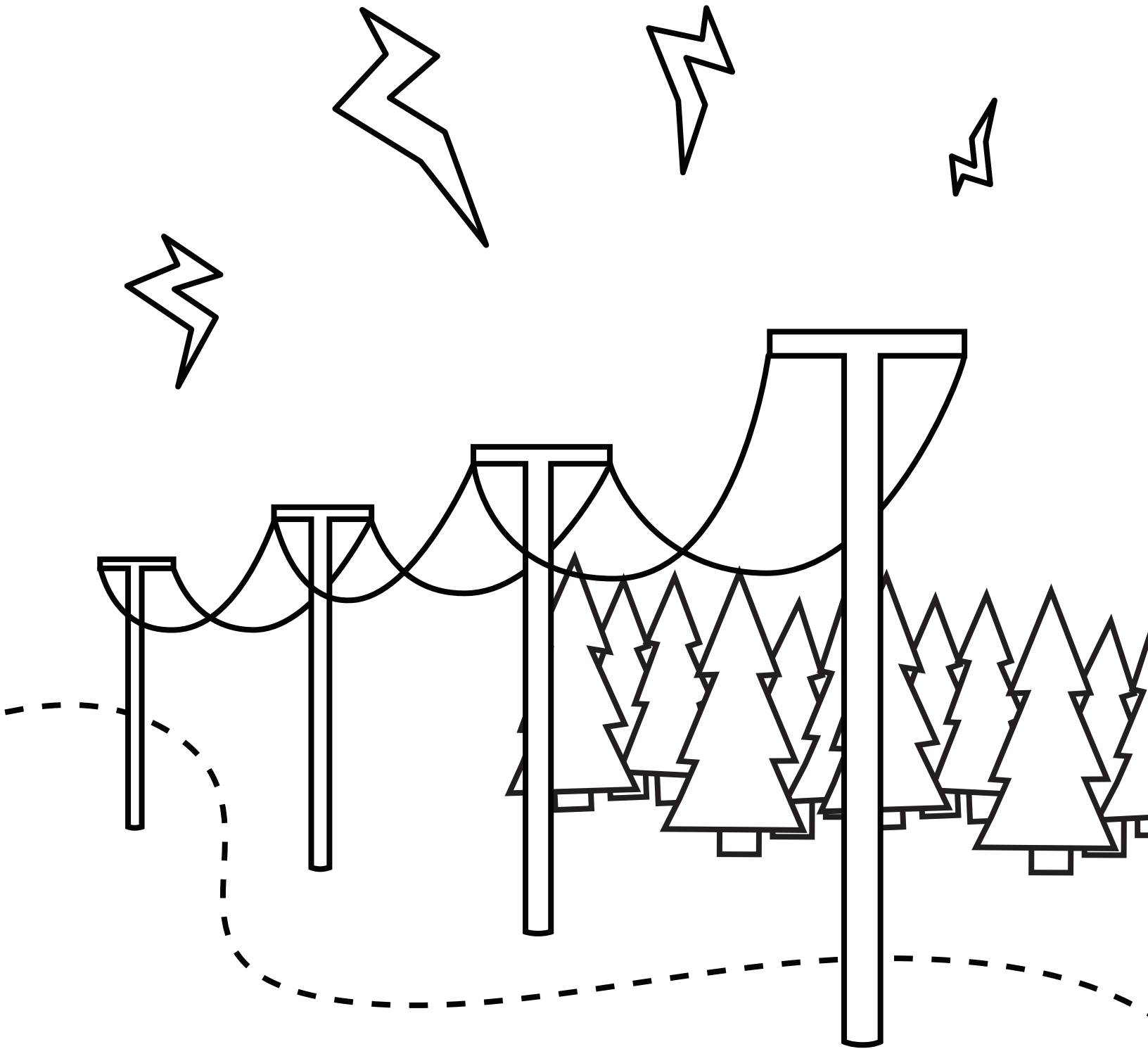
We need Electricity to have light, watch tv, and use things like the fridge!

Electricity feels sick from working so hard all the time. When Electricity feels sick, it eats more and burps Carbon Dioxide. If Electricity takes more breaks, it'll feel better.

How do we help Electricity feel good?

You have to find out what is making Electricity sick.





# Lights

All the light in our homes is powered by Electricity. Sometimes we forget to turn off the light when we leave the room. Electricity gets tired from keeping the light on when no one is there to enjoy it.

- Do you turn off the light when you leave the room or when there's enough light from windows? **If no, color in carbon footprint.**

## Activity

**FIND THESE 5 WORDS!**

**conserve**

**electricity**

**energy**

**lightbulbs**

**light**





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

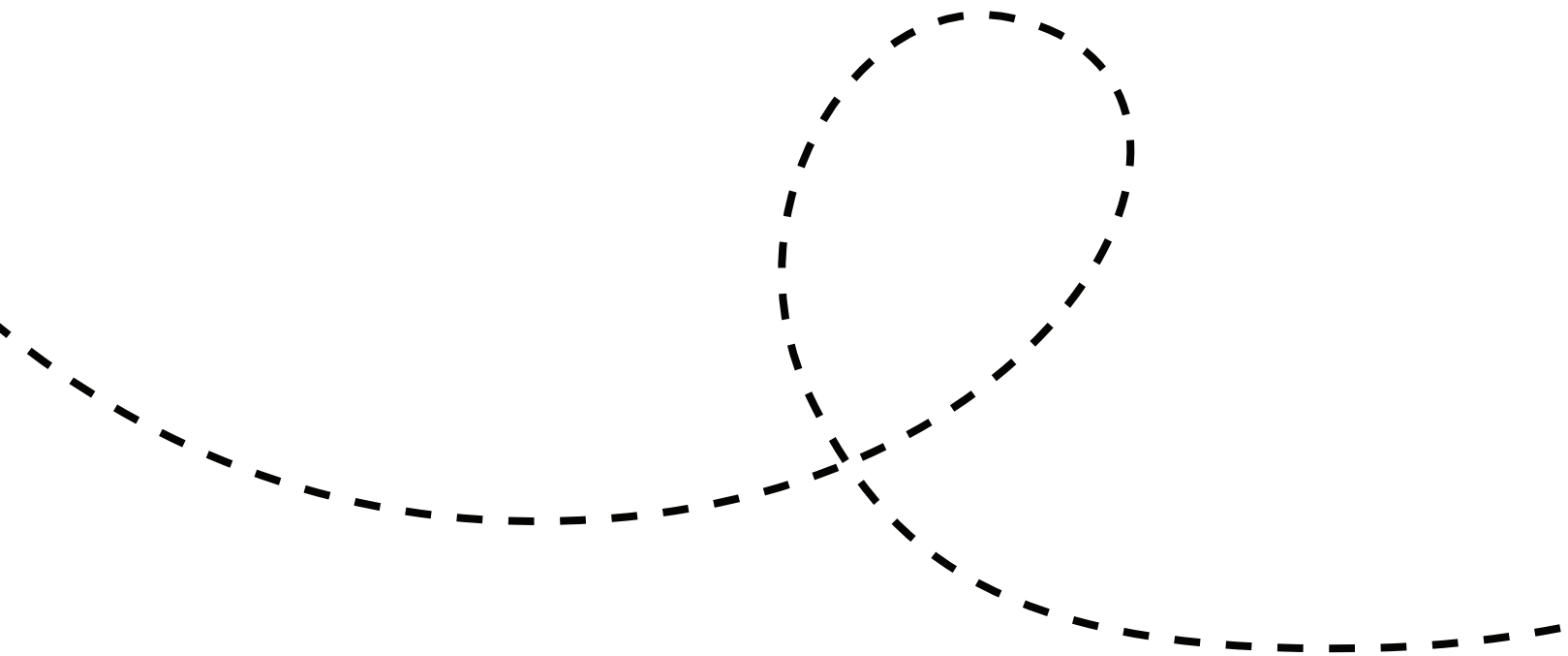
# Fridge

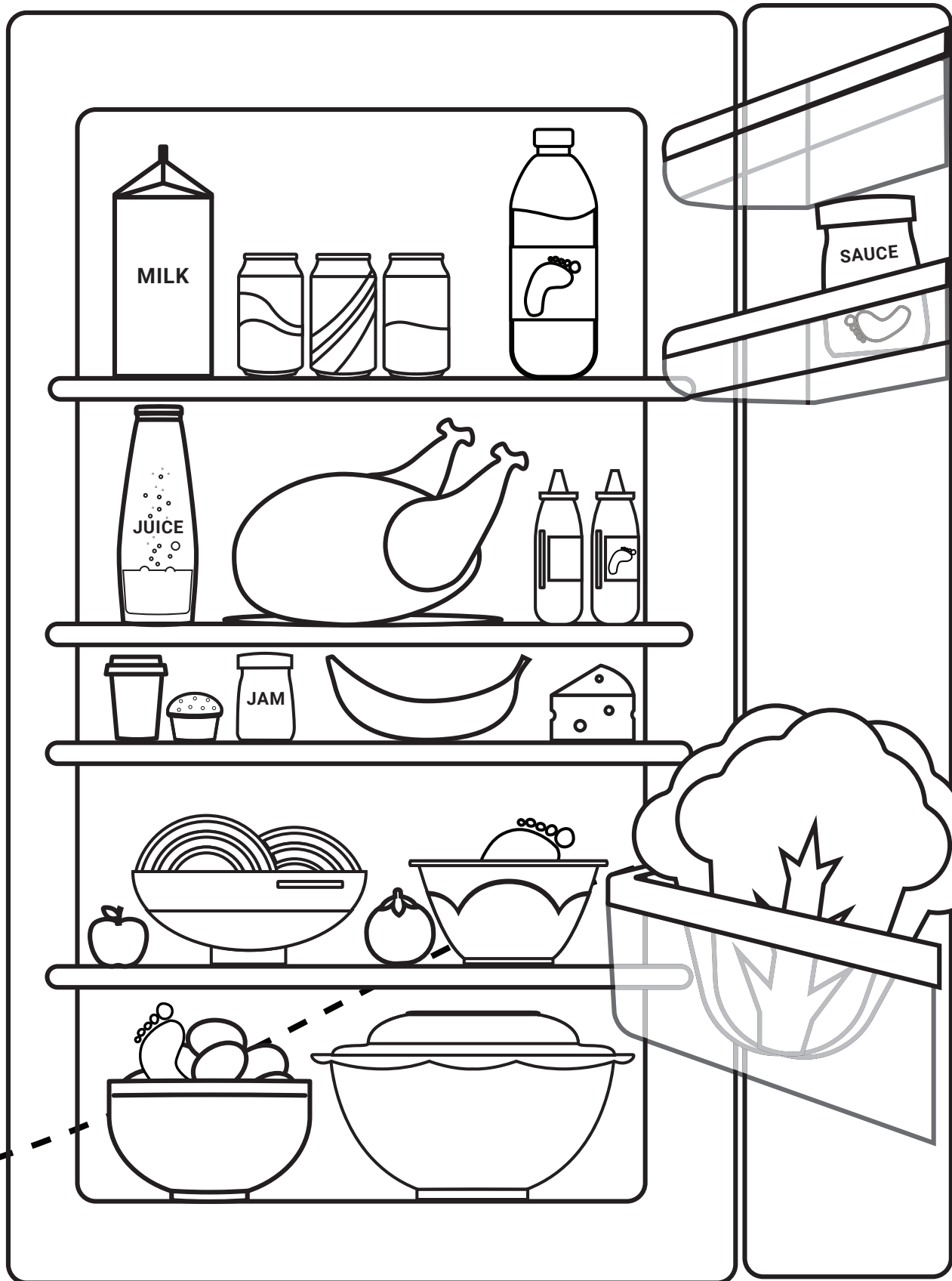
Electricity keeps our fridge and food cold. It's easy to forget to shut the door when we're taking food out. But this makes Electricity work harder because everytime the door is open, it has to power the fridge light and work harder to keep the food cold.

- Do you close the fridge right after you take things out? **If no, color in carbon footprint.**

## Activity

**CIRCLE ALL 5 CARBON FOOTPRINTS HIDING IN THE OPEN FRIDGE!**





# Plugged in Devices

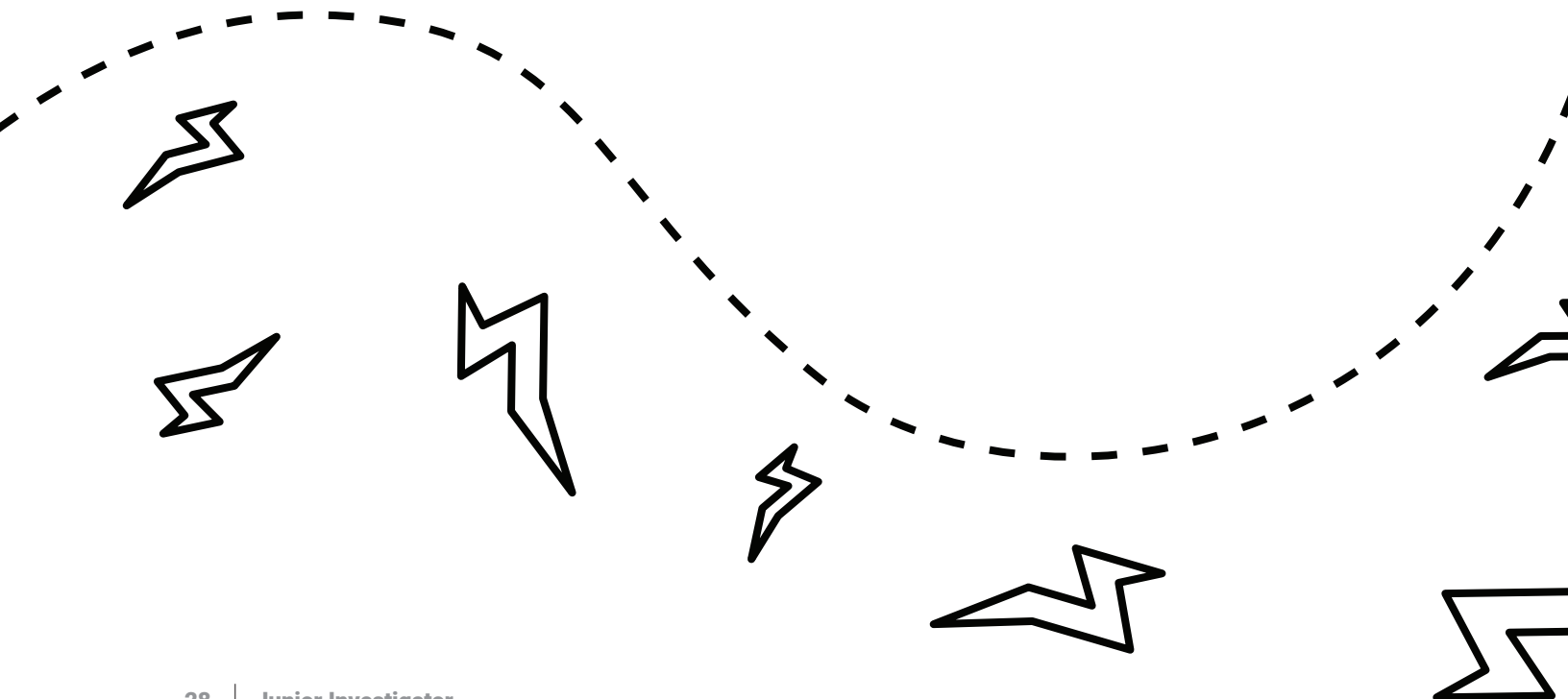
A lot of fun stuff at home uses Electricity to work. Electricity doesn't have to work as hard when things are off. When things are plugged into the outlet, Electricity is still working.

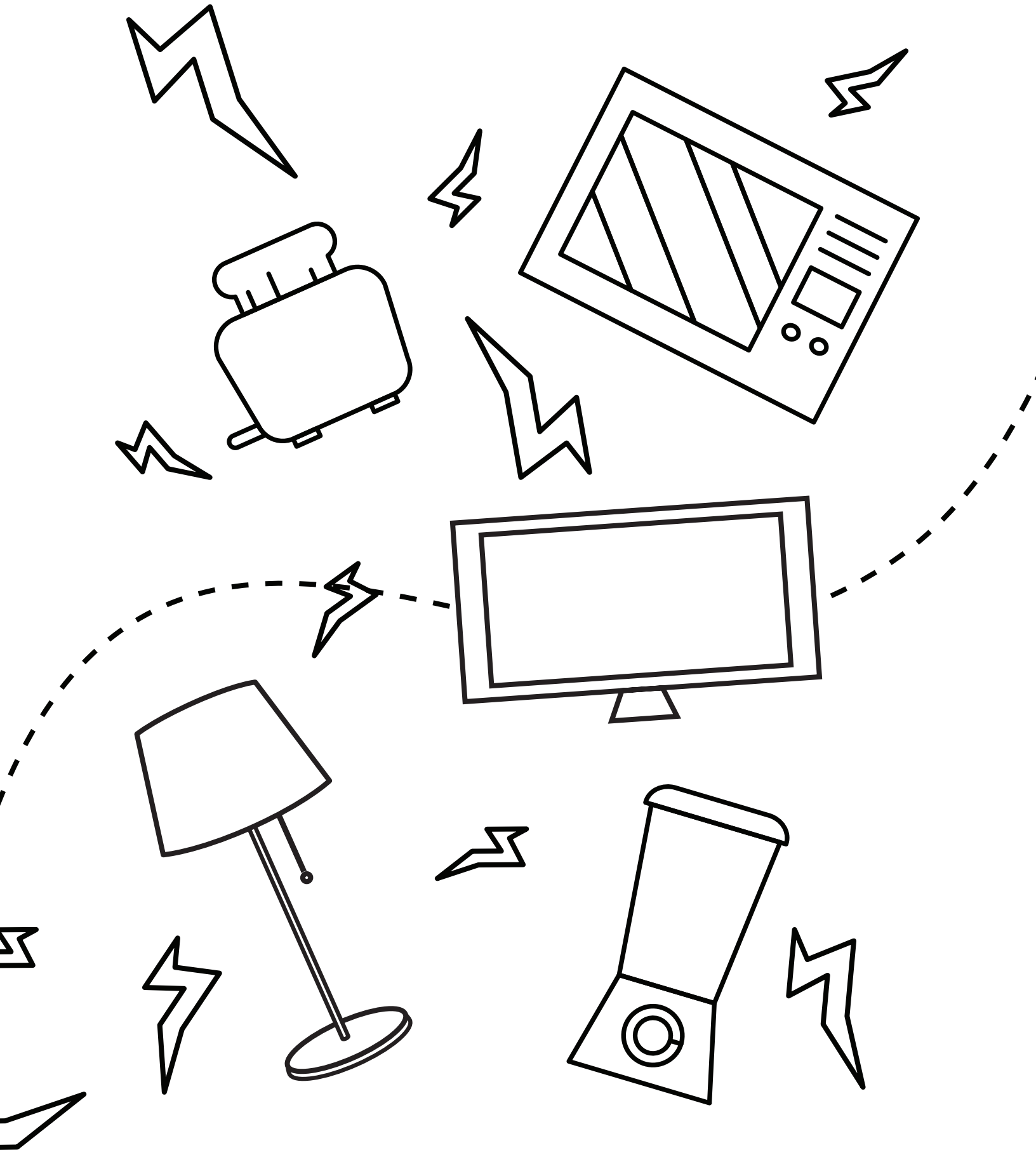
- Do you unplug things when you're not using them? **If no, color in carbon footprint.**

## Activity

**DRAW ALL THE THINGS YOU WILL UNPLUG IF IT'S NOT IN USE!**

\*Dont unplug the fridge though! Food needs to stay cool to be yummy\*





# Questions for our Junior Energy Investigator

Name 2 things you found while investigating.

Which things needed to be more **energy efficient**?

Which things were already **energy efficient**?

What will you do to **conserve energy**?

# And the Case Continues

Thank you Junior Energy Investigator for working on this case!  
Now that we know what needs to be done, we will continue to save energy so Heat & Cooling, Water, and Electricity can rest.

Ask your parent if you can check out [our website] for more fun activities like a boardgame!

