

# Boost your Power Smarts

Week 4: Power to conserve



# Next Boost your Power Smarts quiz:

“Power to conserve”

Tuesday, October 22 to  
Thursday, October 24

8:00am – 3:00pm



# What does it mean to conserve energy?

What do you think makes something “energy efficient”?

# Which one is more energy efficient?

Discuss which is more energy efficient: A or B? Why?



a) Hanging clothes to dry



b) Using the clothes dryer

# Did you know...

- The clothes dryer is the appliance that uses the most electricity per use.
- Hanging clothes to dry is a great way to conserve energy, and you can also do it inside with a clothes drying rack.



# Which one is more energy efficient?



a) Incandescent



b) LED

Bonus: what do the letters stand for?

# Did you know...

- LED (light emitting diode) lights use at least 75% less energy than an incandescent light bulb.
- Both CFLs (compact fluorescent) and LEDs use less electricity than old incandescent light bulbs, because they waste less energy on producing heat.



Try to use natural light when possible to save even more energy.



# Which one is more energy efficient?

## Situation 1:

- You're trying to keep your room warm during a snowy winter evening

## Situation 2:

- You're trying to keep your room cool on a hot summer day



a) Keep the curtains or blinds open



b) Keep the curtains or blinds closed



# Did you know...

Heat can escape through windows in the winter. Closing the curtains or blinds will keep your home warmer and allow your heater to work more efficiently.

In the summer, closing curtains or blinds to block out the hot sun can keep your home cooler during the day. Before you go out to play, remember to close the blinds rather than leaving air conditioners or fans on to keep your room cool.

# Which one is more energy efficient?



a) Using a small space heater to stay warm



b) Putting on a sweater or a blanket to stay warm

# Did you know...

Using sweaters or blankets are a great way to stay warm and save energy.

It's recommended to keep your thermostat at 20 to 21 degrees Celsius during the day if you're home.

At night before you sleep, turn down the temperature to 16 degrees Celsius and wrap yourself up in a warm blanket and pajamas.



# Which one is more energy efficient?



a) Playing games on a desktop computer



b) Playing games on a laptop computer

# Did you know...

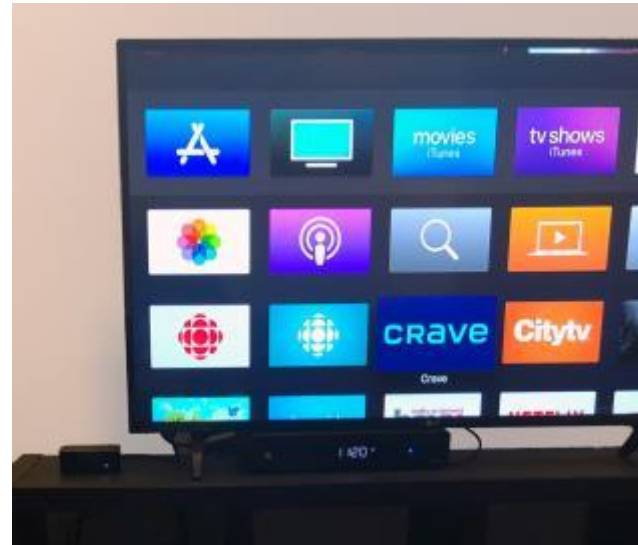
- Laptops use 80% less electricity than desktop computers.
- Laptops don't need to be left plugged in to use, as long as their batteries are charged, which helps reduce your consumption.



# Which one is more energy efficient?



a) Streaming movies using a video game console connected to a TV screen



b) Streaming movies using an app on a 4K Smart TV



# Did you know...

Streaming movies and TV shows on video game consoles can use up to 40% more electricity compared to other streaming devices such as smartphones, tablets, laptops, and Smart TVs.



Also look out for the ENERGY STAR® logo or sticker on appliances and devices.

This logo means that the device has been tested for energy-efficiency.

# Which one is more energy efficient?



a) Turning off devices and leaving them plugged in



b) Unplugging devices when not in use

# Did you know...

**Phantom or standby power** is the energy devices use when they're turned off but left plugged in.

Standby power can account for 10% of an average household's annual electricity use.



Unplugging unused electronics, or using a **power bar** and turning it off at night are great ways to reduce standby power at home and at school.

# Food energy & greenhouse gases (GHG)

Food gives us energy. It also uses energy.

Greenhouse gases (GHG) are created when we grow, raise, process, transport and prepare the food we eat.



# What uses energy in your kitchen?



How many things can you think of that use electricity to prepare food in the kitchen?

Food also uses a lot of energy and produces GHG's before it even gets to our homes. Let's explore this now.

# Agriculture

Most farming practices use energy and create GHG emissions.

Farms use mechanical equipment, fertilizers, pesticides, sprays, and use water for irrigation.





# Farming meat and dairy

GHG emissions from meat and dairy are significant. A plant based diet can lower GHG emissions, which can help the environment.



# Transportation

It is estimated that on average our food travels about 2500 km to get from production to our plates by boat, plane, or truck (that's like Los Angeles to Prince George).



About 11% of the GHG emissions involved in food production are linked to food transportation.

# Food waste



- About 1/3 of the food produced globally is wasted.
- Wasting food means we are wasting the resources used to grow, produce and distribute that food.
- Food in the garbage means methane (a very strong greenhouse gas) in the atmosphere.
  - Composting is good, but not throwing food out is the best.

# Carbon footprint and food

We can calculate the environmental impacts of our choices by measuring GHG emissions.

A smaller amount of GHG emissions means a smaller carbon footprint which is better for our planet.



How big is your carbon footprint?



# What are the GHG emissions in your sandwich meal?



Choose which ingredients you will use to make a low emissions sandwich.

# Calculate the 'GHG' of your sandwich



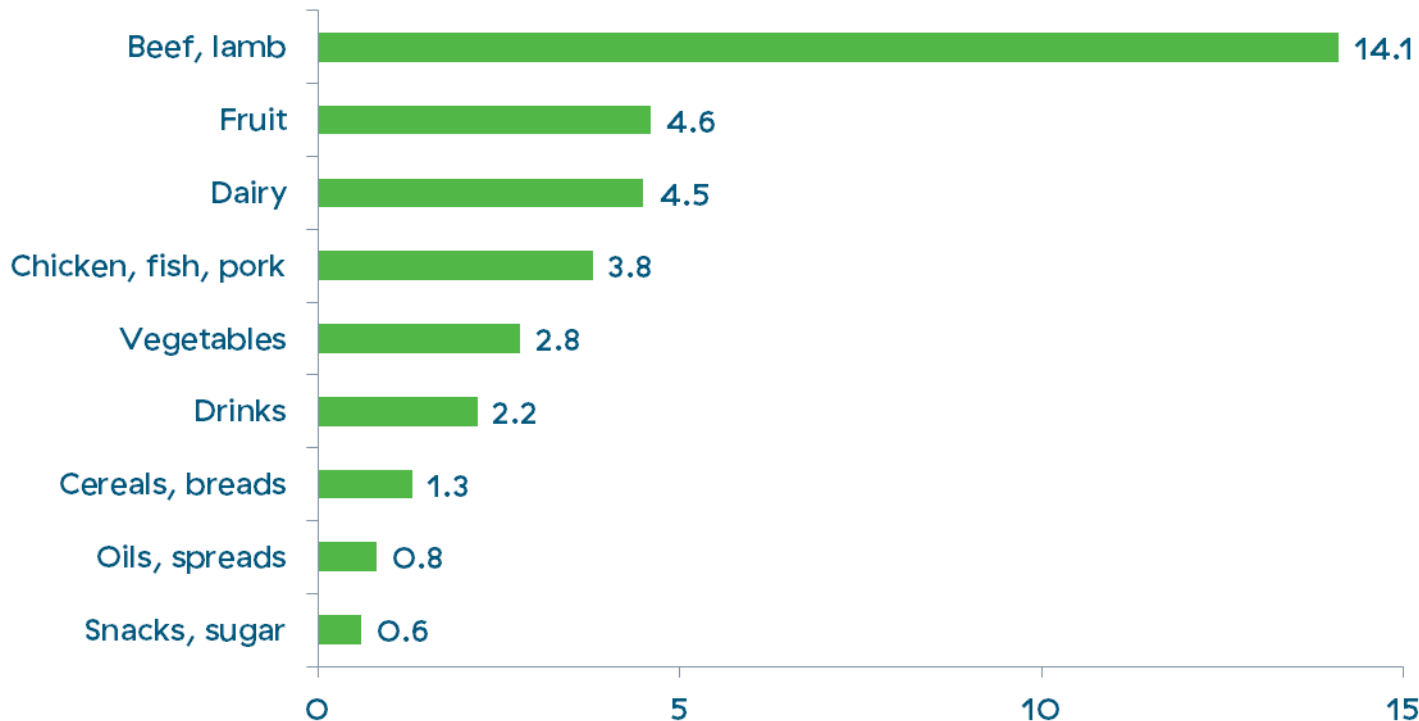
How did you do?



# Lower your GHG footprint

About 25% of global GHG emissions come from food production – agriculture and food processing. Some food has a higher impact.

## Carbon intensity of eating: gCO<sub>2</sub>e/kcal



source: <http://shrinkthatfootprint.com/food-carbon-footprint-diet/1>

# Energy conservation and GHG

Whether it's food, electricity, or fossil fuels, conserving energy means we put less greenhouse gases in the atmosphere, and use less of our natural resources.



# Hot water

To heat water at home, we use a lot of energy and produce GHG emissions as many homes use natural gas (a fossil fuel) to heat the water.



What do we use hot water for and how can we conserve?

# Showers can use a lot of hot water

Let's create a sign to remind us to save energy in the bathroom.



Place your sign in the bathroom to remind yourself and your family to conserve.

