

A ruler measures distance in centimeters or meters. So a **unit** for distance could be cm or m.

What unit do we use when referring to electricity?

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The Watt (w) or kilowatt (kW)

Can I get a watt watt!



Peadooles

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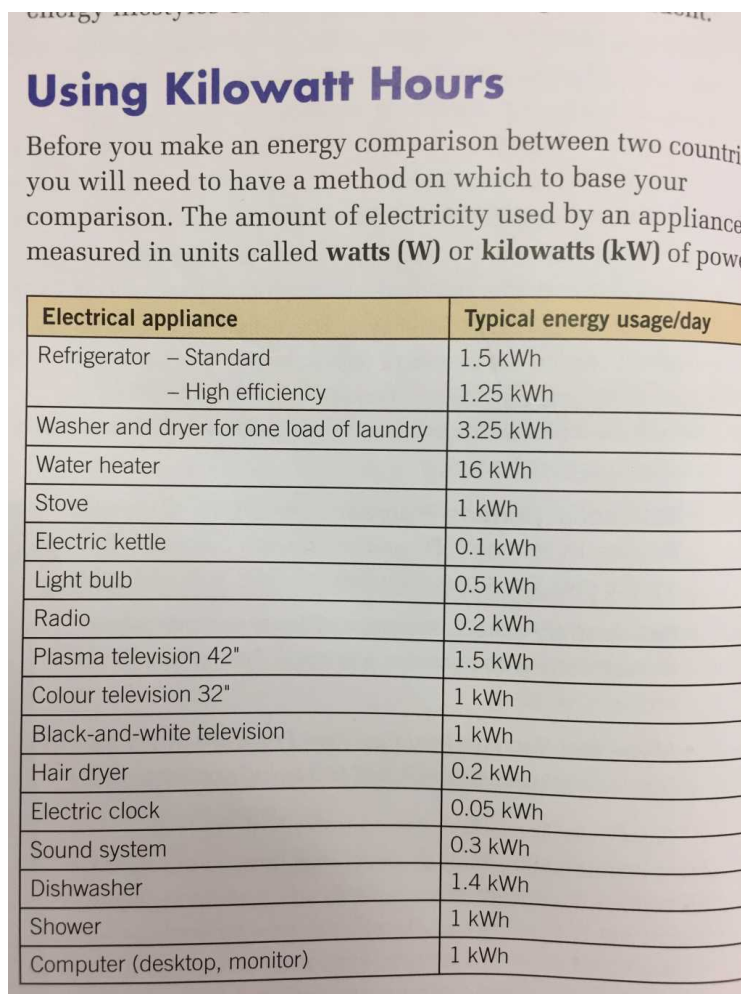
Lesson 4-Conserving Electricity

You are charged for the electricity you use depending on how long you use appliances. This is measured in the unit kilowatt hours (kWh).

For example, if you have a hair dryer that is rated at 1500watts (which is 1.5kW) and you use it for two hours, you have used 3kWh of electricity.

A kWh in Saskatchewan costs about 9 cents. So a television that uses 1kW would cost 9 cents for every hour that it is turned on.

How much would it cost to keep that television on for 3 hours?



Using Kilowatt Hours

Before you make an energy comparison between two countries you will need to have a method on which to base your comparison. The amount of electricity used by an appliance is measured in units called **watts (W)** or **kilowatts (kW)** of power.

Electrical appliance	Typical energy usage/day
Refrigerator – Standard	1.5 kWh
– High efficiency	1.25 kWh
Washer and dryer for one load of laundry	3.25 kWh
Water heater	16 kWh
Stove	1 kWh
Electric kettle	0.1 kWh
Light bulb	0.5 kWh
Radio	0.2 kWh
Plasma television 42"	1.5 kWh
Colour television 32"	1 kWh
Black-and-white television	1 kWh
Hair dryer	0.2 kWh
Electric clock	0.05 kWh
Sound system	0.3 kWh
Dishwasher	1.4 kWh
Shower	1 kWh
Computer (desktop, monitor)	1 kWh

Conserving Electricity

We talked about conserving when we talked about careers. **What did the word "conserving" mean?**

What are some ways we can **conserve** electricity?

Why is it important to conserve electricity?

Why is it important to conserve electricity?

To answer this question, we have to think about where our electricity comes from.

There are two categories of energy resources.

Renewable Energy Non-Renewable Energy

What do you think the difference is?

What does "renew" mean? For example, if I **renew** a library book, what does that mean? If the librarian tells me it is **non-renewable**, what do you think that would mean?

Renewable Energy

These resources can be used over and over. They never get used up.

Examples?

Non-Renewable Energy

These resources are limited. If we use them up we won't have any left.

Examples?

Let's sort these sources of energy into their appropriate category.

solar(sun)

wind

oil

coal

natural gas

geothermal (heat)

hydro (water)

Renewable Energy

These resources can be used over and over. They never get used up.

Examples?

Hydroelectricity
(from water)

Solar Energy
(from the sun)

Geothermal Energy
(from heat)

Wind Energy
(from wind)

Non-Renewable Energy

These resources can only be used once.

If we use them up we won't have any left.

Examples?

Nuclear Energy
(from breaking down uranium)

Coal
(from mining and burning coal)
-almost half of the world's electricity comes from burning coal

Natural Gas
(from methane which is a gas found underground)
-this is the cleanest of the options because burning it doesn't pollute the air.

Renewable and Non-Renewable Worksheet

The worksheet has either a resource or something produced from that resource. For example, ice cubes aren't used for energy, but ice cubes are made from water and water is a source of energy.

Put **RNR** (renewable natural resource) in the blank if you think it's **renewable**.

Put **NNR** (nonrenewable natural resource) in the blank if you think its **nonrenewable**.

Lesson 4-Conserving Electricity

Now that we know more about where our energy comes from, can we answer our original question?

Why is it important to conserve electricity?

Now that we know more about where our energy comes from, can we answer our original question?

Why is it important to conserve electricity?

We use non-renewable energy resources for most of our energy right now. These are limited, when we run out, we will have to switch to non-renewable energy. But this takes time and money.

It is important to know that all energy sources have positives and negatives. For example, oil and coal create a lot of pollution when we mine them, so that is not good, however that is what we use most of right now. Even non-renewable resources can create pollution, although it's often less. So that is a positive about non-renewable sources, but they are more expensive to implement and they rely on the Earth, so those might be negatives.

Lesson 4-Conserving Electricity

Next lesson we will be moving on from electricity, to magnetism. Before we do that, we need to make sure we understand all the words we learned when discussing electricity!

Complete the wordsearch by finding the words at the bottom of the page. Once you've found a word, before crossing it out, make sure you know what it means and can describe it. If you don't, go back in your binder to learn about it. **You cannot cross out a word until you are confident you could describe it correctly to me.**