GRADE 3

Leveled Reader in English

Great Inventors, Inspiring Inventions

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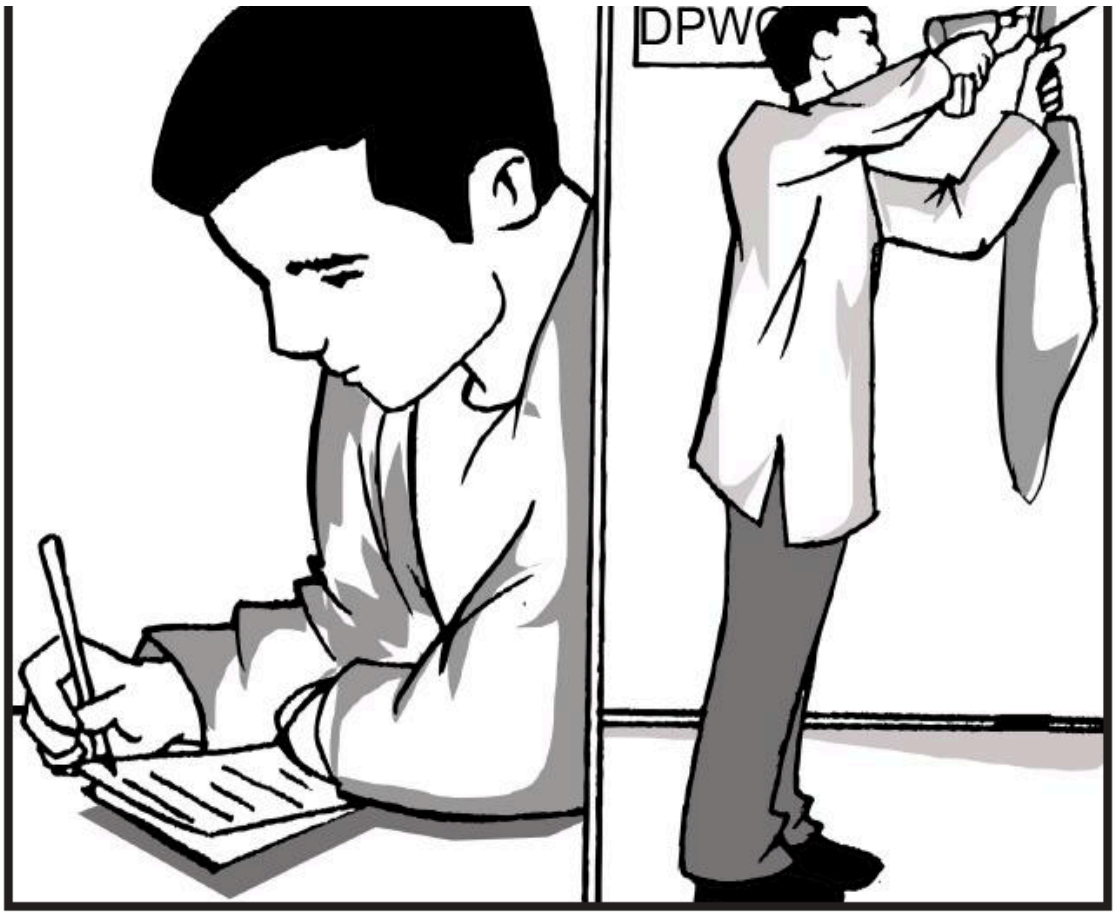
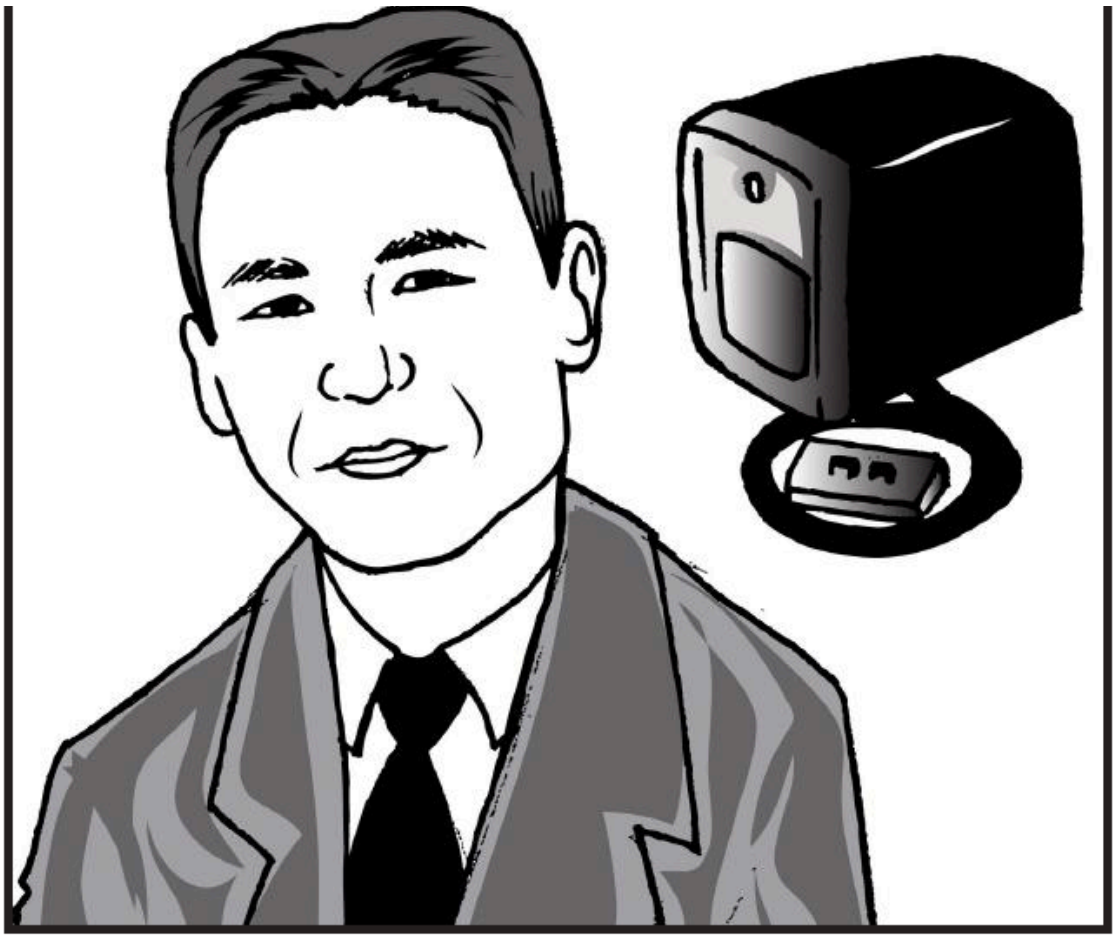
Gregorio Zara was born in 1902 in Lipa, Batangas, Philippines (PH).

Zara was a very good student. He had a thirst for learning. He finished first in his class in primary school and in high school. Zara was such a good student that he was sent to study in the United States of America (USA) and then in France.



When he came back to the Philippines, Zara was hired by the Department of Public Works and Communications (DPWC). He worked for DPWC as an engineer. He was also a teacher and wrote a lot of papers and books on science.

As he worked, Zara invented thirty devices. These devices made life easier for people. He invented devices that use energy from the sun where electric wires could not reach people. He also invented a compass that airplane pilots still use today. Compasses tell you which way you are going.



One of Zara's biggest inventions was the video phone. But it was not noticed until long after Zara invented it.

When a US firm heard about it, they took it to the World Fair in New York. It caused quite a stir but it was not until later that the video phone was used all over the world.

Gregorio Zara was a great inventor.
He won awards for his many inventions.

In 1978, he was given the title of
National Scientist of the Philippines.
Earlier, in 1966, he was given the
President's Gold Medal for Science.

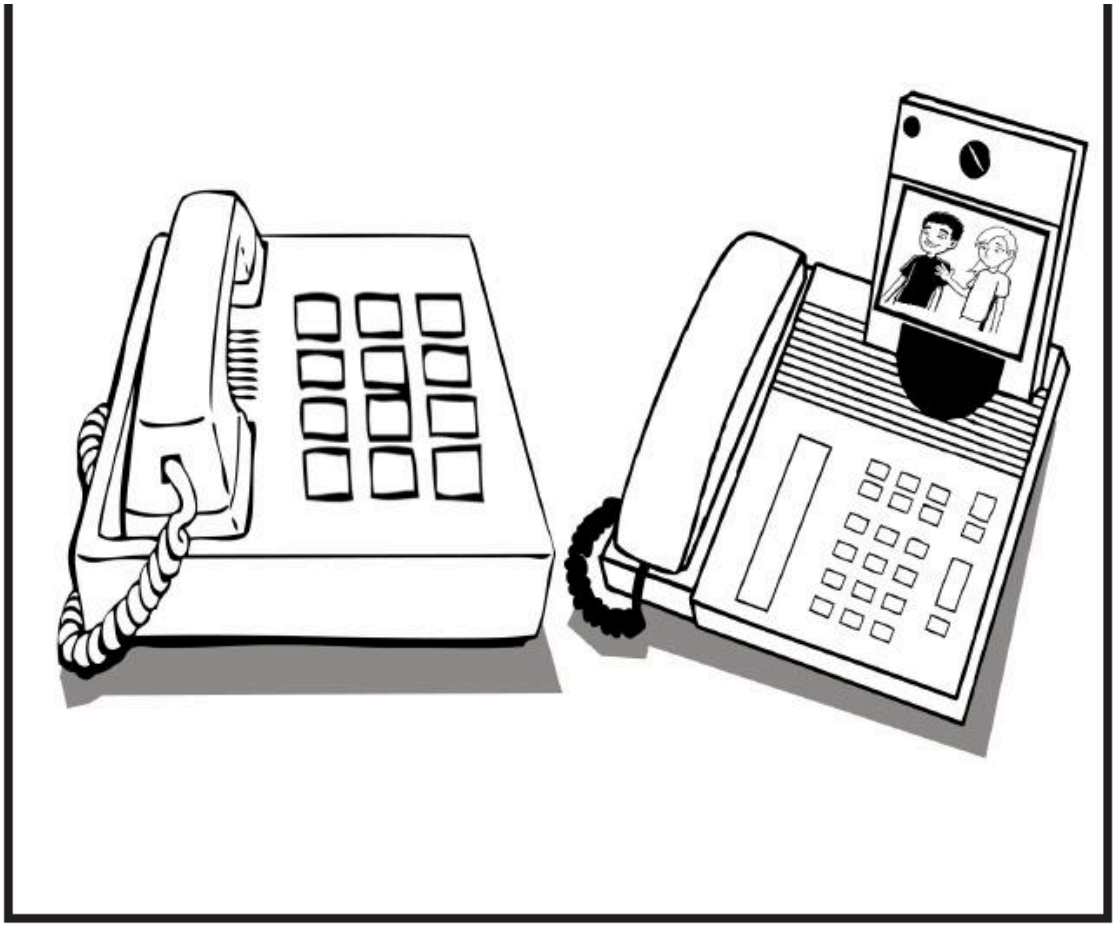
Phonics: Words with r-influenced vowels **(—ir, —ire, —ier)**

Search for the r-controlled vowels with **i** in the texts at home. Copy them into the appropriate column and read them out loud.

Spelling Words

first when other firm hire earlier thirst fire easier wire

Since the birth of the video phone in 1955, it has been used in many devices. Now, it is used in cell phones, video meetings, and on other internet sites. It is also used in phones for people who cannot hear.



How are video phones different from normal phones?

Normal phones only send and receive sound. But video phones send videos, sounds, and images! Video phones also have a screen and a keyboard to type messages.

How do video phones work?

Video phones send images, sounds, and videos from one video phone to another. The first video phone could only show simple images instead of videos. This is because videos take up a lot of space on the wires. But video phones today can easily send a live video from one end of the planet to the other.

How are video phones useful?

Video phones today are useful because they make communication between people easier. Now that internet speed is faster, it is easier to send videos.

For example, in video meetings, you can now see and hear the other person talking and moving. It is like they are in the same room with you!

Grammar: Subject-Verb Agreement

Copy the two sentences below. Circle the subject and underline the verb.

1) Sound is everywhere.

2) Video phones are useful.

Underline the subject in each sentence. Then, circle the correct verb to complete the sentence.

1) People (use/uses) video phones to communicate with others.

2) A person (see/sees) who he or she is talking to.

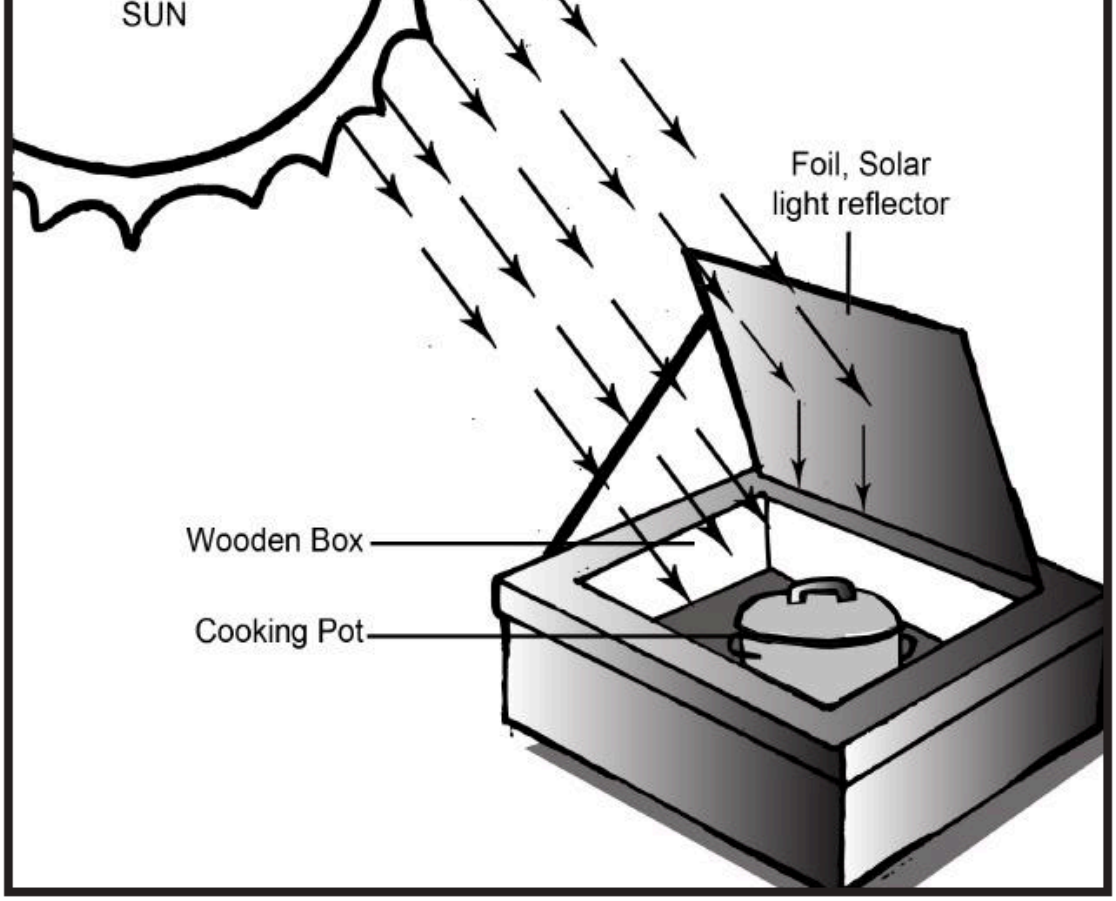
3) Sara (talk/talks) to her mother on the phone every Sunday.

4) Her dad and sister also (join/joins) her mother when she calls.

Barbara Kerr was born in the United States of America (USA) in 1925. As a young child, Kerr had breathing problems that made her go to a lot of doctors. Her health problems also made her move to different places to find a place with clean air. The good thing was she did not let this stop her from achieving her dream.

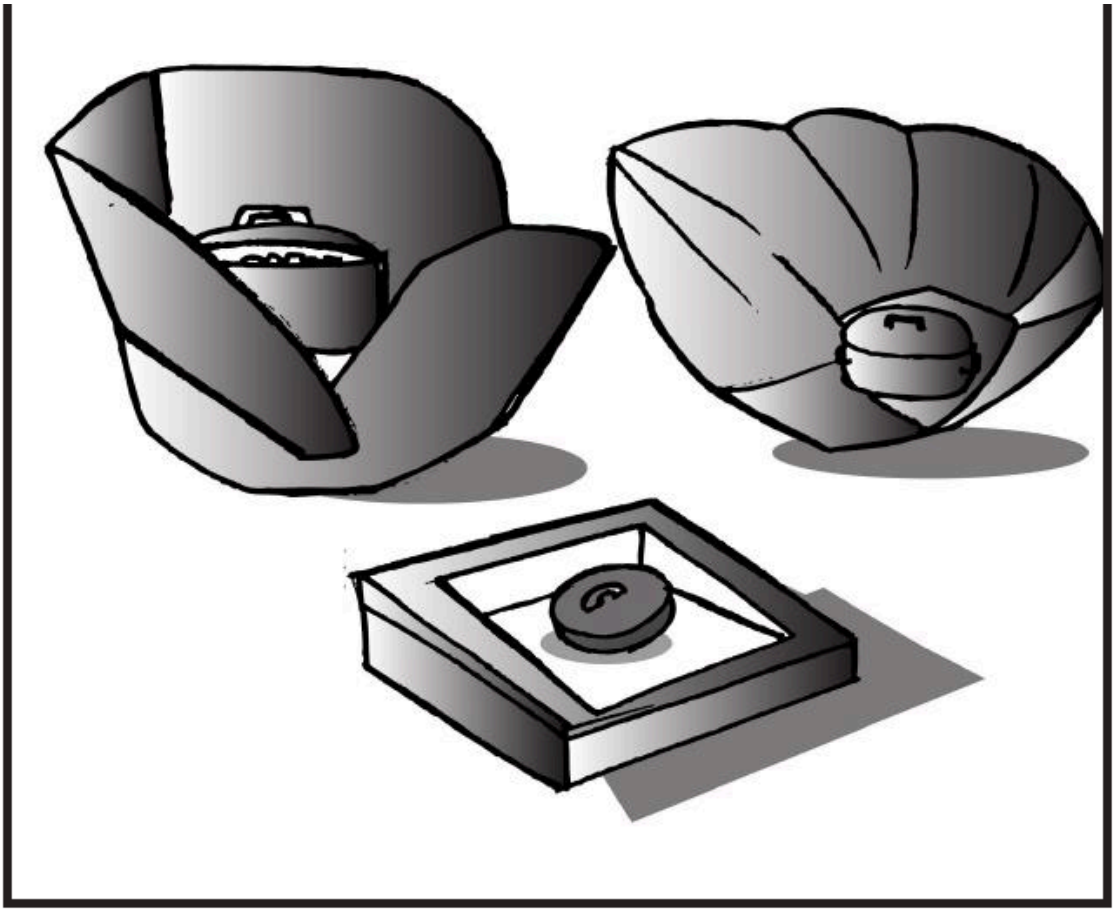
Everywhere she went, Kerr looked for ways to cut down on world pollution and to protect nature.

One hot day on her porch, she came up with the idea of a solar cooker box. She and her friend, Sherry Cole, built the very first solar box cooker out of cardboard and foil. This first cooker could heat up to 115 degrees Celsius—enough to boil water or to cook soup!



The solar cooker box works like this: There is a lid or door that is opened to let the sunshine in. Sunlight shines on the pot in the box. The foil reflects the sunlight into the pot making it heat up. The pot absorbs the heat and cooks the food in the pot.

The box needs to be put under the sun because it is the sun that heats it up. So, solar cooker boxes cannot work at night.



Barbara Kerr's solar cooker boxes came in many different shapes and sizes. The first one she made in 1976 was big enough to fit a short cooking pot. The box was rectangular and made of cardboard. It was important for Kerr to make a box that was biodegradable. That means that it will break down into soil over time and not pollute the earth.

Kerr taught many people about solar cooking. Using materials that were easy to find, she helped people cook using the sun's energy. She also worked with many partners to come up with different types of solar cookers.

Kerr received the Women in Solar Energy Award in 2006. This award recognized her big help in teaching people about solar energy.

Phonics: Words with r-influenced vowels **(—or, —ore, —oar, —oor)**

Copy the grid in your notebook.
Sort the r-controlled **o** words below.

roar floor tore door
store for boar sort

—or	—ore	—oar	—oor

Complete the following sentences using the correct word above.

1) Mother and I are in the _____.
2) We want to buy a cake _____ little sister.
3) The store helpers _____ the goods in the shelves.
4) The janitor sweeps the _____.
5) Two motorcycles make a loud _____.

Spelling Words

after start like more door for

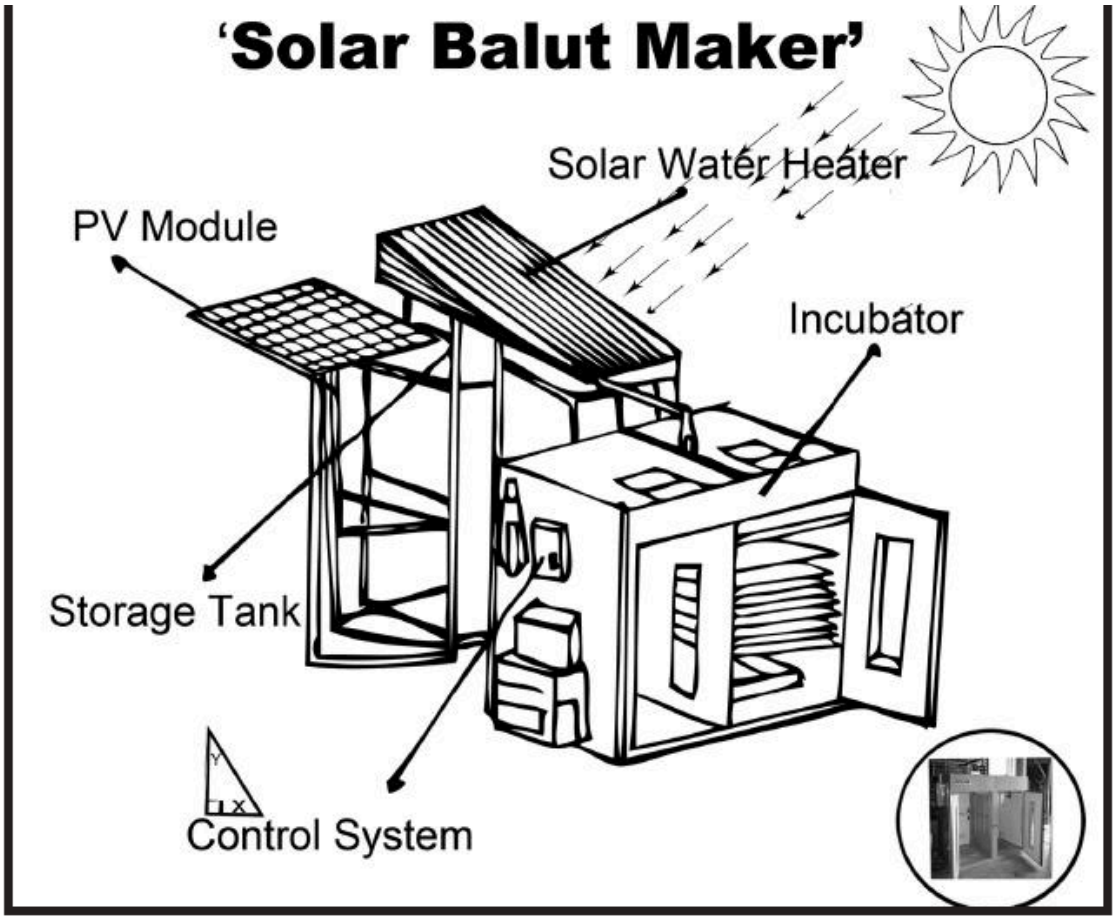
afford corn pork soar work

A Filipino inventor also saw the power of the sun.

Fernando Paras, Jr. is a professor, teaching at the College of Engineering and Agro-Industrial Technology at the University of the Philippines-Los Baños (UPLB). He is into the study of plants and animals, and how these can improve human life. He is also an engineer, which means he is trained in using science in everyday life.

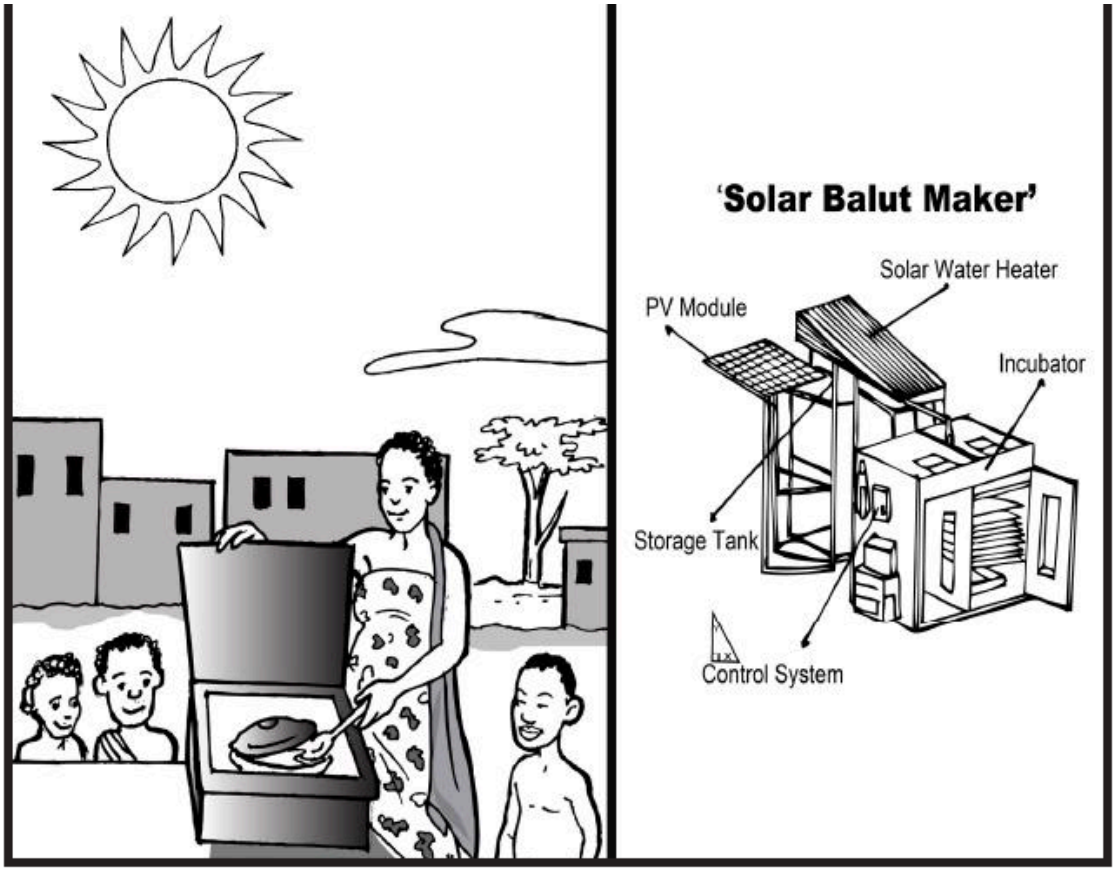
Engr. Paras has been interested in machines and how these can help farmers. One of his most important works is creating a way to heat *balut*—duck eggs with chicks inside. *Balut* is known in the Philippines because of its taste and health benefits, plus, it is cheaper than meat.

To help *balut* makers keep costs low, Engr. Paras thought of using the energy from the sun instead of electricity.



Much bigger than a solar cooker, the solar-powered *balut* maker requires an area of five square meters in size. That is as big as a classroom!

Just as the sun can heat water in a pot, the *balut* maker is kept hot by a solar-powered water heater or solar heat collector that traps heat, keeping the temperature inside the machine steady. This makes the *balut* ready for selling in fifteen to seventeen days.



Because of the size of the machine, the solar-powered *balut* maker can heat up to 4,000 duck eggs at a time. This is a lot more than what an ordinary *balut* maker can hold. So, people making *balut* can earn more with the new machine.

The solar-powered *balut* maker and solar box cooker are really cool inventions. They can help people everywhere and keep the environment green.

Grammar: Review of adjectives

Add adjectives to the following sentences:

A.

1) Barbara Kerr was a _____ inventor.

2) She made a _____ box cooker.

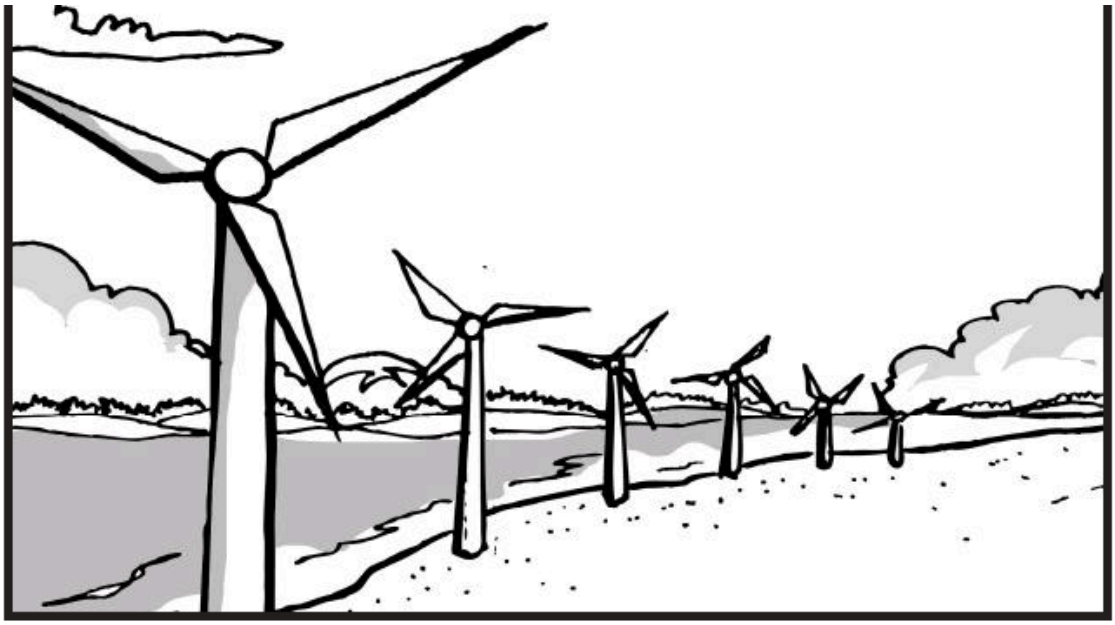
3) Now there are _____ cookers in the world.

B.

4) Engr. Fernando Paras is a _____ man.

5) He thinks of _____ machines for people.

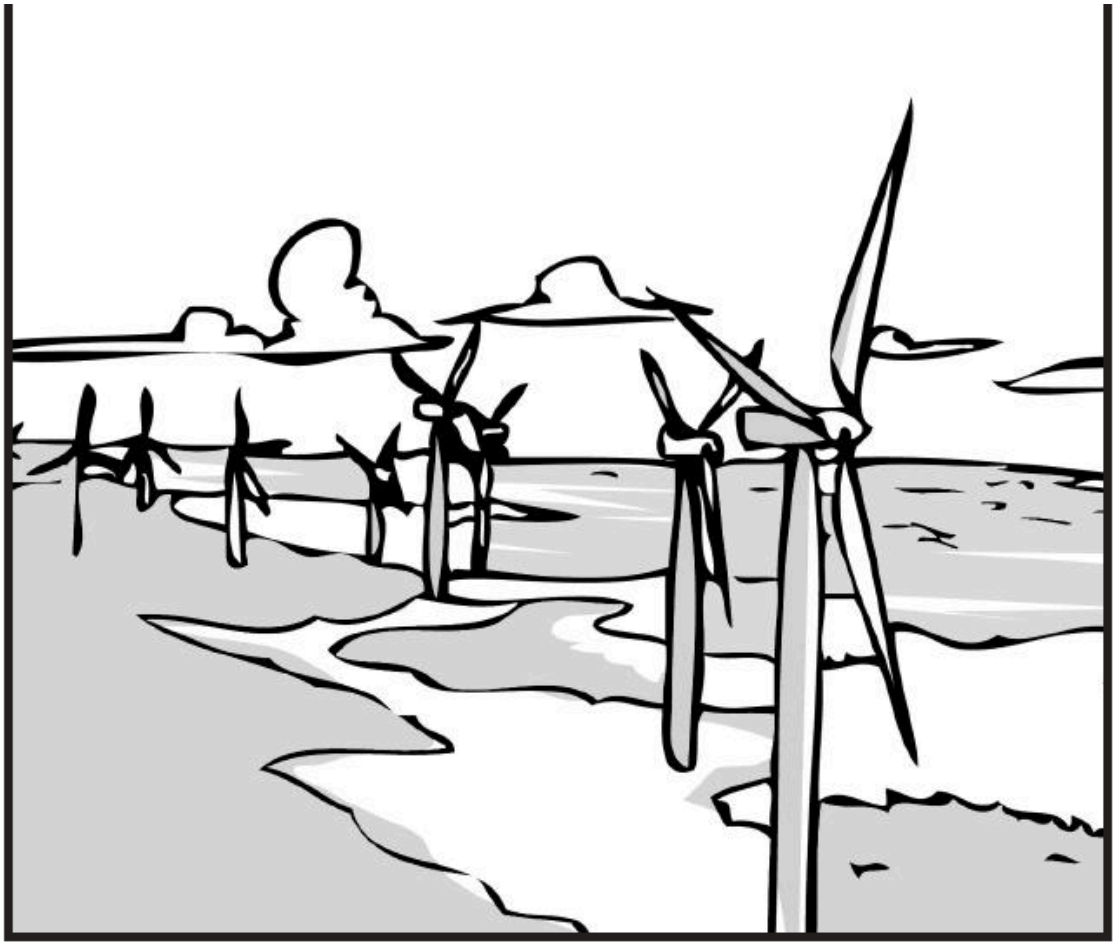
6) His _____ work will help us.



How can you catch wind and put it to use?

The engineers and scientists at a small town in the Philippines had heads turning. This means they got noticed by a lot of people. What did they do?

They made the first wind farm in Southeast Asia that began operations on June 28, 2005. Lining up windmills near Bangui Bay, which look like giant electric fans along the beach, they were able to use the wind to supply power to their town. This is the Bangui Wind Farm in Ilocos Norte.



Amazingly, Ilocos Norte is the home of another wind farm—the Burgos Wind Farm. This clean energy factory in the town of Burgos is also a record holder. It is the biggest wind farm in Southeast Asia!

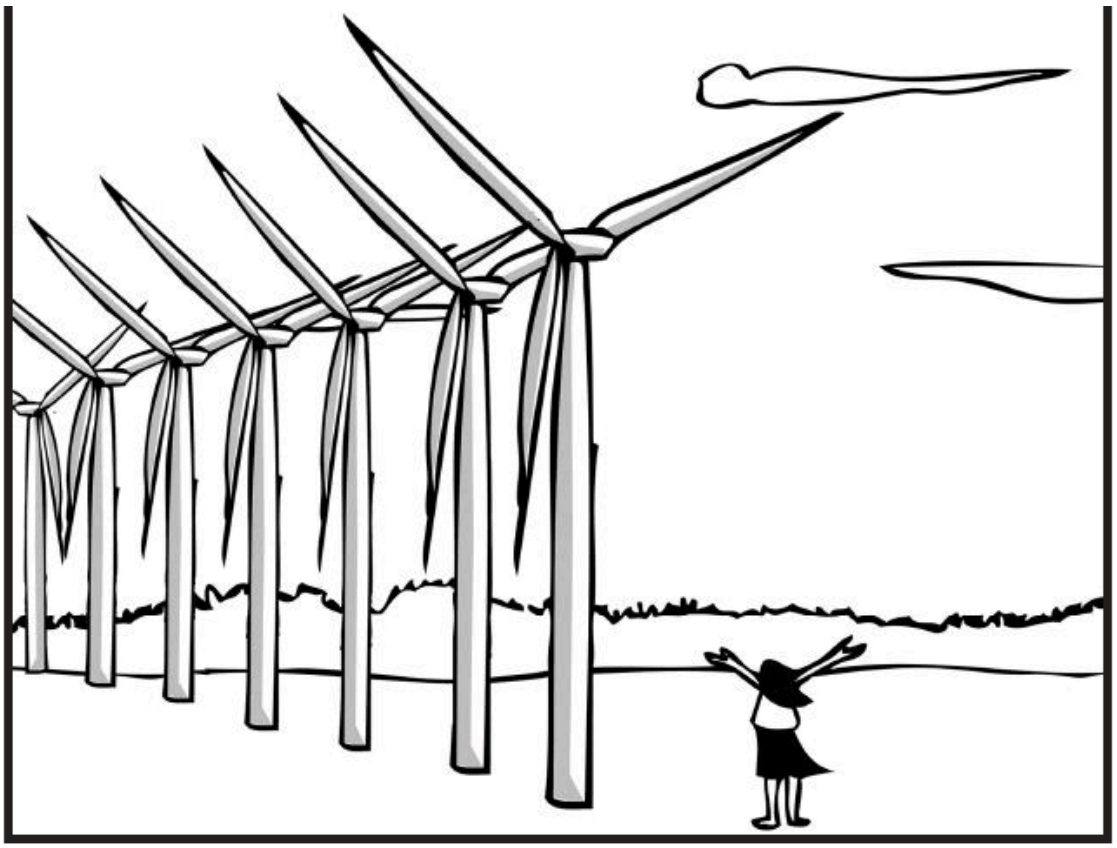
Since Ilocos Norte is a province found in the northern part of the Philippines and is very near the ocean, the place can get very windy. The wind farms can then produce enough electricity for more than a million homes.

More and more people see the benefits of using wind power. That is why a lot of other places in the Philippines are putting up huge turbines that spin energy from the wind.

These metal windmills can also be found along the beach, like in Pagudpud; on an island, like in Aklan; or on top of the hills, like in Pililla, Rizal. The areas for construction are chosen based on where the strong winds pass.

Wherever they are built, wind farms offer many good things to the community.

First, electricity made by the wind is much cheaper than electricity from burning coal. Second, wind energy does not pollute the air. There is also wind almost everywhere so it is not something difficult to find. Even during the hot months, the wind still blows, and with every puff, it keeps a home bright.



Wind turbines are here to stay.

These tall, turning wheels will always remind us that there is a better way of getting electricity. They show that man and nature can live in harmony. They also serve as a challenge to everyone to make use of natural energy to keep Mother Earth happy.

There is no blowing this invention away!

Phonics: Words with r-influenced vowels
(—ur, —ure, —ur-e)

Fill in the missing letters to make a word with an r-controlled **u** vowel. Read the word out loud.

p_ _e t_ _n h_ _t s_ _e bl_ _

Spelling Words

before fast more because turn

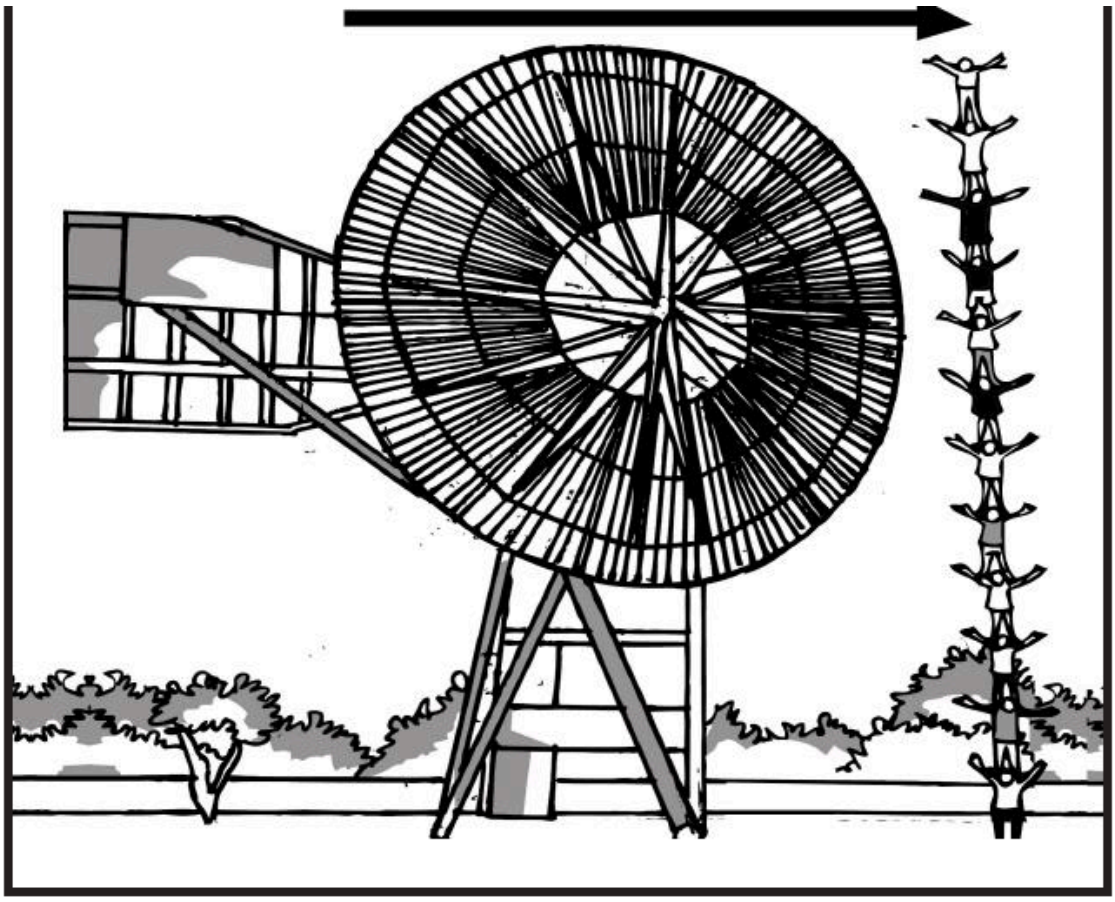
turbine lure spur burn study

With all the good things wind turbines blow our way, who should we remember as the father of this invention?

Charles F. Brush first thought of creating the wind turbine more than a hundred years ago. During his time, it was more common for houses not to have electricity. So when he built his own home, he decided to brighten up the night.

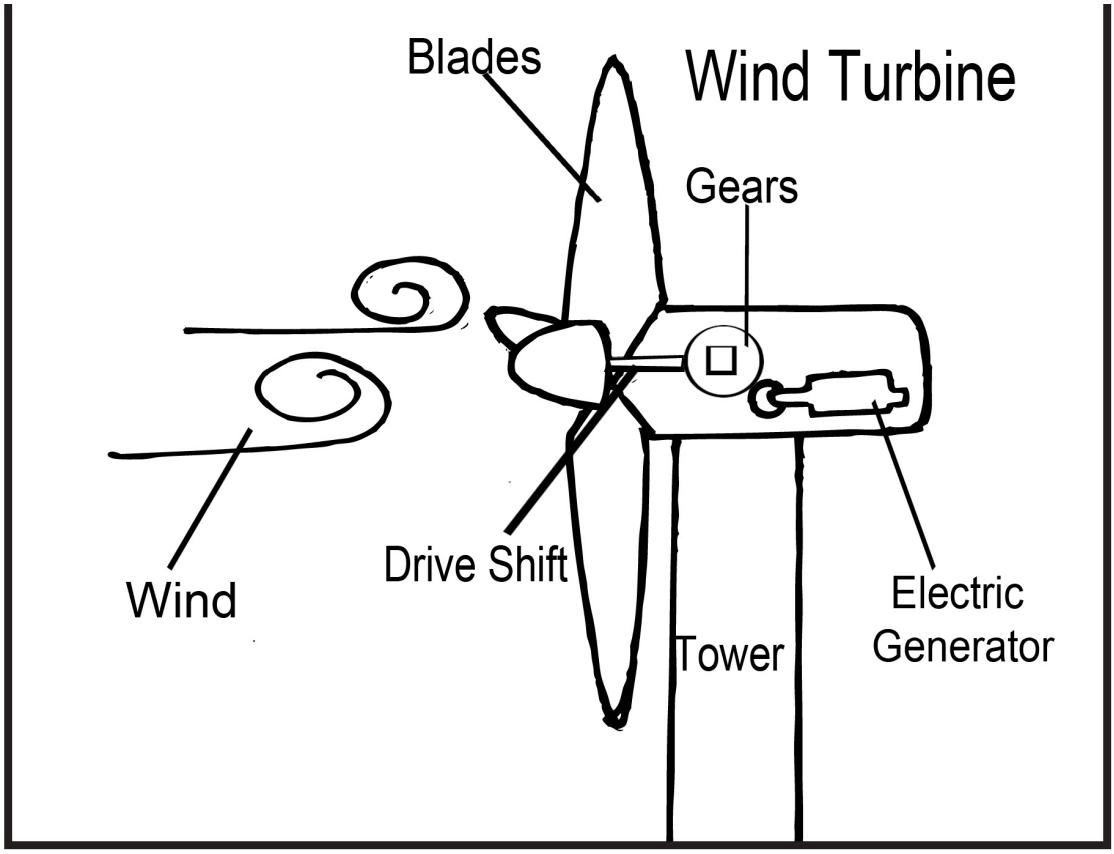
In 1888, Brush successfully built the first wind turbine. This turbine powered batteries at the basement of his home. The batteries then supplied electricity to his house. This turbine provided him electricity for over 20 years.

With his invention, Brush's home became the first house to have electricity in all of Ohio, USA. You could just imagine how his neighbors felt at that time. They must have thought the circus had come to town!



The first wind turbine was very big. It was higher than twelve men standing on each other's shoulders. That was how tall it was. Back then, it was considered as the "world's largest turbine."

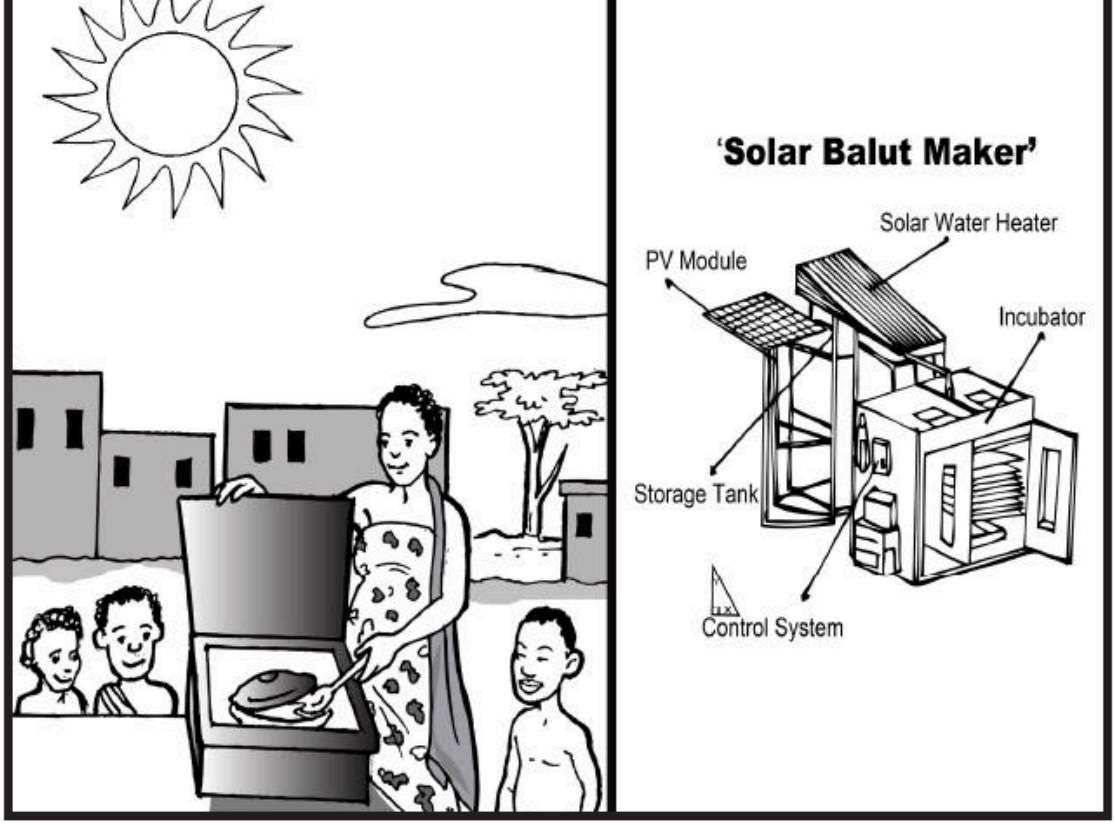
The turbine's blades were made of wood. It could turn at a speed of 500 times per minute. That is very fast!



How does Brush's wind turbines work?

First, when the wind blows, it makes the blades of the wind turbine turn like a fan. The device spins a turbine inside a small generator. This generator turns the spins into electricity.

But, Brush's wind turbine could only make a small amount of electricity, enough to power a few farm machines.



Wind turbines now have come a long way. They have improved a lot. They have also become more efficient. They have become better at producing more electricity than before. They are now made of metal and come in all sizes so they can be used for different things. But, they are usually between 70 and 75 meters tall.

The taller the wind turbine, the more wind it catches, the more energy it creates!

Grammar: Hyponyms

Go through this whole book and find those words (hyponyms) that can be classified under these categories:

Where energy comes from	Things that use electricity

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