



# LESSON 3

## Renewable Energy

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### Interesting Facts:

- The first wind machine device was used in ancient Persia around 300 BC<sup>1</sup>.
- One wind turbine can produce enough electricity to power 300 homes.
- Renewable energy sources create three times more jobs than fossil fuels.
- Albert Einstein<sup>2</sup> won the Nobel Prize in 1921 for his experiments with solar power.

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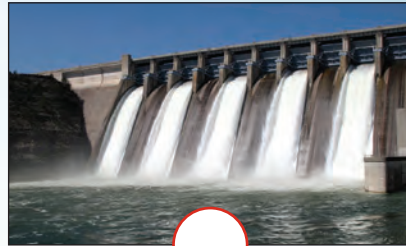
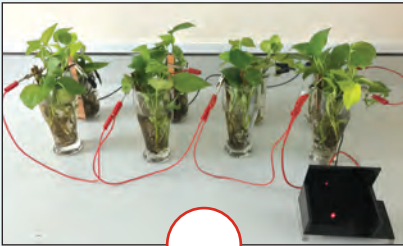
1. Before Christ: used after a date to show that it was before the birth of Christ

2. English pronunciation: /<sup>1</sup>aɪnstam/



# Get Ready

A. Match the pictures with energy sources.



a. wind

b. water

c. sunshine

d. plants

Now fill in the blanks with the above words.

1. Some scientists are working on producing electricity from .....  
. This way, while the plant is growing, electricity is produced.
2. Hydropower or ..... power is produced as a result of falling or running water.
3. Solar energy or the energy that comes from ..... can be used to heat, cool, and light our homes and schools.
4. Wind turbines convert the kinetic energy in the ..... into mechanical power.

**B. Draw a circle around renewable energy sources.**



**C. This picture shows six ways you can save energy. Place the letter next to the correct description.**



- ..... 1. Close the door behind you so the cold or warm air doesn't go out.
- ..... 2. If you're the last person to leave the room, turn off the TV.
- ..... 3. Trees can lower the cooling costs of your home.
- ..... 4. Using a dishwasher saves much more water than hand washing.
- ..... 5. LED light bulbs use 75% less energy and last 10 times longer than string light bulbs.
- ..... 6. Let your computer monitor go to sleep or turn it off to save more energy.



# Conversation



Emad and his father are traveling to Guilan. On the way, in Manjeel, Emad sees huge wind turbines.

- Emad:** Daddy, look at those big fans!
- Father:** They are actually wind turbines.
- Emad:** Wind turbines?
- Father:** Yes, wind turbines are used to produce electricity from wind power.
- Emad:** I know electricity can be produced from water and sunlight. How might it be generated from wind?
- Father:** Well, a wind turbine works the opposite of a fan. Instead of using electricity to make wind, a turbine uses wind to make electricity. It is a type of clean energy.
- Emad:** These wind turbines remind me of what I read about using wind power in Yazd's buildings.
- Father:** You mean wind towers?

- Emad:** Yes, they are natural air cooling systems and can be used instead of electrical air conditioners. This is another source of clean energy, isn't it?
- Father:** Yes, it is. An excellent type of clean energy!
- Emad:** Daddy, can we travel to Yazd this Norooz?
- Father:** That's Ok with me. Let's check it with others.



## Questions

Answer the following questions **orally**.

1. Where are Emad and his father?
2. Has Emad ever traveled to Yazd?
3. What types of clean energy can you find in your city or village?



# New Words and Expressions



A. Look, Read and Practice.



Oil, coal and natural gas are three common **fossil fuels**.



The main sources of **renewable energy** are wind, water and sun.



Khuzestan is rich in oil **resources**.





Many Iranian old houses are famous for their beautiful **yards**.



The factory has **polluted** the river.



The new light bulbs **consume** less electricity.



My uncle often sits in the **balcony**, has a cup of coffee and reads a book.



## B. Read and Practice.

**variety:** many different types of things or people

They do a variety of fitness activities.

**tide:** the rise and fall of the sea

Here you can see two high and two low tides each day.

**replace:** 1. to take the place of somebody or something

The factory replaced most of its workers with robots.

2. to put something back in the right place

She carefully replaced the chinaplate on the shelf.

**use up:** to finish something

Don't use up all the milk, we need some for breakfast.

**forever:** for all time

No one can live forever.

**demand:** the amount of a product or service that people want

Demand for organic food is increasing.

**convert:** to change in form or character

The sofa converts into a bed.

**absorb:** to take something in, especially gradually

Plants absorb carbon dioxide.

C. Go to Part 'Vocabulary' of your Workbook and do A and B.

# Reading



## Earth for our Children

Energy is the ability to do work. It can take a variety of forms: mechanical, electrical, chemical, and nuclear. To produce any type of energy, the resources of the earth are used. The main resources of the earth are fossil fuels such as natural gas, oil, and coal.

We get most of our energy from these fossil fuels, but this is harmful to the environment. Fossil fuels are nonrenewable and cannot be replaced easily. Once we use them up, they're gone forever. They are not clean as they pollute water or air.

In recent years, scientists try to use other types of energy resources. They call them clean energy resources because they do not pollute the earth. Clean energy is renewable. It is made from resources that can be replaced, like wind, water, sunshine, tides, and plants. When renewable energy resources are used, the demand for fossil fuels is reduced.

The most common type of clean energy is the solar power. Solar energy is produced by the radiation that reaches the earth. People have used the sun as a heat source for thousands of years. Iranians, for instance, use special designs and arrangements of windows, balconies and yards to get the most sunshine. Different types of materials might also be used in building the houses. This keeps people warm during cold seasons and cool during hot days of the year.

Nowadays, solar energy can be converted into other forms of energy, such as heat and electricity. Solar energy might be used for heating water and air in homes,



buildings, or swimming pools. Maybe you've seen buildings or houses with big shiny panels on the roof. These are solar collectors that collect heat by absorbing sunlight and producing solar power. Also, solar energy can be used in generating electricity to provide power for watches, highway signs, houses and even space stations.

Clean energy resources are widely used in many countries to keep cities and villages clean. As a result, less fossil fuels are consumed each year and they are saved for the future generations.

## Reading Strategy

### Note Taking

Learning to take good notes is very important. Good notes can help you remember and review a text you have read. There is no magic formula to taking notes when reading. You have to find out what works best for you. However, the following guidelines are suggested:

- ◆ Be sure to include all the important ideas and examples.
- ◆ Write only important words, not complete sentences.
- ◆ Use abbreviations and symbols.

You can write your notes in the margins or on a separate page. For example, the notes of the following paragraph were taken as follows:

To have a healthier lifestyle, people need to do certain things. First they should check their general health. Measuring blood pressure and heartbeat is the most important thing to do. They also need to check their family health history. In this way, they understand if anyone in the family has had a special illness.

Healthier lifestyle

- 1) checking general health: blood pressure & heartbeat
- 2) checking family health history

# Reading Comprehension

**A.** Use the information in the ‘Reading’ to complete the notes. Then compare your notes with your classmates’ notes.

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**B.** Go back to the ‘Reading’ and try to take notes on the basis of the above guidelines:

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**C.** Read the ‘Reading’. Find what these words refer to.

1. it (paragraph 1, line ...) .....
2. them (paragraph 2, line ...) .....
3. they (paragraph 3, line ...) .....
4. their (paragraph 4, line ...) .....
5. these (paragraph 5, line ...) .....
6. they (paragraph 6, line ...) .....

# Vocabulary Development

## PROVERBS

A proverb is a short well-known sentence that gives practical advice about life. Proverbs surround us every day. Whether at home, work, school, or during a conversation with a friend, the likelihood of hearing a proverb is high. For example, the following common proverbs in English have common counterparts in Persian.

English Proverb	Meaning	Persian Proverb
God helps those who help themselves	Don't just wait for good things to happen to you. Work hard to achieve your goals.	از تو حرکت از خدا برکت
The early bird catches the worm	You should wake up and start work early if you want to succeed.	سحر خیز باش تا کامروا باشی



**A. Match the following proverbs with their meanings and then write their counterparts in Persian.**

English Proverb	Meaning	Persian Proverb
1. Birds of a feather flock together	a) When two people cooperate with each other, they come up with better ideas.	
2. Actions speak louder than words	b) When you get money quickly, like by winning it, it's easy to spend it or lose it quickly as well.	
3. Practice makes perfect	c) When there are too many people trying to lead and give their opinions, it's confusing and leads to bad results. Jobs and projects should have one or two strong leaders.	
4. Too many cooks spoil the broth	d) You soon forget people or things that are no longer visible or present.	
5. Easy come, easy go	e) People like to spend time with others who are similar to them.	
6. Two heads are better than one	f) Just saying that you'll do something doesn't mean much. Actually doing it is harder and more meaningful.	
7. Don't count your chickens before they hatch	g) You have to practice a skill a lot to become good at it.	
8. Out of sight, out of mind	h) Your plans might not work out, so don't start thinking about what you'll do after you succeed. Wait until you've already succeeded, and then you can think about what to do next.	

**B. Write the Persian counterparts for the following English proverbs.**

1. Cut your coat according to your cloth.

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2. A burnt child dreads the fire.

.....

3. Kill two birds with one stone.

.....

4. Don't look a gift horse in the mouth.

.....





# Grammar

## A. Read the following texts.



Did you know that the things nobody wants **can be used** to produce electricity, heat or fuel? Changing waste to energy **can be considered** one of the most helpful ways to save the resources of the earth. Because garbage **can be changed** directly into a liquid fuel, it can be used in cars, trucks, buses and airplanes. To do that, garbage **should be collected** and **taken** to a landfill by workers. **People may be paid for** voluntary garbage delivery as well. It is important to know that not all types of waste **can be used** to produce fuel. Some materials may give off harmful gases in the process. Therefore, people **should be informed** of this danger and **warned** about the possible harms.

## B. Read the following example sentences.

The principal should call the parents.	The parents should be called (by the principal).
The cook may make a fish salad for dinner.	A fish salad may be made for dinner (by the cook).
People must obey the traffic rules.	The traffic rules must be obeyed (by everyone).

**C. Tell your teacher how 'passive voice' is made using 'modals'.**

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**D. Read the Conversation and underline all 'passive voices with modals'.**

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**E. Read the following sentences and use passive voice with the given verbs in the parentheses.**

1. Something ..... (should/do) about global warming, or some types of animals will die out.
  2. The bill ..... (must/pay) before leaving the restaurant.
  3. Some dangerous gases ..... (may/produce) when garbage is burned.
  4. Wind ..... (can/change) into electricity.
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**F. Pair up and talk about the things that can/may/should/must be done without mentioning the doer.**

Example: Water can be converted into ice in cold weather.

1. ....
  2. ....
  3. ....
  4. ....
  5. ....
- 

**G. Go to part 'Grammar' of your Workbook and do A and B.**

# See Also

## Past Perfect Tense

A. Read the following example sentences.

Joe <b>had studied</b> Chinese	before	he moved to China.
She <b>had never seen</b> a bear	before	she went to the zoo.

I knew I <b>had seen</b> that man somewhere	before.
The woman told me that she <b>had worked</b> in Isfahan	before.

Everything in the garden was brown	because	it <b>hadn't rained</b> .
They gave me some money back	because	I <b>had paid</b> too much.

When I arrived at the party,	my grandparents <b>had already gone</b> home.
When I sent the book to her,	she <b>had already bought</b> it.

B. Go to part 'Grammar' of your Workbook and do D.

# Listening and Speaking

## Speaking Strategy

Talking about an activity before another activity in the past.

**A.** We use the ‘past perfect tense’ to talk about an event that happened before another event in the past.

- OK, Tell me about the picnic. What did you do?
- That was great, dad. We played volleyball and had barbecue.
- Oh, come on! Did you do anything fun?
- Yeah, it was all fun. Before we played volleyball, we had taken some photographs.
- Great! Did you do anything in the afternoon?
- Oh, something interesting! After we had eaten lunch, we flew kites. That was fantastic because we had made the kites ourselves!



You may use the following structures to talk about two activities in the past.

- Before I ....., I had .....
- After I had ....., I .....



**B. Listen to the following conversations and answer the questions.**

**Conversation 1**



1. Had Rasool tried the restaurant sauce before? .....
2. Did Rasool go to the new restaurant alone? .....

**Pair up and ask your friends to talk about what they did in the past before or after other actions. You may use the clues in the box.**

- |                   |               |              |
|-------------------|---------------|--------------|
| travel to Mashhad | borrow a book | spend money  |
| catch cold        | go home       | leave Tehran |

**Conversation 2**



1. When had Samira and her friends gone to the museum? .....
2. When did Samira's guests leave her home? .....

**Pair up and ask your friends to talk about what they hadn't done before. You may use the clues in the box.**

- |                |                 |             |
|----------------|-----------------|-------------|
| climb Damavand | apply for a job | pay a check |
| sing a song    | go abroad       | play futsal |

# Writing

## Supporting sentences

In Lesson Two you got familiar with the paragraph format as well as the structure of a topic sentence. Now, two other components of a paragraph, namely supporting sentences and concluding sentence are introduced.

Supporting sentences come after the topic sentence. These sentences can:

- explain the idea in the topic sentence
- give reasons
- give examples
- tell a short story

**A. Read the following paragraphs. Cross out any sentences that do not support the topic sentences.**

Ants are strange insects. Like all insects, they have six legs. Each leg has three joints. Yesterday, I saw an ant. The legs of ants are very strong, which help ants run very quickly. I can run quickly too. If a man could run as fast for his size as an ant can, he could run as fast as a racehorse.

The new century has brought big changes in communication. Cell phones are small enough to carry in your pocket. Students should not use cell phones in schools. Videophones let you see the person you are talking to on the phone. But some people do not have such phones. Tiny hand-size computers know your favorite subjects. The Internet is everywhere.

## The concluding sentence

The last sentence in a paragraph is often a concluding sentence. This sentence repeats the idea of the topic sentence.

**Remember:** Not all paragraphs have concluding sentences.

### **B. Read the following paragraphs. Which one has a concluding sentence?**

Horses are farm animals. They are usually black, grey, white and brown in color. They carry people and goods from one place to another. They have long legs, which are very strong. They can easily run long distances. Horses usually move in herds. They live in a stable. They are very useful farm animals.

Energy is important in everyone's life. Without it, we would have a harder time because most of our activities like cooking a dinner, heating a house, lighting a street, keeping a hospital open, running a factory all requires energy. It is thus at the heart of everybody's life.

Elephant is the largest animal to walk on Earth. An elephant can carry a load of 1200 pounds<sup>1</sup>. They eat 300 pounds of food a day. An elephant baby can weigh 200 pounds at birth. Elephants can live up to 70 years.

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1. 1 pound = 454 grams

**C. Unscramble the following sentences. Then write them in correct order to form a paragraph.**

- 1) In order of distance from the Sun, the planets are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto.
- 2) The Solar System consists of the Sun, Moon and Planets.
- 3) The Sun is at the centre of the Solar System and these planets revolve around it.
- 4) The Sun is the largest member of the Solar System.

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**D. Below are sentences from a paragraph in the wrong order. Decide if the sentences are topic sentences (T), supporting sentences (S), or concluding sentence (C).**

- ..... a) Trees are very valuable.....
- ..... b) They also cause rains.
- ..... c) They take carbon dioxide from the atmosphere and fill it with oxygen.
- ..... d) In short, the trees are the best friends of man.
- ..... e) They supply us with many necessary things of everyday life.

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**E. Now you are going to write a paragraph about ‘Learning a New Language’ Follow the steps:**

◆ Try to write a good topic sentence.

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◆ Generate at least three supporting sentences.

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◆ Write a good concluding sentence.

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◆ Now organize them to form a paragraph.

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**F.** Using the following pictures, write a paragraph about ‘Sport’:



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**G.** Look at the following picture and then write a paragraph to describe it.



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...changes in com-  
...are small enough to carry in  
...Videophones let you see the person you are  
talking to on the phone. But some people do not  
have such phones. Tiny hand-size computers know  
your favorite subjects. The Internet is everywhere.

## LESSON THREE

# What you learned

To have a healthier lifestyle, people  
need to do certain things. First they  
should check their general health.  
Measuring blood pressure and heartbeats  
is the most important thing to do.  
They also need to check their family  
health history. In this way, they  
can find out if anyone in the family  
has a special illness.



**A. Listen to the first part of a story.**

**1. Answer the following questions based on what you've just heard.**

a. How was the street at night?

.....

b. Had the man experienced such a thing before?

.....

**2. Listen again and take note of 'past perfect tenses'.**

**B. Now read the rest.**

He was one of our clients. He had come to our office two or three times before. The last time he was there, he was so upset. He was worried because he had lost his documents. Everyone in the office tried to help him. They started to look for his suitcase. Finally, he remembered that he had left his suitcase in his car! He apologized for his anger and left. I haven't seen him since then.

**3. Scan the text and list 'past perfect tenses'.**

.....  
.....

**C. Work in pairs. Ask and answer.**

Had the man lost his suitcase in the office?

Did the man apologize?

Have you ever forgotten doing something?

