Lesson 4. Are you weather-wise: what is weather?

1. Read the words of WMO[1] Secretary-General and explain why meteorology has a very important role to play (think what economic sectors depend on the weather).

"From the daily concerns[2] of friends and family to the success of key economic sectors and answers to major global concerns, meteorology has a vital role to play. I encourage all young people to learn more about this highly gratifying field[3]."

M. Jarraud
Secretary-General
World Meteorological Organization

2a. For centuries, ordinary people and researchers kept asking questions about weather. With your class decide if you can answer these researcher's questions.

What is weather? What does it depend on? Why does weather change?

2b. It's a day of research at the weather camp. Any research starts with reading. Get acquainted with the information about reading in a foreign language correctly.

Compensation strategies: using context clues

When you read something in a foreign language you **don't need to stop at every word you don't know.**

Instead you should **read the whole text or story to get a general idea about it.** Later you will find words and whole sentences that will help you understand new words. They

[1] **WMO** – the World Meteorological Organization, a specialized agency of the United Nations Organization (Am. spelling is used here)
[2] **concern** [kənˈsɜːn] (*n*) – something that worries you
[3] **a gratifying** [ˈgrætɪfaɪŋ] **field** – отрасль, приносящая удовлетворение и радость

are called **context clues** [klu:z], e.g. **precipitation = moisture** = rain, snow, hail, sleet, drizzle, fog (see paragraph E).

3. Work with the information from the "Weather-Wise Magazine" paragraph by paragraph in the following order:

A. Listen and read along. Say if it answers any of the researcher's questions (ex. 2). Ask your classmates the meaning of the words you do not remember (but not the words in bold).

B. Read aloud together with the class and guess the meaning of the words in bold. Check with the class.

C. Look through the text of the paragraph again and find the key sentence. Compare with the class and write it down in your exercise book.

A. Weather **occurs** ([əˈkɜ:z] = happens, is found) in the **atmosphere** [ˈætməsfɪə], or in the air between the Earth's **surface** [ˈsɜ:fɪs] and space, which consists (is made up) of a few **layers** (see the picture). To be more exact[1], weather usually occurs in the layer, closest to the Earth – up to 15 kilometres. Only really big storms can go into the next layer of the atmosphere.

In the first layer temperatures drop about 6.5 degrees Celsius [ˈselsɪəs] as you go higher one kilometre. The higher from the Earth, the fewer molecules [ˈmɒlɪkju:lz] of oxygen and other gases there are in the atmosphere.

B. The simplest explanation of weather is that it is the **state** (состояние) of atmosphere at a definite time and place on the Earth. It can be hot or cold, dry or not, calm or stormy, clear or cloudy. This condition (state) is **influenced** (подвержено влиянию) by a number of atmospheric [ˌætməsˈferɪk] factors, such

[1] **To be more exact** [ɪgˈzækt] – чтобы быть более точным

as air **pressure**, temperature [ˈtemprɪtʃə], **humidity, precipitation**.

C. Temperature is how hot or cold something is, for example air, land or water. Temperature is **measured** [ˈmeʒəd] in degrees Celsius or Fahrenheit [ˈfærənhaɪt].

D. The air around us is never completely dry – it is **humid**. It means that it contains (содержит) water in the form of **vapour,** which is a gas. **Humidity** is the amount (количество) of water vapour in the air. Cold air can hold less water vapour than warm air.

Weather forecasts give **relative humidity** as a percentage [pəˈsentɪdʒ]. For example, 50 percent humidity means that the air is holding only half of the amount of water vapour it can hold at this temperature. 100 percent[1] humidity is the point (точка) where the air can hold no more water vapour – and water vapour turns into water.

E. Precipitation is the term given to **moisture** that falls from the air to the ground. The most common form of precipitation is rain, snow, hail, sleet, drizzle, fog, mist.

F. Atmospheric **pressure** is the weight[2] of the air pressing down on the Earth's surface and on everybody and everything on the Earth's surface. On weather maps pressure is shown with lines called isobars [ˈaɪsəʊbɑːz]. High and low pressure areas on weather maps are marked with **H** or **L**.

Warm air is lighter (легче) than cold air, cold air is heavier (тяжелее) than warm air. In cold air, molecules are close[3] to each other, and they do not move fast. In warm air, molecules are more active, they move faster and they are far from each other. High pressure near the Earth's surface occurs when air

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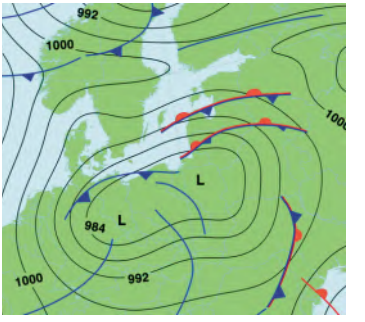
[1] **percent** – процент
[2] **weight** [weɪt] – вес
[3] **close** [kləʊs] **to each other** – близко друг к другу

becomes colder and falls. Low pressure occurs when air is warm and rises.

Pressure is an important factor in forecasting weather. In low-pressure areas of the Northern hemisphere (полушарие), weather is usually cloudy and winds are strong. In high-pressure areas, weather is usually dry and fair with light winds.



4. Check if you can read the words below and if you remember their meaning. Work in pairs.

atmosphere [ˈætməsfɪə]
influence [ˈɪnfluəns]
temperature [ˈtemprɪtʃə]
precipitation [prɪˌsɪpɪˈteɪʃ(ə)n]
Celsius [ˈselsɪəs]
molecule [ˈmɒlɪkjuːl]
vapour [ˈveɪpə]
occur [əˈkɜː]
pressure [ˈpreʃə]
humidity [hjuːˈmɪdətɪ]
degrees [dɪˈgriːz]
Fahrenheit [ˈfærənhaɪt]
moisture [ˈmɔɪstʃə]

5. Find answers to the questions (you can read them). Work in pairs.

1. What is weather? 2. Where does weather occur? 3. What factors influence weather formation? 4. What is temperature / humidity / atmospheric pressure? 5. What is precipitation? 6. Why is there wind?

6. Watch the experiment and answer: *What phenomenon does it demonstrate?*

https://www.youtube.com/watch?v=bN7E6FCuMbY

7. Make a video of yourself or record an audio of your interview for the "Weather-wise Magazine". Give a simple explanation of weather to 10-year-old children.