**16.11.2021 Учебная группа 1СТМ, 1-я пара**

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**ОГСЭ.03 Иностранный язык (английский)**

**Тема:** Экологические проблемы автотранспортных предприятий.

**Цель занятия:**

*образовательная:*активизировать лексический материал; развивать навыки устной и письменной речи.

*развивающая:* развитие у студентов способности и готовности к самостоятельному (автономному) и осознанному изучению языка и освоению иноязычной культуры; развитие способности к установлению смысловых связей; выявлению языковых закономерностей.

*воспитательная:* воспитывать у студентов познавательный интерес к окружающему миру, стране изучаемого языка и его носителям;

**Задачи занятия:** формирование умений и навыков иноязычной компетентности.

**Задание студентам:**

1. Прочитать и перевести текст.
2. Выполнить упражнения 2-4.

Фотографию с выполненным заданием прислать на электронный адрес **atata17@yandex.ru** в срок **до 08.00 17.11.2021** **г.**

**План:**

1. **Работа с текстом.**
2. **Работа с упражнениями**

**Литература:**

1. Буренина JI.C. Учебник английского языка. - М.: Высшая школа, 1978. - 127 экз.
2. Парахина А.С. Учебник английского языка. - М.: Высшая школа, 1987. - 55 экз.

**Теоретический материал**

VEHICLES AIR CONDITIONING AND ENVIRONMENT

**Задание 1**. Прочитайте и переведите текст

In the near future, there will be 1 billion vehicles on the world's roads. As this number grows, so does environmental concern over fuel usage, emissions, and end-of-life disposal.

Today's vehicles are composed of many systems, each affecting customer satisfaction and environmental impact. One of many such systems is airconditioning (A/C). Customers have come to expect the high level of comfort and safety current systems offer. As a result, A/C is now standard on most new vehicles in the U.S. while demand for it in Europe and Asia is rising.

The refrigerant used in current systems is HFC-134a, which is classified as a global warming gas and is under scrutiny for possible phase-out in Europe. Emissions of HFC-134a from vehicle A/C systems account for about 0.1% of total world emissions. While the automotive industry is improving HFC-134a systems, it is evaluating two replacement refrigerants: carbon dioxide (C02) and propane. The C02 system has higher operating pressures; if used, C02 would require all new A/C system components.

The use of propane requires only a modification of the existing HFC-134a system. In the secondary-loop propane system, a device in the engine compartment chills a coolant (water-glycol). This coolant, not propane, circulates through the passenger compartment.

Although these technical options are promising, cost-benefit analysis is needed to understand the environmental and consumer benefits they offer compared to other potential vehicle fuel-saving technologies.

The international impact of SAE (Society of Automotive Engineers) documents on mobile A/C systems is far-reaching. SAE standards for system design, service equipment, and technician service procedures and training have been used throughout the world. Equipment based on SAE's refrigerant recycling standards is being used in both developed and developing countries to prevent unnecessary release of refrigerant to the atmosphere during service.

Vehicle makers will have to determine which systems need to be changed to best manage total vehicle emissions and then implement those changes.

**Задание 2.** Найдите в тексте синонимы слов *release, coolant*.

**Задание 3.** Заполните пропуски в предложениях в соответствии с содержанием текста и переведите предложения.

In the near future, there will be 1 \_\_\_\_ vehicles on the world's roads.

As this number grows, so does \_\_\_ concern over fuel usage, \_\_\_\_\_\_, and end— of— life \_\_\_\_\_.

Today's vehicles are \_\_\_\_ of many systems, each \_\_\_\_\_ customer satisfaction and environmental \_\_\_\_\_. One of many such systems is airconditioning (A/C).

Customers have come to expect the high level of comfort and \_\_\_\_ current systems offer. As a result, A/C is now standard on most new \_\_\_\_ in the U.S. while\_\_\_\_ for it in Europe and Asia is rising.

Although the technical options are promising, \_\_\_\_ analysis is needed to understand the \_\_\_\_\_ and consumer benefits they offer compared to other potential vehicle \_\_\_\_\_-saving technologies.

Vehicle makers will have to \_\_\_\_\_ which systems need to be changed to best manage total \_\_\_\_\_ emissions and then \_\_\_\_\_ those changes.

**Задание 4.** Переведите вопросы. На основе ответов на вопросы кратко перескажите основное содержание текста на английском языке.

1. How many vehicles will there be on the world's roads in the near future?

2. What problems does environmental concern grow over?

3. Does vehicle air-conditioning affect environment?

4. Is A/C standard on most new vehicles in the U.S. now?

5. What is needed to understand the environmental and consumer benefits?

6. What will vehicle makers have to determine to manage total vehicle emissions?

Additional texts

Effects of Car Pollutants on the Environment

Car pollutants cause immediate and long-term effects on the environment. Car exhausts emit a wide range of gases and solid matter, causing global warming, acid rain, and harming the environment and human health. Engine noise and fuel spills also cause pollution. Cars, trucks and other forms of transportation are the single largest contributor to air pollution in the United States, but car owners can reduce their vehicle's effects on the environment.

Global Warming

Car pollution is one of the major causes of global warming. Cars and trucks emit carbon dioxide and other greenhouse gases, which contribute one-fifth of the United States' total global warming pollution. Greenhouse gases trap heat in the atmosphere, which causes worldwide temperatures to rise. Without greenhouse gases, the Earth would be covered in ice, but burning excessive amounts of fossil fuels, such as gasoline and diesel, has caused an increase of 0.6 degrees Celsius, or 1 degree F, in global temperatures since pre-industrial times, and this will continue to rise over the coming decades. Warmer global temperatures affect farming, wildlife, sea levels and natural landscapes.

Air, Soil and Water

The effects of car pollution are widespread, affecting air, soil and water quality. Nitrous oxide contributes to the depletion of the ozone layer, which shields the Earth from harmful ultraviolet radiation from the sun. Sulfur dioxide and nitrogen dioxide mix with rainwater to create acid rain, which damages crops, forests and other vegetation and buildings. Oil and fuel spills from cars and trucks seep into the soil near highways, and discarded fuel and particulates from vehicle emissions contaminate lakes, rivers and wetlands.

Human Health

Particulate matter, hydrocarbons, carbon monoxide and other car pollutants harm human health. Diesel engines emit high levels of particulate matter, which is airborne particles of soot and metal. These cause skin and eye irritation and allergies, and very fine particles lodge deep in lungs, where they cause respiratory problems. Hydrocarbons react with nitrogen dioxide and sunlight and form ozone, which is beneficial in the upper atmosphere but harmful at ground level. Ozone inflames lungs, causing chest pains and coughing and making it difficult to breathe. Carbon monoxide, another exhaust gas, is particularly dangerous to infants and people suffering from heart disease because it interferes with the blood's ability to transport oxygen. Other car pollutants that harm human health include sulfur dioxide, benzene and formaldehyde. Noise from cars is also harmful, damaging hearing and causing psychological ill-health.

Reducing Car Pollution

There are several ways that car and truck owners can reduce the effects of car pollutants on the environment. Old and poorly maintained vehicles cause most pollution from cars, but electric, hybrid and other clean, fuel-efficient cars have a reduced impact. When buying a new car, check the fuel economy and environment label. High ratings mean low pollution levels. Maximize fuel economy by removing all unneeded items, such as roof racks, and driving steadily, rather than accelerating quickly and braking hard. Keep your vehicle well-maintained, with regular tune-ups and tire checks, and leave the car at home whenever you can. Walk, bike or use public transportation when possible.