

МИНИСТЕРСТВО ОБРАЗОВАНИЯ ПРИМОРСКОГО КРАЯ
краевое государственное автономное профессиональное образовательное учреждение
«Лесозаводский индустриальный колледж»

МАТЕРИАЛЫ ДЛЯ ДИСТАНЦИОННОГО ОБУЧЕНИЯ
по английскому языку
группа ОП-2, специальность 23.02.01 Организация перевозок и управление на
транспорте (железнодорожном).

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Лекция №7 на ИЮНЬ.

Тема: Подвижной состав.

Задания:

- 1. Соотнесите вопрос и ответ на него, переведите на русский язык.**
- 2. Прочитать и перевести текст.**
- 3. Выписать основные этапы развития железнодорожного транспортного сообщения**
- 4. Просмотреть видео и ответить на вопросы.**

Exercise 1.

1. What should you remember to stay safe using the Metro?
2. Which is the longest Metro train route?
3. When did the Moscow Metro start working?
4. What are the advantages of the Metro compared to other means of transport?
5. How fast does the Metro system grow?
6. What are the inconveniences of using the Metro?
7. What materials were used to decorate the Metro stations?

A. The population of Moscow is around 12 million people. There are also a lot of people who come to the capital on business, excursions or to change plane or train, as Moscow is the main transportation centre. If there was no underground transport, it would be impossible to avoid a traffic standstill in the city. In fact, the Metro is very punctual. There are no traffic jams underground and, when taking the Metro, the passengers save time and nerves.

B. The idea of an efficient transportation system in Moscow dates back to the time of Russian Empire. However, it was not developed into a construction plan due to World War I and the Civil War. The government of the Soviet Union got back to the idea in the 1920s, and in 1935 the Moscow Metro accepted its first passengers. The opening ceremony took place on May 15th, at 7am. The city celebrated the event with parades, concerts and performances.

C. When you travel on the Moscow Metro, long magnificent staircases get you downstairs and upstairs. They run fast and you need to be really careful to step on and off them in time. To avoid accidents, never cross the waiting line at the station until the coming train stops completely. Remember that you should never lean on the doors of the railway cars when the car is in motion – it can be really dangerous.

D. Lots of the city passengers prefer the Metro to cars and buses in spite of some discomfort caused by too many people. The problem is that the stations, the passages between them, and the railway cars get really overcrowded in rush hours. Sometimes there are lines to enter the Metro, though, fortunately, the waiting time is quite short.

E. The first line of the Moscow Metro was 11 km long and included 13 stations. Now there more than 230 stations, most of which are underground, but there are also surface-level and

elevated stations. The project that is currently in progress suggests that about 150 km of new lines are to be opened within ten years, between 2012 and 2022.

F. Apart from being an efficient means of transport, the Moscow Metro is a very ambitious architectural and art project. The stations look radiant and brilliant due to marble, bronze, steel, milk glass and other luxurious interior materials. The best architects, such as L. Polyakov, K. Ruzhkov, A. Medvedev and others, worked on it. The chief lighting engineer was Abram Damsky, who cleverly used the light to highlight the beauty of the stations.

Exercise 2. Read and translate the text

Rail transport or **train transport** is a means of transferring passengers and goods on wheeled vehicles running on rails, which are located on tracks. In contrast to road transport, where vehicles run on a prepared flat surface, rail vehicles (rolling stock) are directionally guided by the tracks on which they run. Tracks usually consist of steel rails, installed on ties (sleepers) set in ballast, on which the rolling stock, usually fitted with metal wheels, moves. Other variations are also possible, such as slab track. This is where the rails are fastened to a concrete foundation resting on a prepared subsurface.

Rolling stock in a rail transport system generally encounters lower frictional resistance than rubber-tired road vehicles, so passenger and freight cars (carriages and wagons) can be coupled into longer trains. The operation is carried out by a railway company, providing transport between train stations or freight customer facilities. Power is provided by locomotives which either draw electric power from a railway electrification system or produce their own power, usually by diesel engines or, historically, steam engines. Most tracks are accompanied by a signaling system. Railways are a safe land transport system when compared to other forms of transport. Railway transport is capable of high levels of passenger and cargo utilization and energy efficiency, but is often less flexible and more capital-intensive than road transport, when lower traffic levels are considered.

The oldest known, man/animal-hauled railways date back to the 6th century BC in Corinth, Greece. Rail transport then commenced in mid-16th century in Germany in the form of horse-powered funiculars and wagonways. Modern rail transport commenced with the British development of the steam locomotives in the early 19th century. Thus the railway system in Great Britain is the oldest in the world. Built by George Stephenson and his son Robert's company Robert Stephenson and Company, the *Locomotion* No. 1 is the first steam locomotive to carry passengers on a public rail line, the Stockton and Darlington Railway in 1825. George Stephenson also built the first public inter-city railway line in the world to use only the steam locomotives all the time, the Liverpool and Manchester Railway which opened in 1830. With steam engines, one could construct mainline railways, which were a key component of the Industrial Revolution. Also, railways reduced the costs of shipping, and allowed for fewer lost goods, compared with water transport, which faced occasional sinking of ships. The change from canals to railways allowed for "national markets" in which prices varied very little from city to city. The spread of the railway network and the use of railway timetables, led to the standardization of time (railway time) in Britain based on Greenwich Mean Time. Prior to this, major towns and cities varied their local time relative to GMT. The invention and development of the railway in the United Kingdom was one of the most important technological inventions of the 19th century. The world's first underground railway, the Metropolitan Railway (part of the London Underground), opened in 1863.

In the 1880s, electrified trains were introduced, leading to electrification of tramways and rapid transit systems. Starting during the 1940s, the non-electrified railways in most countries had their steam locomotives replaced by diesel-electric locomotives, with the process being almost complete by the 2000s. During the 1960s, electrified high-speed railway systems were introduced in Japan and later in some other countries. Many countries are in the process of replacing diesel locomotives with electric locomotives, mainly due to environmental concerns, a notable example being Switzerland, which has completely electrified its network. Other forms of

guided ground transport outside the traditional railway definitions, such as monorail or maglev, have been tried but have seen limited use.

Following a decline after World War II due to competition from cars and airplanes, rail transport has had a revival in recent decades due to road congestion and rising fuel prices, as well as governments investing in rail as a means of reducing CO2 emissions in the context of concerns about global warming.

Exercise 2. Write down the main periods of developing of railway transportation:

Exercise 3. Watch the videos and answer the questions.

1. <https://altoona.psu.edu/academics/bachelors-degrees/rail-transportation-engineering> - What are the main skills of students of this organization?
2. <https://asstra.com/mode-of-transport/railway-transport/> - What are the conditions of labor of this company?

Лекция № 8

Тема: Пассажирский состав.

Задания:

1. **Записать основные понятия и перевести их на русский язык.**
2. **Прочитать и перевести текст.**
3. **Просмотреть видео и выполнить задание.**

Exercise 1. Vocabulary:

Passenger train, self-powered multiple unit, board and disembark, fixed schedule, locomotive's prime mover, separate diesel generator, head-end power, sleeping car personnel, alluding to the bygone days, wooden-bodied coaches, finishes and fancy livery, causing delays, bi-level (double-decker) cars, remarkably safe.

Exercise 2. Read and translate the text.

A passenger train includes passenger-carrying vehicles and can often be very long and fast. It may be a self-powered multiple unit or railcar, or else a combination of one or more locomotives and one or more unpowered trailers known as coaches, cars or carriages. Passenger trains travel between stations or depots, where passengers may board and disembark. In most cases, passenger trains operate on a fixed schedule and have superior track occupancy rights over freight trains.

Unlike freight trains, passenger trains must supply head-end power to each coach for lighting and heating, among other purposes. This can be drawn directly from the locomotive's prime mover (modified for the purpose), or from a separate diesel generator in the locomotive. For passenger service on remote routes where a head-end-equipped locomotive may not always be available, a separate generator van may be used.

Oversight of a passenger train is the responsibility of the conductor. He or she is sometimes assisted by other crew members, such as service attendants or porters. During the heyday of North American passenger rail travel, long distance trains carried two conductors: the aforementioned train conductor, and a Pullman conductor, the latter being in charge of sleeping car personnel.

Many prestigious passenger train services have been given a specific name, some of which have become famous in literature and fiction. In past years, railroaders often referred to passenger trains as the "varnish", alluding to the bygone days of wooden-bodied coaches with their lustrous exterior finishes and fancy livery. "Blocking the varnish" meant a slow-moving freight train was obstructing a fast passenger train, causing delays.

Some passenger trains, both long distance and short distance, may use bi-level (double-decker) cars to carry more passengers per train. Car design and the general safety of passenger trains have dramatically evolved over time, making travel by rail remarkably safe.

Exercise 3. Watch the videos and answer the questions.

1. <https://www.youtube.com/watch?v=d8-Ea041Tjg> - Passenger trains 1940 Baltimore & Ohio railroad (Что могли делать пассажиры в данном поезде?)
2. https://www.youtube.com/watch?v=-oB2tGM_35k - ViaRail "Canadian" Train Sleeper Tour (Описать вагон и купе в котором путешествовал автор видео)

Лекция № 9

Тема: Состав специального назначения.

Задания:

1. Записать основные понятия и перевести их на русский язык. (обратите внимание на перевод, так как он должен относиться к железнодорожным терминам)
2. Прочитать и перевести текст.
3. Посмотреть видео и выполнить задание.
4. Составить определение 3 слов (функции).

Exercise 1. Vocabulary:

Maintenance, labourers, gandy dancers, lining bars, railgrinder, sleepers, a track renewal train, weed killing train, releveling, reinsert the ballast beneath, stoneblower train, Hi Rail trucks, Rail inspections, the cess, crews.

Exercise 2. Read and translate the text.

Track needs regular maintenance to remain in good order, especially when high-speed trains are involved. Inadequate maintenance may lead to a "slow order" (North American terminology, or Temporary speed restriction in the United Kingdom) being imposed to avoid accidents. Track maintenance was at one time hard manual labour, requiring teams of labourers, or trackmen (US: gandy dancers; UK: platelayers; Australia: fettlers), who used lining bars to correct irregularities in horizontal alignment (line) of the track, and tamping and jacks to correct vertical irregularities (surface). Currently, maintenance is facilitated by a variety of specialized machines.

The surface of the head of each of the two rails can be maintained by using a railgrinder.

Common maintenance jobs include changing sleepers, lubricating and adjusting switches, tightening loose track components, and surfacing and lining track to keep straight sections straight and curves within maintenance limits. The process of sleeper and rail replacement can be automated by using a track renewal train.

Spraying ballast with herbicide to prevent weeds growing through and redistributing the ballast is typically done with a special weed killing train. Over time, ballast is crushed or moved by the weight of trains passing over it, periodically requiring releveling ("tamping") and eventually to be cleaned or replaced. If this is not done, the tracks may become uneven causing swaying, rough riding and possibly derailments. An alternative to tamping is to lift the rails and sleepers and reinsert the ballast beneath. For this, specialist "stoneblower" trains are used.

Rail inspections utilize nondestructive testing methods to detect internal flaws in the rails. This is done by using specially equipped Hi Rail trucks, inspection cars, or in some cases handheld inspection devices.

Rails must be replaced before the railhead profile wears to a degree that may trigger a derailment. Worn mainline rails usually have sufficient life remaining to be used on a branch line, siding or stub afterwards and are "cascaded" to those applications.

The environmental conditions along railroad track create a unique railway ecosystem. This is particularly so in the United Kingdom where steam locomotives are only used on special services and vegetation has not been trimmed back so thoroughly. This creates a fire risk in prolonged dry weather.

In the UK, the cess is used by track repair crews to walk to a work site, and as a safe place to stand when a train is passing. This helps when doing minor work, while needing to keep trains running, by not needing a Hi-railer or transport vehicle blocking the line to transport crew to get to the site.

Exercise 3. Watch the video and write down which types of trains were shown in this video.

<https://www.youtube.com/watch?v=YVKyw4Ov1yo>

Exercise 4. Make a description 3 of words:

- Ballast regulator
- Ballast tamper
- Barrier vehicle
- Caboose(US)
- Brake van (UIC)
- Clearance car
- Crew car aka Outfit Car or a Camp Car
- Handcars
- Maintenance of way (MOW) cars
- Office car
- Rail ambulance
- Rail car mover
- Railroad cranes
- Railway post office
- Road-rail vehicle
- Scale test car
- Tower cars
- Track tester

Источники:

https://en.wikipedia.org/wiki/Train#Passenger_trains - Пассажирские поезда

[https://en.wikipedia.org/wiki/Track_\(rail_transport\)#Historical_development](https://en.wikipedia.org/wiki/Track_(rail_transport)#Historical_development) – Состав специального назначения.

https://en.wikipedia.org/wiki/Rail_transport#Transportation

Лекция № 10.

Тема: Грузовой состав. Оформление документации.

Задания:

1. Просмотреть видео, выписать виды грузовых составов и типы вагонов и для каких целей они используются, перевести на русский язык (то, что выписали).

Exercise 1. Watch the video, write down the types of trains and wagons, and translate it on Russian.

<https://www.youtube.com/watch?v=vOYaPuDofy4> – Виды грузовых составов.

<https://www.youtube.com/watch?v=ZpI47ov4yRY> - Типы вагонов.

Следующее задание контрольная работа!!!!