***ВЫПИСАТЬ СЛОВА***

1. ax– топор

2. saw– n пила; v пилить

3. hand-held– ручной

4. cross-cut saw– пила для поперечной резки

5. dimension– размер

6. drag– тянуть, тащить, волочить

7. introduction– введение, внедрение

8. chainsaw– бензопила

9. manpower requirements– потребности в рабочей силе

10.contractor– подрядчик

11.harvester– лесозаготовительная машина

12.forwarder– форвардер ( самозагружающийся трактор для трелёвки лесоматериалов в полностью погруженном положении )

13.worth - зд. стоящий ( сколько-либо )

14.manually– вручную

15.grab– схватывать, хватать

16.lay down– укладывать

17.invention– изобретение

18.board– доска

19.whipsaw– лучковая пила

20.waterwhee– водяное колесо

21.circular saw– дисковая пила

22.gangsaw– многодисковая пила

23.drying kiln– сушильная печь

24.stack– собирать, складывать

**A whipsaw** is a type of a crosscut saw which is designed to be used by two people.

***10. Complete each sentence with a word from the brackets. Translate the sentences into Russian. Выбрать правильное слово в каждом предложении, записать, перевести.***

**1**. … (axe/saw) is used to cut down trees. **2**. He helped his father … (grab /drag***)*** the table. **3**. A rectangle has … (diagonals/dimensions) 5cm х 2cm. **4**. The (invention/introduction) of new machines increased productivity of the factory. **5**. A tool used for cutting wood, consisting of a circular chainwith teeth which is driven by a motor is called … (circular saw/chainsaw). **6**. A … (forwarder***)***/harvester) is a forestry vehicle that that fells trees. **7**. A saw in the form of a metal disc that turns quickly, driven by a motor, and is used for cutting wood is called … (whipsaw/circular saw). **8**. A pulp and paper mill (is located/is developed) in the center of the town. **9**. The dimensions of the … (drying kiln/forwarder) are enough to stack and dry large volumes of timber. **10**. Logs (were dried/were stacked) against the wall.

***11. Translate the sentences paying attention to the use of the participles.*** ***Сделать письменный перевод предложений.***

**1**. When felled, timber is transported to the sawmill. **2.** Plywood was the first ‘engineered’ wood product invented. **3**. An increased temperature during drying can lead to timber deformation. **4**. A loggerwas killed while felling a tree. The trunk of the tree he was felling struck his head. **5**. Furniture made from black walnut is very beautiful. **6**. Modern sawmills now use laser scanners and computer technologies maximizing the volume of boards from a saw log. **7**. In American folklore loggers were romanticized with such legendary characters as the powerful Paul Bunyan and his giant blue ox, Babe***)*. 8**. Today lumber industry leaders are working to prevent the destruction of forests and to protect the forest environment during logging. **9**. Hardwoods harvested at a younger age are mainly used for pulp.

***12. Read and translate the text. Do the tasks below. Перевести текст, выполнить упражнения к нему.***

***How Has Technology Changed?***

**Harvesting**

1. In the early days of the timber industry, trees were felled from native forests using axes and hand-held cross-cut saws. It was a slow and hard process. Logs, often of very large dimensions, were dragged by bullocks or horses.

2. With the introduction of chainsaws in the 1960s, a lot of harvesting time was saved. Further progress in mechanization introduced early model tractors and bulldozers. But still manpower requirements were high and accidents not uncommon.

3. These days harvesting is done by small teams of contractors, using modern harvesting machines (harvesters) and forwarders, worth hundreds of thousands of dollars each. There are much fewer very large trees and they are still fallen manually using chainsaws***,*** but smaller trees are more common and often mechanically felled by machines, which grab them, cut them off, and lay them down.

**Sawmilling**

4. Prior to the invention of the sawmill, boards were sawn by two men with a whipsaw. Sawing was slow, and required strong men. Early sawmills simply adapted the whipsaw to mechanical power, generally driven by a waterwheel to speed up the process. By the twentieth century circular saws and gang saws replaced traditional saws, creating greater efficiencies and savings.

5. Sawmills were traditionally located in the forests, and the logs often had to be transported over long distances by horses. As mills grew larger, they were usually built on a river, and the logs were floated down to them by log drivers. The introduction of steam power in the 19th century created many new possibilities for mills. They could be built away from water and could be far more mechanized. In addition, the use of steam or gasoline engines also allowed the entire sawmills to be mobile.

6. Freshly milled timber needs to be dried. Traditionally it was laid out around the mills for air-drying. But in the 1930s large sawmills built drying kilns into which large volumes of timber could be stacked and quickly dried. Today, timber is still dried in kilns.

***12.1. Are these statements: a) true b) false c) there’s no information in the text***

• Many years ago cutters felled trees using axes and hand-held saws.

• In the early days logs were transported via railroads.

• Axmen used boards to climb a tree.

• Today timber is dried in the open air.

***12.2. Which paragraph (1, 2, 3, 4, 5, or 6) expresses the following idea?***

• Nowadays harvesting is mechanized.

• Sawmills had different locations throughout the history.

***12.3. Choose the right answer to the question: What was the first type of the saw?***

a) A circular saw b) A chainsaw c) A whipsaw d) A gang saw

***21.4. What is the main idea of the text? Choose the best answer***:

a) New machines and saws created many new possibilities for mills.

b) The processes of harvesting and sawmilling have undergone significant changes since the early days of timber industry.

c) Early harvesting and sawmilling needed a lot of manpower requirements.

d) Today the process of logging is mechanized.

***13. Translate the words and word combinations below. Use a dictionary if necessary. Перевести словосочетания.***

Wilderness, to be disturbed, native people, explorer, dense forests, to seek refuge barn, crops, abundance, maple, elm, pine, principal industry, to operate, oak, plank, saw log, to be shipped, wooden barrels***)***, shipbuilding, to replace, money-making industry, commercial lumbering, firewood, to cover, reduce, reforestation project, national heritage.

***14. The United Empire Loyalists were those who were settled in the thirteen colonies at the outbreak of the American Revolution, who remained loyal to and took up the Royal Standard, and who settled in what is now Canada. Read and translate the text. Перевести рассказ.***

1. The Timber King , born in 1834 Nieder-Saulheim Frederick Weyerhaeuser, Germany, came to America in 1852 as a poor youth and went on to become known as the Timber King – a title he didn’t like. He remained a simple man who shied away from publicity throughout his life. “Who’s Who in America” only discovered him in 1911, three years before his death. He enjoyed his anonymity. After coming to America, he worked as a day laborerin Pennsylvania, where he married Elisabeth Bladel. He then moved to Rock Island, Illinois, where he worked on a railroad. He advanced quickly wherever he worked. In one of the few interviews he ever gave, he answered a question about the reasons for his tremendoussuccess by saying “The secret lay simply in my will to work. I never watched the clock and never stopped before I had finished what I was working on.” In Rock Island, he was put in charge of a sawmill and then a timber yard

2. After the panic of 1857, he was able to buy both of them with money he had saved. Soon afterwards, he bought more sawmills. In the year 1864, Weyerhaeuser began to buy up pine tracts in Wisconsin, giving him control of all stages of the lumberbusiness. He acquired still more land in Wisconsin, Minnesota, Idaho, Washington, and Oregon. In 1891, he moved to St. Paul where he became friends and neighbors with James J. Hill, the operator of the Northern Pacific Railroad. Hill had acquiredmillions of acres of the best timber forests cheaply form the government for his railroad. He knew nothing about the lumber business, and sold more than three million acres of forests to Weyerhaeuser at bargain rates, which contributed to the wealth of Weyerhaeuser’s company. At the turn of the century, Weyerhaeuser owned more timberland than any other American. He showed greater concern for his workers than any other industrial magnate of the time. He also impressed upon them the necessity of protecting even the smallest trees. Upon his death in 1914, Hill commented, “His place can never be filled…He was one of those national forces that helped build our country…” At the time of his death, his estate was valued at $200 million. Today Weyerhaeuser Corporation is a multi-million dollar company with offices in Europe and Canada. It is one of the largest pulp and paper companies in the world. It is the world's largest private sector owner of softwood timberland and the second largest owner of United States timberland, behind Plum Creek Timber.

1 He was put in charge of a sawmill – он был назначен управляющим лесопилки.

2 timber yard – склад пиломатериалов

3 pine tract – участок , на котором произрастает сосна

***14. 1. Give English equivalents for the following words and phrases from the text. Найти в предыдущем тексте английские эквиваленты данным словосочетаниям, записать.***

Бедный юноша, избегать публичности (известности), поденщик, жениться, переехать, делать успехи (преуспевать), ошеломительный успех, желание работать, купить лесопилку, контроль над всеми этапами лесозаготовки, приобретать землю, подружиться, лучшие леса, дешево, ничего не знать, владеть лесными массивами, имущество.

***14. 2. State if the sentences are true or false. Перевести утверждения и отметить правдивы они или нет согласно тексту***

1) Frederick Weyerhaeuser was an Englishman. 2) He was a known as “The Timber King”. 3) He was well-known during his life. 4) Coming to America he was very poor and worked as a forester. 5) The secret of his success was in his money. 6) His business began with buying a sawmill. 7) He bought a lot of timberland and soon owned more of it than any other American. 8) He was the founder of the Weyerhaeuser Corporation, one of the largest building companies in the world. 9) Weyerhaeuser Co. is the world's largest private sector owner of softwood timberland.

***15. Read the text below and learn some details about the enterprise. Перевести текст.***

1. Mondi Business Paper Syktyvkar (MBP SY), originally named Syktyvkar Forest Enterprise, is a member of the Mondi Business Paper Group. It is located the Komi Republic, with the Mill itself in the Ezhva district of Komi’s capital, Syktyvkar, and the logging operations spread across the south and west of the republic.

2. Built in 1969, Mondi Business Paper Syktyvkar is one of the biggest integrated manufacturers of pulp and paper in Russia. The Mill houses one board machine and 3 paper machines***.*** In 2011 Mondi Syktyvkar harvested 2.2 million cubic meters of wood to produce close to 700’000 tons of pulp. As a result more than 900’000 tons of paper and board were produced.

3. In addition to paper and pulp production, MBP SY controls 11 logging companies in the Komi Republic, which provide timber both for the pulp mill and also for sale as saw logs. Most of these logging operations have existed in some form or another for decades, and Mondi Business Paper Syktyvkar began integrating them into the Mondi Group in 2003.

4. Snegurochka office paper is the most important brand for the company. It has won the Russian “Brand of the Year" award four times. Snegurochka is among the most popular office paper brands.

5. Mondi Business Paper Syktyvkar is the single largest employer in the region. The Mill and its subsidiaries employ more than 7,000 people and use the services of around 2,775 contractors from the Syktyvkar/Ezhva Region. As a leading global player in the paper and packaging industry, it offers an attractive salary and benefit structure, suited to the needs of its employees.

***Выписать слова с переводом.***

1. deforestation– вырубка леса

2. forest clearing– сведение лесов

3. on a massive scale– в больших (массовых) масштабах

4. at an alarming rate– с угрожающей скоростью

5. to be related– относиться

6. provide for– обеспечивать, содержать

7. access– доступ

8. remote forest– отдаленный (глухой) лес

9. urban sprawl– рост городов

10. agriculture– сельское хозяйство

11. drive– зд. стимулировать, приводить (к ч.-л.)

12. slash and burn technique – подсечно-огневой метод

13. environment– окружающая среда

14. loss of habitat– потеря среды обитания

15. global warming– глобальное потепление

16. greenhouse gas emissions – выброс парниковых газов

17. threaten– угрожать

18. preserve– сохранять, сберегать

19. biodiversity- биоразнообразие

20. defend– защищать

21. curb [kз:b] – сдерживать

22. solution– решение

23. manage– управлять

24. eliminate– исключать

25. clear-cutting– вырубка

26. In trials – в испытаниях

27. Messmate – эвкалипт

***16. Complete each sentence with a word or phrase from ex.1. Translate the sentences into Russian.*** ***Дополнить предложения подходящими словами из указанных выше, перевести.***

1….is both a cause and a result of climate change. 2…destroys plants and local ecosystems. 3. The fire ….half of the forest in this area. 4. The ….was very dry and hard after the long, hot summer. 5. Forests ….much of the country’s territory. 6. Many species of plants and animals ….from our planet. 7. Industrial enterprises are polluting and ….the…. 8. Illegal logging …deforestation. 9. ….is an agricultural technique which involves cutting and burning of forests to create fields. 10. Deforestation ….the environment. 11. People should ….forests from destruction.

***17. Translate the sentences paying attention to the use of the participles.*** ***Перевести предложения.***

**1.** Removing forests causes many serious problems**. 2**. Building large hydroelectric dams destroys forests. **3.** Preserving areas of natural habitat is very important in maintaining biodiversity. **4.** In developing countries almost three billion people rely on wood for heating and cooking. **5.** Monitoring deforestation is a very complicated process. **6**. US public takes a special interest in preserving rainforests**. 7.** There are many campaigns to stop illegal logging. **8.** We must discover the best methods of cutting trees. **9.** Forest problems need solving.