

3. Scientists have found a simple way to produce a laser beam of any colour and frequency desired.
4. Having used a laser beam scientists obtained accurate calculations of Jupiter's temperature — minus 150°F.
5. Being produced by the laser the narrow intense beam travels great distances without spreading.
6. When sent to the Moon in 1962 an intensive red beam illuminated a section of the Moon only two miles in diameter.
7. Having reached the surface of the Moon, it returned to the Earth three seconds later, its return being recorded by sensitive devices.
8. The beam travelled 800,000 km in space, its velocity approaching that of light.

11. Сравните функции герундия и причастия в следующих фразах; переведите эти фразы:

1. Making use of radioactive isotopes biologists are able... Making use of radioactive isotopes opens up...
2. Our scientists are investigating new kinds of... research is investigating new kinds of...
3. (While) describing the process the researcher... In describing the process the researcher...
4. Having investigated the phenomenon the scientist... After having investigated the phenomenon the scientists... The scientist's having investigated the phenomenon led him to...

12. Определите форму глагола на -ing (the Gerund или the Participle) и переведите текст (§ 105):

Using electricity on a large scale opens up great possibilities in various fields of science and everyday life. Using electric light in our homes we seldom think of those who were the pioneers in electrical engineering. Several remarkable Russian scientists have made a great contribution to the science, Yablochkov and Lodygin being the best known to everyone. Lodygin's having produced the first incandescent lamp is a generally recognized fact. His first lamps (1872), consisting of a glass bulb with a carbon rod serving as a filament, however, were imperfect, their life being only 30-40 minutes. Having introduced several carbon rods instead of one the scientist made the lamp serve a longer period.

After having seen Lodygin's lamp Edison took great interest in the invention. We know of his having worked at the improvement of the lamp for several years. In 1879 Edison succeeded in creating an improved lamp which solved the problem of getting cheap electricity on a wide scale.

However, the carbon filament not being efficient and economic enough, Lodygin turned to the study of metals. Soon the necessary metal

having a high melting point was found, it was tungsten. Many difficulties having been overcome, the problem of lighting our streets, plants and homes was solved.

13. Переведите предложения, обращая особое внимание на значения выделенных слов и сочетаний:

1. At present there exist laser devices of various sizes, big and small, the latter being widely employed in various branches of our industry.
2. These semiconductor devices are made both of germanium and silicon, the former being in a more advanced state of development.
3. In mechanics we are interested in two kinds of energy, namely, kinetic energy and potential energy, the latter being the energy of position while the former being the energy of motion.
4. On the one hand, platinum is one of the most useful metals, but on the other hand, it is too expensive to be widely used in industry.

14. Внимательно прочтите и переведите слова, имеющие некоторое сходство в написании:

from — form — former	to finish — to furnish
letter — latter — later	how — now
though — through — thought	then — than
read — ready — readily	knew — new
signal — single	this — thus
serious — series	some — same
name — namely	very — vary

15. Прочтите текст и постарайтесь понять его содержание, пользуясь списком новых слов:

TEXT B. THE ELECTRO-IONIZING LASER (EIL)

capabilities *pl* — возможности

correct *a* — правильный

carbon dioxide — двуокись

углерода

list *v* — перечислять

nearly *adv* — почти

process *v* — обрабатывать

pulse duration — продолжительность импульса

sound *v* — звучать

tremendous *a* — огромный

weld *v* — сваривать

The 20th century was often called the age of the atom, the age of polymers, or the space age. It would be equally correct to call it the age of the laser.

It is impossible to list all the jobs the laser can do. It has become a part of our life being used in various industries, medicine, biology, etc. It should be mentioned that all the methods we know of processing materials with the laser were suggested not long ago. Physicists knew of