Dok gledate video na sledecem linku, pokusajte da popunite tekst ispod!

(https://www.youtube.com/watch?v=QIcaped4Ddw&ab\_channel=ScienceChannel)

STRIP THE CITY-Tunneling Under London

The tube became the prototype for subways all over the world. Today it carries more \_\_\_\_\_\_\_\_\_\_\_\_than the entire British rail \_\_\_\_\_\_\_\_\_. It's bursting at the seams. So, now \_\_\_\_\_\_\_\_\_\_\_are building a massive new metro-line that stretches all the way across London and beyond. Construction sites are popping up all over the city to build 9 brand new underground \_\_\_\_\_\_\_\_\_\_\_ and 26 miles of tunnels.With \_\_\_\_\_\_\_\_ workers, it's the biggest engineering project in Europe- called Crossrail.

 And this is one of the machines that will do the \_\_\_\_\_\_\_\_\_\_\_\_.

This is Ada. This is a tunnel \_\_\_\_\_\_\_\_\_ machine that's getting ready to be launched to be working away underground and people up will want to know what's happening. Pushing this monster through the crowded \_\_\_\_\_\_\_\_\_under London will be a challenge.

We gotta a lot of existing tunnels under London and we gonna go over or under London underground. There are \_\_\_\_\_\_\_\_\_, there are building foundations and so it'll be like a snake as we go under London. Here we go!

A second machine has already started digging. Here we are at the heart of the tunnel boring machine. This is the first sight that we get of the London clay \_\_\_\_\_\_\_\_\_\_\_\_\_ from the cutter- head. This is raw London clay, and you can see here the \_\_\_\_\_\_\_\_ at which the clay comes out of the cutter- head and \_\_\_\_\_\_\_\_\_\_\_ down onto this conveyor. That translates to advancing the machine forwards 60 millimeters a minute.

As the cutter- head advances, workers line the exposed walls \_\_\_\_\_\_\_\_\_\_\_\_ it with concrete panels, weighing nearly 4 \_\_\_\_\_\_\_\_\_\_\_\_ each.

Translate the following words, phrases and sentences:

A)

tube- dig-

rail network- tunnel boring machine-

construction site- cutter- head-

B)

protezati se- kanalizacija- pokretna traka-

obloziti zidove- to line the walls temelj- biti tezak- to weigh

betonski paneli- glina- izazov- challenge

C) 1. Trenutno radimo na veoma vaznom inzenjerskom projektu.

At the moment/Currently, we are working on a very important engineering project.

 2. Idi i proveri da li radnik kopa rupu na pravom mestu!

Go and check if the worker is digging a hole on the right spot/in the right place!

 3. Da li inspector uvek dolazi na gradiliste u isto vreme?

Does the inspector always come to the construction site at the same time?

 4. Da li treba da postavimo ovde jos jednu kanalizacionu cev?

Do we need to put here another sewer?

Translate the texts

A

The entire tunneling process can be highly automated by using Tunnel Boring Machines (TBM). There are a variety of TBMs that operate in a variety of conditions, from hard rock to soft clays or sands. A TBM is a rotating cutting wheel that breaks the ground and drops it through slots in the cutting wheel for removal. Tunnel diameters can range from 1 meter to 16 meters. A TBM has the advantages of limiting the disturbance to the surrounding ground and producing a smooth tunnel wall. This significantly reduces the cost of lining the tunnel and makes TBMs suitable to use in heavily urbanized areas. The major disadvantage is the upfront cost. TBMs are expensive to construct, and can be difficult to transport.

B

The usual technique for tunneling through hard rock is the drill and blast method. This method involves drilling many holes in the rock and then filling them with explosives such as dynamite. The area should then be cleared, with all the workers and equipment withdrawn to a safe distance, after which the blasting material is detonated. Broken rock is removed, often on conveyor belts. The disadvantage of this method is an "overbreak", when explosives tear away too much rock. In spite of that drill and blast is the most frequently used tunneling method.

