Distribution of electrical energy

Listen and complete the words. Then write numbers 1-6 next to the steps in ex. 6.

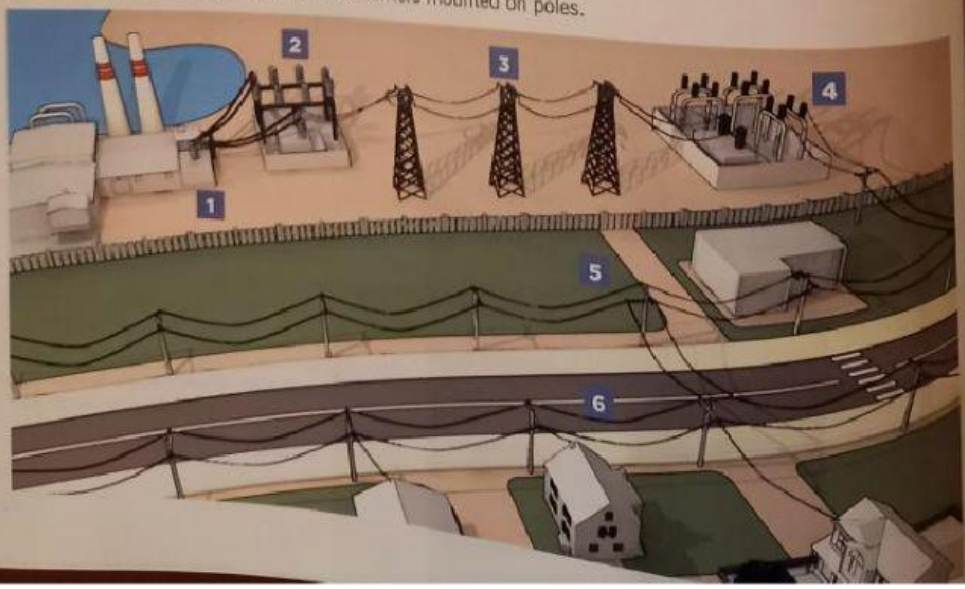
Then listen and check.

pole demand lower voltages consumers high-voltage
power plants delivery appliances **network** transformer

Electricity distribution is the final stage in the (1) _____ of electricity to end users. In order to be able to use electric power for our daily activities, electricity must be transmitted from the (2) _____ to other areas where it can be distributed to different (3) _____. The electricity generated by power plants is increased or **stepped up** at substations and distributed through (4) _____ transmission lines, in order to minimize energy **losses** and to economise on the material needed for conductors. Transmission lines use voltages as high as 765,000 volts and they are usually connected in a (5) _____. This means that if a station receives an unexpected (6) _____ for electric power, it can call on the other stations to help to meet the demand. Then electrical power is converted from high voltage to (7) _____ thanks to step-down transformers which turn electricity into different power levels. Once it is sent to your neighbourhood, another small (8) _____ mounted on a (9) _____ converts the power to even lower levels to be used at home. The final voltage is between 110 volts – for lights, TVs, and other smaller appliances – and 240 volts for larger (10) _____.

6 **Reorder the different stages in the distribution system and match them to the numbers in the picture.**

a ☐ Transmission lines carry high-voltage electricity to different substations.
b ☐ Electricity leaves the power plant.
c ☐ Electricity is **stepped down** by transformers.
d ☐ Current at lower voltages is transmitted to homes and offices.
e ☐ The voltage is increased at a step-up station.
f ☐ Power levels are lowered by small transformers mounted on poles.



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Join with lines by dragging.

Read the text again and match each sentence with its ending.

1 Power plants generate	a ☐ convert electricity from high voltage levels to lower levels.
2 Transmission lines are used	b ☐ in case of an expected demand for electric power.
3 High voltages mean	c ☐ a reduction in energy losses during transmission.
4 Step-down transformers	d ☐ power and distribute it to substations.
5 Substations can help each other	e ☐ can be safely used in businesses and homes.
6 The current transmitted by poles	f ☐ to distribute high-voltage electricity to a network of substations.