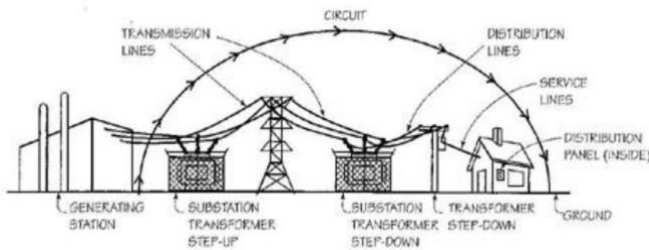
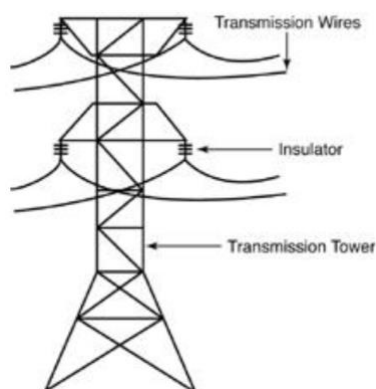


Power Lines

Electricity All Around Us Backgrounder



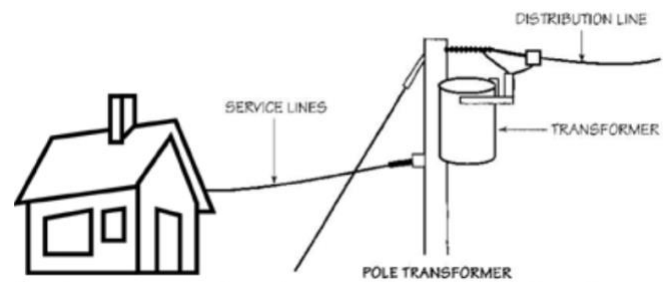
A generating station creates the electricity and sends it to a substation that increases the voltage of the electricity. The high-voltage electricity is carried by transmission lines. These transmission lines carry about 72,000 volts of electricity. That is a lot of electricity!



Transmission lines are not insulated. The transmission towers are huge metal structures that have ceramic insulators to separate the wires from the tower and safely carry the power high above the ground away from people and animals. Transmission towers are linked together along transmission corridors where

there are no trees or houses. The power is then transmitted to another substation that reduces the voltage to 14,000 volts, making it safer for homes to use the electricity. When you look outside your home, you may see distribution lines along the alley and service lines going directly to your home. If you don't have power poles and distribution lines above ground where you can see them, your power is coming from underground distribution lines.

Did you know that the insulators on transmission tower or power poles act as an umbrella for water?



Here is an example of a pad mount transformer. Like the pole transformer, it also reduces the voltage of the electricity going into your home. Pad mount transformers are used for underground distribution lines and present different safety concerns than overhead transmission lines. The pad transformers have underground lines so be sure to call your local utility provider before you dig near them.

Electrical Safety

You probably know not to do dangerous things such as sticking your fingers in light sockets or flying kites around power lines. But every year adults and children are injured by electricity. When you are playing, it is easy to forget to be safe! Remember that electricity is always trying to get to the ground. The Earth is neutral and electricity is negative and the electricity want to travel to a neutral or positive object. If you come in contact with a power line and the ground at the same time, you can be electrocuted. You might ask why birds can sit on power lines and not get electrocuted. The birds are not touching the ground or anything in contact with the ground, so there is no direct path between them and the ground!