To: Subject Advisors
    : Teachers
    : Parents and Caregivers of NS Tech Learners

Topic: The Electricity grid- What is electricity?

Message Objective(s):
-To explore the different sources of energy for electricity production
-To discuss how electricity is distributed to the homes

We use electricity in our homes in a daily basis. It is with no doubt that our curious learners often ask themselves these questions:
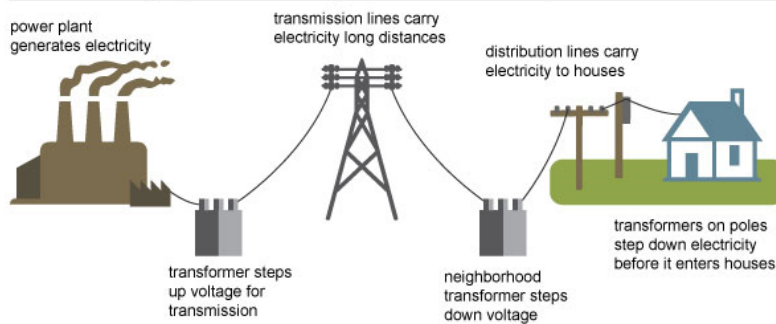**Where does this electricity come from?**
How is it produced? What is used in producing electricity? How does it move to get to our homes?
What happens during load shedding and power outages?

The subject on electricity can be as topical in the homes as it is in the classroom. Main electricity refers to the electricity that we make use of in the homes. Electricity is produced in power stations and electricity from the power station is transferred in a circuit to our homes and back to the power station. The power station needs a source of energy. The source of energy in South Africa is mainly **coal** and water stored in large dams. The possibility of **nuclear power** generation is still a subject of debate in South Africa. The potential energy stored in the energy source converted to electrical energy.

The electricity produced is transferred through **pylons and large cables** to our homes**. Transformers** are used in regulating the amount of electricity being transferred. The diagram below further illustrates the movement of electricity from production to consumption

Electricity generation, transmission, and distribution

power plant generates electricity

transmission lines carry electricity long distances

distribution lines carry electricity to houses

transformer steps up voltage for transmission

neighborhood transformer steps down voltage

transformers on poles step down electricity before it enters houses

Source: Adapted from National Energy Education Development Project (public domain)

To enable learners to further understand this topic it is advised to take learners to local distribution sub stations if they are accessible. Learners relate more with content when they are exposed to real life applications.

Thank you.

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Reference: https://www.eia.gov/energyexplained/electricity/delivery-to-consumers.php