“Let’s do the Nuclear Dance!“

Students will learn how a nuclear plant generates electricity and how that electricity travels through power lines to power homes and towns.

- Call a student up to hold the GENERATOR. Ask if they remember what the generator produces when it spins.
- Call a student up to hold a pinwheel and be the TURBINE. Explain that the turbine is attached to the generator and when it spins, it cranks the generator. REMIND THE GENERATOR THAT IT CAN’T SPIN UNLESS THE TURBINE IS TURNING.
- Call a student up to hold a teapot and a straw. They are the STEAM. When the teapot produces steam, the student will blow through the straw to turn the turbine. NOW, REMIND THE TURBINE THAT IT CAN’T SPIN UNLESS THE STEAM IS BLOWING ON IT. How are we going to make steam?
- Ask a student to come up to be our NINJA Neutron! Our ninja is going to split atoms! Set up the dominoes on the floor on a desk to demonstrate a chain reaction. Explain that each time a domino falls, it represents an atom splitting, which makes heat. Now have the ninja hold onto a water bottle but don’t shake it yet (have skittles, small Styrofoam balls, etc. in the bottle to demonstrate atoms splitting as the ninja shakes it).

Explain the process:

- When the ninja **knocks down the dominoes**, she will begin to **shake the water bottle** that makes heat
- When the heat is made, the teapot will make steam and **blow out of the straw**
- The straw will blow to **turn the turbine**
- When the turbine turns, **the generator will crank and the light bulb will light**
- Stop everything and have the ninja set up the dominoes again.

Discuss how the electricity travel through POWER LINES to get to your home or business.

- Ask a student to come up and hold the end of 10 pieces of string (all cut to 4 ft in length). That students is the transmission tower that holds the POWER LINES.
- Call up 10 students to be THE TOWN! Ask each one what they are – house, school, grocery store, car dealership, etc. Each of those students gets the end of one of the power lines. When the generator cranks, the transmission tower will wiggle her POWER LINES to send the electricity to the 10 students. Each students will jump up and down continuously to represent the electricity they are receiving.

Start from the beginning to demonstrate the entire process:

- NINJA KNOCKS DOWN DOMINOES AND SHAKES BOTTLE TO SPLIT ATOMS AND MAKE HEAT
- TEAPOT MAKES STEAM AND BLOWS STEAM ONTO TURBINE
- TURBINE SPINS
- GENERATOR CRANKS

- TRANSMISSION TOWER WIGGLES ARMS TO SEND ELECTRICITY TO THE 10 HOMES AND BUSINESSES
- HOMES AND BUSINESSES JUMP UP AND DOWN WITH ELECTRICITY

Discuss other way to make the steam: burn coal and gas. Show photos of smoke stacks, flames, etc. Explain that those give off pollution but nuclear doesn't burn anything so it's clean energy.