**Name :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Tesla Town Worksheet**

**Go to:**

<https://credc.mste.illinois.edu/applet/tt>

**Directions:** You will be exploring different types of energy power plants and as you go through each power plant and answer the following questions for each different section.

-Click on the Edison Town of Energy in the middle of the screen.

**Q.** What scientist discovered electrical current flows in a wire when magnets are moved inside? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Now do the experiment and see how the lights change

-Click on the “see inside” button at the bottom right of the screen

**Q.** When turning the handle what do you notice happens to the wires?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Click on “back to map button at the top left of the screen to get back to the homepage

**Wind Energy**

-Click on the windmills in the bottom right corner

-Read the paragraph then fill in the missing blanks

The wind \_\_\_\_\_\_\_\_\_\_\_ against the blades of the turbine making them\_\_\_\_\_\_ just like a pinwheel turns when you blow on it. The \_\_\_\_\_\_\_\_\_\_ turn the shaft that turns the \_\_\_\_\_\_\_\_\_\_\_ that turn the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_inside the copper coil inside the generator making the \_\_\_\_\_\_\_\_\_\_\_\_\_ move. The electricity moves down the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

-In the picture below fill in the parts of the windmill then when finished click on the “back to map” button.

**Solar Energy**

-Click on the blue house to see how solar energy is created.

-Now click on the book on the table then click on the house to see how solar energy can be used in homes.

**Q.** What powers this house at night?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Exit by pressing the X and then press the camera button the bottom right of screen.

**Q.** Where is this solar power plant located?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q.** What are solar panels mostly made of?

 A. Metal

 B. Mirrors

 C. Plastic

 D. Glass

**Q.** Concentrated sunlight creates very \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ temperatures.

**Q.** Water in the tower is converted into

 A. Ice

 B. Snow

 C. Steam

 D. Nothing

Draw a solar panel in the space below then exit out and then press on the “back to map” button.

**Hydroelectric Power**

-Click on the waterfalls behind the blue house

**Q.** The force of \_\_\_\_\_\_\_\_\_\_\_\_\_ is sometimes used to turn the \_\_\_\_\_\_\_\_\_\_\_ that produce electricity.

**Q.** What is built across a river to stop water and make a lake?\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q.** A narrower tube inside the dam is called what?

 A. Woodstock

 B. Cardstock

 C. Paperstock

 D. Penstock

-Enter through the hatch and read more about hydroelectricity

-Read the paragraph then follow the activity steps to watch how the water moves through a dam

**Q.**  **T or F**  Hydropower is a renewable resource.

-Click on the camera button on the bottom right of your screen

**Q.** When a lake is made for a dam what else can the lake water be used for?

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q**. Where is this dam located? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Click on the “back to map” button

**Nuclear Power**

-Click on the nuclear power plant right of the dam

**Q.** Nuclear fission \_\_\_\_\_\_\_\_\_\_\_\_\_ to make \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Q.** The force of the steam \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the blades of the \_\_\_\_\_\_\_\_\_\_\_\_\_ causing them to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Q.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ turn the magnet to make the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that travels over wires to \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, & other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

-Click on the camera button

**Q.** Where is this nuclear power plant located? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q.** What is the nuclear reactor housed in?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

-Click on the “back to map” button

**Coal Energy**

-Click on the power plant in the bottom left corner

-Get the energy started by dragging the coal to the boiler then following the rest of the activity to see how burning coal creates energy!

-Click on the camera button

**Q.** How many homes in Indiana get their energy from the Harding Street Station?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q.** What else can these power plants use to make energy besides coal?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q.** Sulfer dioxide emissions have been cut by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Q.** Where is this power plant located? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In your opinion what one of these energy plants would be the most efficient (useful) and why?