

**G9 Science: Class 11 Homework**

1. What are the differences between static electricity and current electricity? **[4 marks]**

2. Why would it be challenging to use static electricity in electrical devices, such as your television or computer? Explain. **[2 marks]**

3. Complete the following table. **[4 marks]**

Part	Function
Switch	
	Provides a path for the electrons to flow
	Transforms electrical energy into other types of energy
Energy Source	

4. Which of the following parts of a circuit would be considered a load? Justify your answer by explaining your choice(s). **[4 marks]**

a. Lightbulb

b. Motor

c. Switch

d. Battery

5. Identify three devices that use cells or batteries. What types of cell or batteries are used in each device? Are these cells or batteries the best choice? Explain. **[6 marks]**
6. Compare and contrast a primary cell and a secondary cell. **[3 marks]**
7. What is the difference between alternating current and direct current? **[2 marks]**
8. The images below show an electrical device or electricity in some form. Identify the type of current electricity represented in each image as being either direct current or alternating current. **[4 marks]**



### Figure 5



9. Explain three disadvantages associated with burning fossil fuels to generate electricity.  
**[3 marks]**

10. List two advantages and two disadvantages of each the following energy resources.  
Summarize if the energy source is renewable (R) or non-renewable (NR). **[40 marks]**

	Advantages	Disadvantages	R/NR
Hydro-electric			
Tidal			
Coal, Fossil Fuel, Natural Gas			
Nuclear Power			
Biomass			
Geothermal			
Wind			
Solar			

11. Approximately 18% of electricity generated in Ontario comes from coal-fired generating stations. One of the main goals of the government is to replace coal-fired generating stations in the shortest possible time. Why do you think this is such a high priority? Explain. **[3 marks]**
12. Identify three ways that you can conserve electrical energy and produce fewer greenhouse gases. **[3 marks]**
13. a) Explain how growing biofuel crops can affect the world's food supply. **[3 marks]**
- b) Do you think the change you described in part (a) would also affect the prices of crops and of land? Explain your answer. **[2 marks]**
14. You have just been elected the mayor of SimCity! Your suburban town has 100 000 residents and a small factory nearby. There is a wide, slow-moving river nearby. Your residents need a source of electrical energy. Describe what energy sources you would use and why. **[3 marks]**