

ST Review 2

1. A) Draw a circuit with two light bulbs and one power source. Use the appropriate symbols for the light bulb and power source.
B) Place a switch in the circuit which will allow you to turn one bulb off while allowing the other one to remain turned on.
c) If the resistance of the bulbs is $10\ \Omega$ in all, how much current flows through the 3.0 V battery?
2. Draw the direction of a magnetic field around an electrically conducting wire.
Assume that the (-) end of the wire is on the left hand side.
3. In which type of biome is Montreal found in?
 - A. Tundra
 - B. Temperate forest
 - C. Boreal forest
 - D. Grasslands
4. In #3, list the differences between the 4 biomes mentioned among the choices.
5. Below is the high-tide schedule for the Bay of Fundy on June 1, 2008:

10:30 a.m.: height of 12.1 m	10:53 p.m.: height of 12.9 m
------------------------------	------------------------------

- a) What causes tides? (1 mark)
 - b) Why are there two high tides a day? (1 mark)
6. An air mass that originated in the Caribbean now lies over Québec, while a fast-moving air mass from the far north is heading down toward the southern part of the province.

Explain what happens when these two air masses meet. In your explanation, discuss the various phenomena involved.

7. What is the greenhouse effect? Explain how it works. Recall: do **NOT** mention the ozone hole!
8. If 0.02 g of salt were dissolved in 10.0 ml of water.
express the concentration of the solution in
 - (a) ppm and
 - (b) in (% m/v) = in terms of mass of solute per volume of solution
9. In the carbon cycle, explain how the carbon in CO_2 can end up in the lithosphere and hydrosphere, and explain how it returns to the atmosphere.
10. If you could track a nitrogen atom from the atmosphere, explain all the steps of its journey as it ends up in plants, animals and soil before returning to the air.