

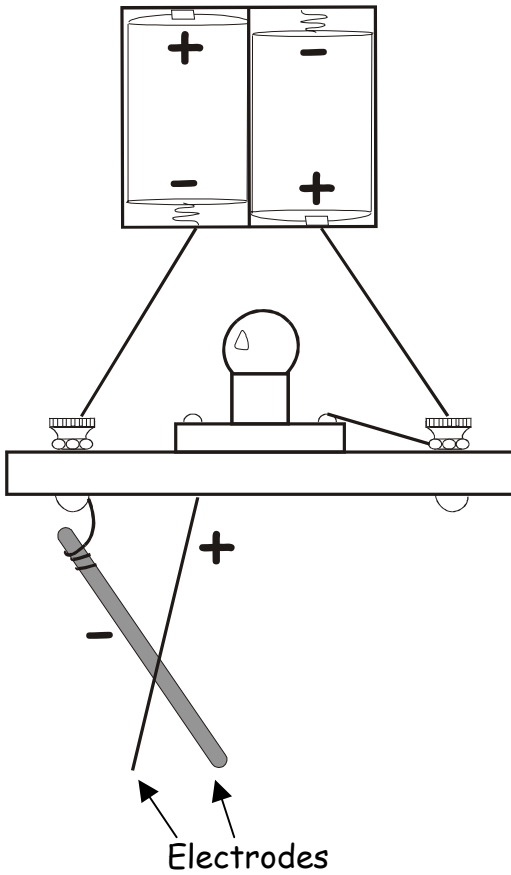
Salt III
Class Notes

Name _____

Date _____

Teacher _____

Salt III Class Notes



Write what you will do to allow the electrical energy to flow through the circuit when the wires are not touching and why you think that this will work. This is your hypothesis.

Salt III

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Write what you did to allow the electrical energy to flow through the circuit when the wires were not touching and what you saw happen. If you try several different methods, write each method you tried, and what you saw happen with each method.

Salt III

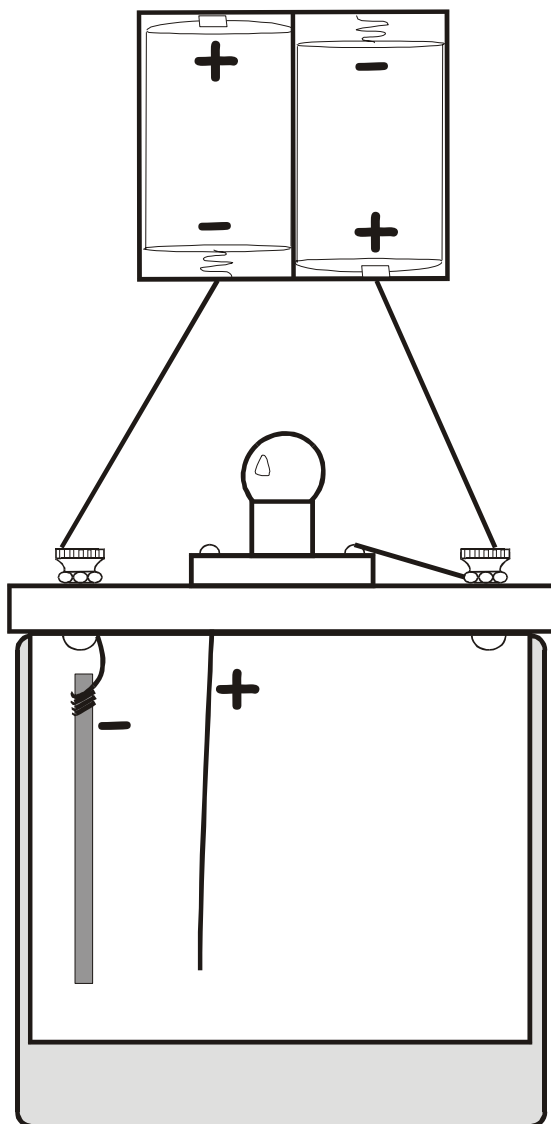
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Draw the sodium ions (Na^+) and chloride ions (Cl^-) around the electrodes to which they are attracted.



For an extra challenge, use arrows to indicate the direction of the energy flow along this circuit. This is optional.

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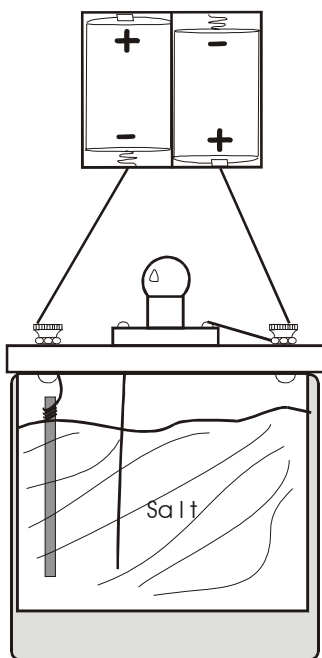
Class Notes

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Pour all of the salt from the plastic bag into the glass jar then place the light holder on top of the jar, with the electrodes sticking into the salt and write down what you see. Does the light shine? Pour the salt back into the plastic bag after you write your observations.



Now try water. Fill the glass jar with water to the fill line indicated by the black line near the top of the jar, be careful not to overfill the jar. Then place the light holder on top of the jar, with the electrodes sticking into the water and write down what you see. Does the light shine? Do not throw out the water in the jar.

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Now try saltwater. Take the water in the jar and pour it into the plastic beaker. Take the tube labeled "saltwater salt" and pour all of the salt from the tube into the water, in the plastic beaker. Stir the saltwater until you can no longer see salt crystals. Pour the saltwater into the jar. Then place the light holder on top of the jar, with the electrodes sticking into the saltwater and write down what you see. Does the light shine? Pour the saltwater down the sink, after you write your observations.

Now try sugarwater. Fill the glass jar with water to the fill line indicated by the black line near the top of the jar, be careful not to overfill the jar. Take the water in the jar and pour it into the plastic beaker. Take the tube labeled "sugar" and pour all of the sugar from the tube into the water, in the plastic beaker. Stir the sugarwater until you can no longer see sugar crystals. Pour the sugarwater into the jar. Then place the light holder on top of the jar, with the electrodes sticking into the sugarwater and write down what you see. Does the light shine? Pour the sugarwater down the sink, after you write your observations.

Salt III

Class Notes

Flow

Review 7 min

Distribute pp.1-2 (double-sided for note taking)

- ◆ Electricity is the movement of charged particles
 - ◆ Salt generates body's electrical energy
 - ◆ Salt ions separate in water
 - ◆ These separated ions are in the body
 - ◆ In solution, ions just want to go to the strongest opposite charge
- It is the separated ions that are used to generate electrical energy

Engage 3 min

distribute apparatus

Explore 10 min

students explore apparatus allowing electrodes to touch, thus closing the circuit and causing light to shine

students warned about shorting circuit and burn hazard

Explain This is a circuit 5 min

Students instructed to use p. 2 of notes and label diagram on notes as poster is labeled in front of class

draw direction of charge flow on poster on front

explain difference btwn open and closed circuit

explain to students that we will be giving them supplies and that if their use of the correct material will allow them to close the circuit even when the electrodes are not touching.

Supplies and hypothesis 5 min

students write what materials they will try first and are encouraged to write why they chose those materials. This is their hypothesis.

Students must show their hypothesis to instructor before receiving materials to move on.

Expand 15 min

Students use materials to close circuits writing obs on p. 3 of notes distributed as a separate sheet with a clear side on the back for writing further obs.

After 5 min, students who need more instruction can be given pp. 5-6 (printed as double sided) which has a procedure for them to follow

Clean-up 5 min

Evaluate 10 min

Show ions in water in apparatus on poster and ability of ions to move in water.

Students asked to complete p. 4, distributed as separate sheet, for homework and write on sheet if they received help in completing assignment