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Exercise

1. Fill in the blanks.

(a) Most liquids that conduct electricity are solutions of _____, _____ and _____.

(b) The passage of an electric current through a solution causes _____ effects.

(c) If you pass current through copper sulphate solution, copper gets deposited on the plate connected to the _____ terminal of the battery.

(d) The process of depositing a layer of any desired metal on another material by means of electricity is called _____.

Answer:

(a) Most liquids that conduct electricity are solutions of acids, bases and salts.

(b) The passage of an electric current through a solution causes chemical effects.

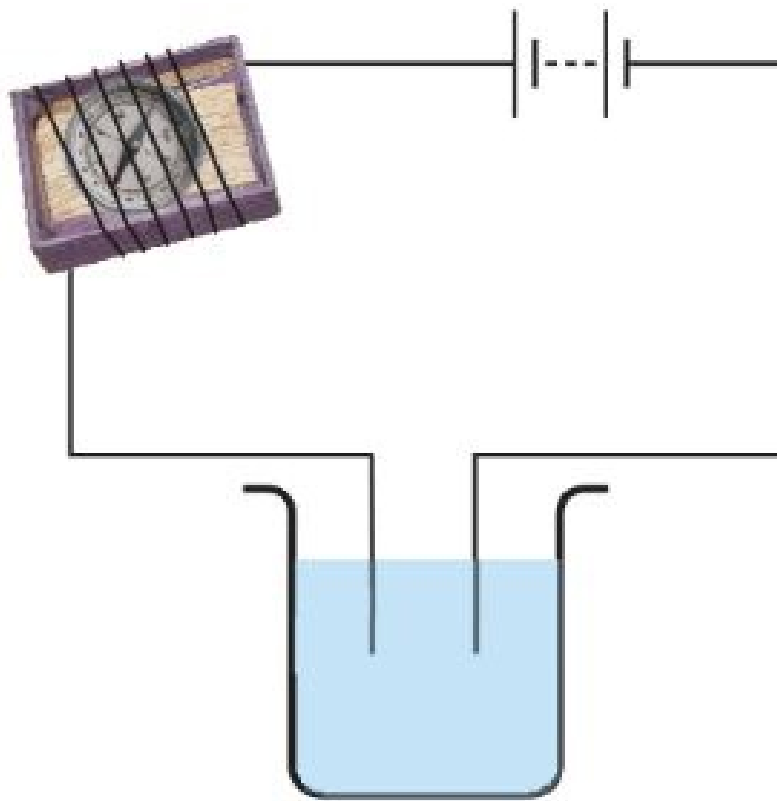
(c) If you pass current through copper sulphate solution, copper gets deposited on the plate connected to the negative terminal of the battery.

(d) The process of depositing a layer of any desired metal on another material by means of electricity is called electroplating.

2. When the free ends of a tester are dipped into a solution, the magnetic needle shows deflection. Can you explain the reason?

Answer:

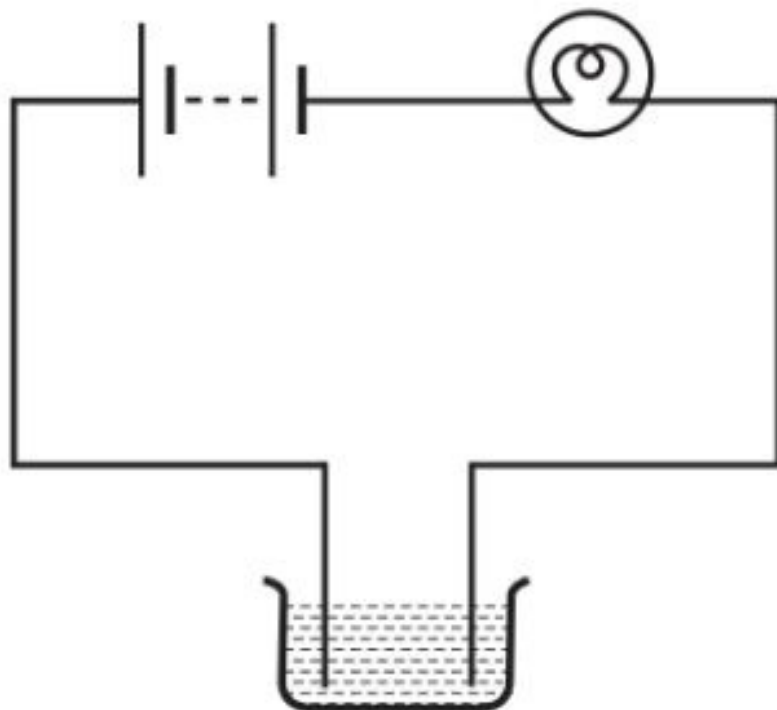
Electric current produces magnetic effect which causes deflection of the magnetic needle of a compass. So, when the free ends of a tester are dipped into a solution which is a good conductor of electricity, the needle shows deflection.



3. Name three liquids, which when tested in the manner shown in Figure, may cause the magnetic needle to deflect.

Answer:

Liquids like lemon juice, salt water and vegetable oil allow electricity to pass through them. Hence, these liquids can be used as in the beaker to show the given effect.



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4. The bulb does not glow in the setup shown in Figure. List the possible reasons. Explain your answer.

Answer:

There could be several possible reasons for not glowing of the bulb:

- The bulb may be fused.
- Even after replacing the bulb if it does not glow, then the

connection may be loose or faulty.

- Even after checking and repairing the connections if the bulb does not glow that means the solution does not conduct electricity.

5. A tester is used to check the conduction of electricity through two liquids, labelled A and B. It is found that the bulb of the tester glows brightly for liquid A while it glows very dimly for liquid B. You would conclude that

- (i) liquid A is a better conductor than liquid B.
- (ii) liquid B is a better conductor than liquid A.
- (iii) both liquids are equally conducting.
- (iv) conducting properties of liquid cannot be compared in this manner.

Answer: (i) liquid A is a better conductor than liquid B.

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