



Physics Worksheet

Magnetic effect of Electric Current

1. State the effects of current.
2. Why does a compass needle placed near a current carrying wire show deflection?
3. How can the magnetic field produced around a current carrying conductor be detected?
4. Give one example each of the following:-
(a) magnetic effect of electric current (b) electric effect of moving magnets
5. Define magnetic field.
6. Give the characteristics of magnetic field lines.
7. With the help of an activity show how magnetic field lines around a bar magnet can be obtained. Also draw the pattern of magnetic field lines around a bar magnet.
8. How is the deflection in the compass needle affected as we move it along a field line
(a) towards the poles (b) away from poles.
9. State the factors on which strength of magnetic field due to a straight current carrying conductor depends.
10. "The concentric circles representing the magnetic field around a current carrying straight wire become larger and larger as we move away from it." What conclusion can be drawn from this statement?
11. Name and state the rule to determine the direction of magnetic field produced around a current carrying conductor.
12. Why two magnetic lines of force do not intersect each other?
13. Draw the pattern of lines of force due to a magnetic field through and around a current carrying loop of wire. How does the strength of magnetic field produced at the centre of the loop be affected if:-
(a) strength of the current passing through it is doubled?
(b) the radius of the loop is reduced to half the original value?

- (c) the radius of the loop is doubled its original value and at the same time current passing through it is also doubled?
14. What does the arrow of the magnetic field line indicate?
 15. What does crowding of field lines at a point mean?
 16. Will a circular' loop of bigger radius produce higher magnetic field than a loop of smaller radius if current flowing though both the loops is same? Give reason.
 17. What is a solenoid?
 18. Draw comparison of magnetic field pattern due to current carrying solenoid and that of a bar magnet.
 19. The field lines inside the solenoid are in the form of parallel straight lines. What does this indicate?
 20. What is an electromagnet?
 21. How can we magnetise a piece of magnetic material?
 22. How do we make an electromagnet?
 23. State Right Thumb Rule with the diagram.
 24. Mention one method to induce current in a coil.
 25. Name the type of current:
 - i. Used in household supply
 - ii. Given by a cell.