**How to magnetize a steel rod**
Use a piece of magnetic iron ore or another magnet to magnetize a steel knitting needle, a darning needle, an iron nail, a piece of clock spring or watch spring. This may be done simply by stroking the bar several times with the magnetized substance. If you wish to make a bar magnet with opposite poles at either end, use an artificial magnet. Begin at the centre of the unmagnetized bar and stroke toward the end using one end of the magnet. After several strokings turn the rod around and stroke from the centre to the other end using the opposite pole of the magnet. Test your results by using the rod to pick up iron filings or by bringing it close to a compass.

**How to make bar magnets**
Get some flat pieces of hard steel. Old hack or metal saw blades are useful. Lengths of steel from a clock spring may be used. Cut the steel into 15 cm lengths. Next stroke the opposite ends of each piece with alternate ends of a strong magnet as instructed in experiment 3 above. Test each bar magnet with a compass. The two ends of the bar magnet should affect the compass in contrary ways. Hard steel is often quite difficult to magnetize. One should place the piece of steel on a table and strike the pole of the magnet against it as you stroke toward the end.