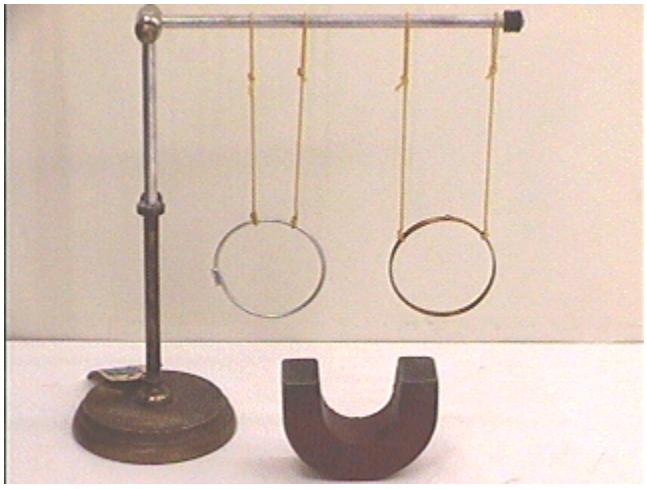
Answer #170

The answer is (b): the coil will move toward the camera and then return to its original position, as seen in an mpeg video by clicking your mouse on the photograph below.



As the magnet moves through the coil, an electric current is induced in the coil. According to Lenz's law, the currents are generated in such a direction as to oppose the motion that creates them. Thus the magnetic field of this current pulls backward on the magnet. The reaction force on the coil then is in the forward direction, and it does indeed move forward.

So what happens when the magnet is pulled back out of the coil? Think about it, and when you have your answer and reasoning ready, click your mouse here.

Archive 9

Question of the Week

Outreach Index Page

Lecture-Demonstration Home Page

For questions and comments regarding the *Question of the Week* contact Dr. Richard E. Berg by e-mail or using phone number or regular mail address given on the Lecture-Demonstration Home Page.