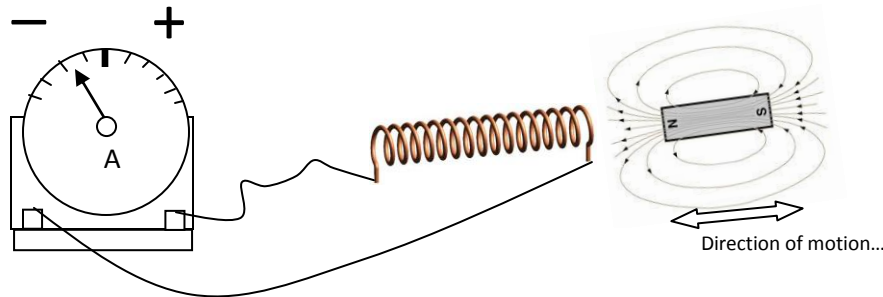


INDUCING AN ELECTRIC CURRENT

In this experiment we will investigate how **electrical energy can be produced** from **mechanical energy** and how a current can be *induced* in a conducting material.



Creating a Current

1. Put a magnet in and out of the coil. Record your observations.
2. What do you observe when the magnet is at rest in the coil?
3. Hold the magnet still inside the coil and move the coil back and forth over the magnet. Record your observations.
4. Put another material like a pen in and out of the coil. Record your observations.

Strength of Current

1. Put the North pole of the magnet into and out of the coil, first slowly and then quickly. Record your observations.
2. Change the number of coils. What affect does the number of coils have on the size of the induced current?

3. Change the strength of the magnets (use stronger and weaker magnets). What affect does strengthening or weakening the magnetic field have on the size of the induced current?

Direction of Current

1. Put a **North Pole into** the coil. Observe the current direction. Pull the **North Pole out of** the coil. Observe the current direction.
2. Put a **South Pole into** the coil. Observe the current direction. Pull the **South Pole out of** the coil. Observe the current direction.
3. Summarize the result of changing the poles.

Putting it Together...

Explain what factors and conditions you would change in order to get the *biggest induced current* and the *smallest induced current*.