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| **Procedure**           Materials for electro magnet  1.     At least 250 ft of magnet wire (very thin copper wire that is made for the construction of electro magnets sold at radio shack the more wire use the stronger the magnet will be)  2.    2 inch long solid soft iron rod (to be used as the core of the electro magnet there are other metals that are better than iron for magnets but they are harder to obtain)  3.    DC power supply ( an AC power supply will not generate a magnetic field)  4.    Wire cutters.  Procedure for making the electro magnet  1.     Use wire cutters and expose one end of the wire.  2.    Wrap the wire tightly around the soft iron core with the exposed end of the wire sticking out a little bit.( in the same direction if you switch the direction you are wrapping the wire it will cancel out each other)  3.    Continue wrapping the wire over the core and cover it with many layers of wire.  4.    When you run out of wire tie off the loose end and use the wire cutters to expose the end of that wire.  5.    You should now have an iron core with multiple layers of copper wire around it and two ends of the wire exposed.  6.    Make sure the power supply is off and hook one end of the wire to the positive port of the power supply and the other end of the wire to the negative port.  7.    Start out with a low voltage and then increase to test the power of the electro magnet. Be careful not to put to much voltage through it because it will damage the electro magnet and might cause an electrical fire.  Materials for the experiment:  1.     A powerful magnet or electromagnet.  2.    Radish seeds.  3.    DC power supply (if using electro magnet) .  4.    Potting soil that is thoroughly mixed.  5.    5ml eyedropper.  6.    30 pots.  7.    camera .  8.    ruler.  Procedure:  1.     Mix the soil thoroughly and place some in each pot.  2.    In each pot place 3 Radish seeds.  3.    Place some more soil on top of the seeds  4.    Arrange the pots in a circular patter around the magnet in a well-lit place.  5.    First Place 6 pots equally spaced from each other around the magnet then 12 pots around the original 6 and then finally 12 pots around them.  6.    You should now have a circle of pots with the magnet as the center with a radius of 3 pots. The outer ring is the control and should just be out side the magnet's magnetic field, while the inner right should be well enveloped in the magnet's field. The middle ring should be halfway from the inner ring to the outer ring.  7.    Using the 5ml-eyedropper place 5ml of water in each pot daily.  8.    Use the camera to take a picture of the pots every 2 days.  9.    Repeat steps 7 and 8 until 23 days has passed.  Record each plats color stem length, leaf length, number of leaves and in which group it is in. The control, the intermediates, or the ones emerged it the field.  [[Home](http://docs.google.com/home.html)] [[Introduction](http://docs.google.com/introduction.html)] [[Hypothesis](http://docs.google.com/hypothesis.html)] [[Procedure](http://docs.google.com/procedure.html)] [[Data](http://docs.google.com/data.html)] [[Conclusions](http://docs.google.com/conclusions.html)] [[Bilio/Links](http://docs.google.com/biblio.html)]  [[2002 Projects](http://docs.google.com/AP2002/index.html)] [[2001 Projects](http://docs.google.com/index.html)] [[2000 Projects](http://docs.google.com/AP2000/index.html)] [[1999 Projects](http://docs.google.com/AP99/index.html)] [[1998 Projects](http://docs.google.com/AP98/index.html)] |